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Integration and Application of Business Graduate and Business Leader Competency-Models

Donta S. Harper

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Integration and Application of Business Graduate and Business Leader Competency-Models

Donta S. Harper
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A broad set of business competencies, meta-competencies (MCs), include influencing/persuading, teamwork/relationship building, critical/analytical thinking, self/time management, leadership, strategic thinking, presentation, and communication. This chapter incorporates research from two studies examining MCs in undergraduate and professional business programs. The MISLEM project found that, in comparison to graduates, employers demonstrated less optimism about graduates' competencies. Subsequently, Morpurgo investigated differences in the perception of competency acquisition between professional accountants (PAs) and supervisors in Canada by posing three questions: 1) Is there a MC importance gap between Canadian PAs and their supervisors? 2) Do professional accounting programs contribute to bridging the MC capability gap? and 3) What factors contribute to MC development? The study found perceptual differences between PAs and supervisors regarding the importance and capability of MCs as well as differences in work experience and classroom learning for competency development.

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Societies today face complex economic, political, and social challenges, many of them connected to the prevailing economic paradigm. Management teams that consider not only economic benefit but also the

development of the well-being of the different stakeholders and of society in general are needed. This is called humanistic management, a trend business schools (BSs) can contribute to through a certain way of educating their students. To do so, BSs need to implement a competency-based learning (CBL) model that develops specific competencies. One of the ways BSs have used to deploy CBL has been through participation in Tuning projects. This research starts from an integrated model with criteria and indicators for analyzing the implementation of CBL in higher education institutions and operationalizes its dimensions. It then presents a methodological proposal to analyse the processes BSs have followed to implement CBL at different levels and in different contexts, using case study methodology.

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Maximizing organizational performance and goal-achievement through competency-based education, this chapter focuses on the organizational development of competency-based learning, with respect to how organizations in South Africa should design and deliver programming. This chapter provides readers with a practical and experimental approach that is based on the author's education and extensive experiences. These experiences are drawn from a journey of different levels of delivering competency-based learning to education and industry in South Africa. The author provides a perspective of interpretation for the utilization of a behavioral approach to competencies development in organizational environments. The author proposes learning occurs because of a behavioral approach to understanding competencies as a concept.

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This exploratory study assesses employers' perceptions of the importance and competence levels of performing identified graduates' competencies in the New Zealand public sector. The tertiary education institutions in New Zealand are facing increasing demands from employers and stakeholders. The employers demand that the educational institutions today should provide relevant skillset needed by the current organisations. What kind of skillsets required by employers and what institutes are offering to their graduates, however, are yet to be determined. This study attempts to fill the gap in the literature by examining this in the New Zealand public sector. Therefore, this study will determine what employers' work perceptions are regarding skills needed versus what skills graduates actually bring to the workplace.

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Now, more than ever, while facing the worldwide pandemic COVID-19, communities such as Tasmanian cities are anticipating for the build from the ground up after the pandemic passes. Entrepreneurial emergence will play a crucial role in the re-establishing of Tasmania's identity, as these individuals are described as being motivated by opportunities and are recognized by their distinct eye for creation and innovation. Leadership competencies are the underlying characteristics of an individual, which can be demonstrated though knowledge, values, capabilities, and behaviors. With the COVID-19 pandemic depleting our resources and population, the need for individuals with effective and ethical leadership competencies has seen a rise, sparking the research question: How can authentic leadership competencies create and enable entrepreneurial emergence?

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Susan S. Reutter, Drake University, USA

Corrections is a multi-layered business containing all aspects of life for the employees, clients/inmates, and the general public. Therefore, the findings of the study are transferable to many types of administrators. The chapter uses a case study approach and qualitative research methods. The study findings focuses on corrections administrative leadership mindset, philosophical approaches, and practice policies.. The conceptual and theoretical approaches included effective corrections administrators are promoting the growth of social capital (e.g., social skills and relationships), human capital (employable skills), and cultural capital (e.g., community and public safety). Four state prison wardens/administrators participated in this study. Data was collected via Creswell's in-depth portrait of cases: three-part series of semi-structured interviews. Four themes emerged during data analysis. This chapter focuses on the fourth theme and the conceptual framework.

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Henrik Totterman, Hult International Business School, USA
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This chapter describes how graduate students identify client needs, negotiate paid executive consulting assignments, and deliver insightful solutions with the support of senior experts. It's the responsibility of grad consultants to scope, sell, and deliver cutting edge projects. Sponsoring clients can be located

anywhere as long as the client possesses a problem or need worth solving. Mentorship ensures high performance and timely delivery by grad consultants, who work as independent contributors in the context of an international management consulting firm. Client executives can benefit from solving pressing business challenges by working directly with the next generation of international professionals. In return, grad consultants are offered a unique opportunity to develop leadership and consulting skills by being fully in charge of a real paying client project from start to finish. This is a call for action to overcome criticism towards traditional business schools, and their insufficient ability to develop practical competencies needed in industry and society at large.

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Achieving and maintaining organizational excellence in a technical educational institution largely depends on the competencies of faculty members. Consequently, the management of faculty competencies are very important for any technical educational institution. Work skills lead to significant organizational growth which provides a competitive advantage to technical educational institutions. A critical factor related to the long-term success of an institution is its ability to assess the efficiency of the faculty and use that knowledge to achieve tangible results. For the overall development of students and the organization, knowledge of faculty members about mapping systems and process upgradation is important. This chapter discusses in depth the mapping of competences in the technical educational institute at different levels and analyzes the deficiencies in required skills to improve the level of competency. The research was carried out by taking a study on a government engineering institute based at Haryana, India as a model technical educational institute.

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Kankana Mukhopadhyay, Praxis Business School, India
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Jaya Sil, IIEST, Shibpur, India

Competency-based performance management system (CBPMS) has become the key tool for every firm to be in a strategically sustained advantageous position. The objective is to identify relevant and important competencies for successful accomplishment of desired tasks. In this chapter a holistic approach is proposed to review the competency-based approach that is based on the framework of relevant work-related and behavioral competencies. CBPMS is explained in terms of sequential steps of framing the competencies which provide better performance advantages with their expected values and thereby measuring the levels of these work related and behavioral competencies present in the job incumbents with the help of IT interventions. Using this approach, an organization will be able to more effectively use their limited resources to reap more benefits from their investments in both people and technology.

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Jobs are changing fast as many firms automate or augment work-tasks. Constant change is the new normal as technology relentlessly infiltrates all industries and businesses. This puts pressure on employees to upskill and stay relevant. While some jobs are relatively immune from disruption, these are in the minority. Most employees will need to continually build the necessary skills and capabilities that will help them safeguard their current careers or shift to entirely new careers or industries. This chapter describes an approach to answer the following question: What are the core work capabilities that students and employees should be learning now to future-proof their careers? The authors apply a prediction of automation and augmentation to work-tasks to model the change to the future workforce and analyse the remaining work skills and abilities required in the future. These future skills and abilities are further grouped to determine 32 future-work capabilities, including 13 digital and data literacies that can be targeted by employees, firms, and governments in L&D programs.

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Semra Tetik, Manisa Celal Bayar University, Turkey
Bülent Akkaya, Manisa Celal Bayar University, Turkey

Strategic leadership and organizational climate have been made more important by the Industry 4.0 revolution. Strategic leadership and organizational climate enable businesses to adapt easily to rapidly changing environmental conditions and innovations for sustainability. Therefore, the role of strategic leaders is important in creating an organizational climate to manage and implement strategic changes and also in the preparation and implementation of roadmap to design the future of the business in Industry 4. 0. This study aims to discuss the strategic leadership skills in creating the organizational climate in Industry 4.0. The authors found that there is a relationship between organizational climate and strategic leaders' skills in Industry 4.0. Understanding the relationship between the skills of strategic leaders and organizational climate is essential to uncovering the critical links to firm performance to get competitive advantage in Industry 4.0. Strategic leadership is a key interpreter of how climate of the organization links to the wider systems and requires leadership systems.

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The purpose of this study is to analyse the presence of sustainability in the curricula of the Science of Education at the University of Seville and to determine the perception of both teachers and students regarding sustainability competencies. The work forms part of the R+D+i "Training Project in Spanish

Universities for Professionals as Agents of Change in Order to Meet the Challenges Facing Society" (EDINSOST). The methodology a case study, in which an analysis of the curriculum of the Bachelor Degree in Early Childhood Education, Primary Education, and Pedagogy has been conducted. Two questionnaires have been drawn up and four focus groups established in which a total of 61 teachers and 152 students have participated. The results show that there is a low presence of sustainability in the Science of Education courses, particularly in the Bachelor Degree in Primary Education. The teachers express the opinion that they have sustainable initiatives as well as an interest in ethical models. The students express a high degree of interest in receiving sustainability training.

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Preface

Integration and Application of Business Graduate and Business Leader Competency-Models is a generational resource for business graduates and business leaders for their development of best-in-class skills. The book represents three major parts in the competency framework: training and development, employability, and technology.

The book is developed to assist graduates and career professionals in better preparing them to enter business fields by illustrating what industries want and need in a potential candidate. The book is also aimed to assist academia, consultants, practitioners, and program designers enriching their understanding about what business industry's needs are and the direction of the field of business competencies, and latest works completed in the area of competencies and modeling.

It should not come as news that competency models are extremely popular. Almost 75–80% of companies surveyed about their use of competency models, have reported having some type of a competency model in place (Shipman et al., 2000). Competencies are popular because they are part of a larger puzzle for developing individuals, both personally and professionally, and can be attributed to effective outcomes. Competencies are human attributes that cannot be automated. They are the actions individuals do at work that are of the greatest value to the company. Several notable companies have moved away from traditional legacy performance management systems and have replaced legacy performance management systems with competency-based management systems, e.g. Google, Microsoft, BP Bank of Montreal all uses competency-based management systems (Pulakos et al., 2019; Shet et al., 2018). The advantage of a competency-based performance management is it accelerates the capability of an employee's contribution to the organization. It is not how much the individual knows, though that is important, but how they do their jobs that is essential to the approach of competence-based management. Competence-based performance management is about how managers, who are agents of organizations, engage with employees in effective ways through the management of individuals and the coaching of individuals through their experiences by having them demonstrate learnings and by leveraging their knowledge to be shared across organizations for contribution.

The human-centric approach was acknowledged throughout the works presented in this book. As described previously, people's actions at work are the greatest value add a company. Therefore, individuals and organization's greatest resource. The environment professionals are entering in general indicates that it would like candidates to possess certain qualities that are relatable to the industry they are entering. These related qualities are the most valuable to industries utilizing individuals early on in their professional careers. In chapter, "An analysis of employers' perceptions of business graduates' competencies: An analysis of employers' perceptions of business graduates' competencies: A case of the New Zealand." In a survey in New Zealand, the public sector and higher educational institutes of New

Zealand were studied. The public sector hires potential candidates who are graduates, indicating that having a foundation of solid technical skills are good. However, soft skills are more desired in graduates entering the New Zealand public sector. Surveys conducted by Cengage (2019), Workopolis (2014), and Forbes (2019) demonstrate, in no particular order, that skills such as listening, communication, decision-making, problem-solving, influencing others, interpersonal skills, and emotional intelligence are very important in candidates who are hired. This has been described by a number of authors in this book in their works as meta-competencies and metacognition. This proposition may seem scary, for graduates as there does not appear to be much exposure to these skills in graduate degree programs from most accounts as researchers of the literature point out and in many of the works from authors in this book. Throughout the book, authors explain these skills and how to develop them even if you may not be comfortable with them yet as graduate or a beginning professional. The benefit here is competency, which focuses on building and demonstrating the skills learned or changing the practices.

In the introduction, Dr. Heading-Grant shares her experiences of having to move, all of a sudden, from a work environment in an office environment with resources at her fingertips. To now teleworking from home while retaining her approach to conducting human resource business for the university she works for. Her primary skills as Human Resource Dean were not the meta-competencies that she relied on for her work, which she would still have to rely on in a virtual environment. However, she must now rely on learning and develop different skills in the immediate through these initial days of change. Being motivated became a virtue for Dr. Heading-Grant. With motivation and her characteristics aligning allowed her to perform by using skills for which she had rarely used. "Competency," as concept, has proven its value in ensuring cost effectiveness in implementation as compared to the traditional performance-based system. The concept of competency in the US framework is based on a behavioral approach to perform work in a superior manner. This approach is one where an individual either has certain skill or acquires them through their learnings from doing or learning instructions. Individuals who perform in extraordinary ways establish a point of reference with which others are measured and display certain characteristics and behaviors that are measurable and comparable. Since the 1970s, authors such as McClelland, Boyatzis, Spencer, and others have helped shift the thinking about competencies and how they are used and measured in our daily work lives.

The authors of these works in this book complement and advances scholars McClelland, Boyatzis, Spencer, and others efforts. Sparrow (1995) describes behavioral competency as soft skills that comprise the underlying characteristics of the individual. They are the input or intentional behaviors of people in a broad organizational context, which may be a job, role, career, or the organization itself. Competency is held by a person, who brings it to the organization. This appears to be the predominant perspective today. Dr. Heading-Grant walks the reader through her personal journey and discusses how that journey connects to her professionally. Therefore, showing the readers competency can very much be a part of the personal that is bring to the organization.

The first section of this book covers training and development. Wirespire reports that there are a number of things millennial workers would like from their employers that are consistent with the findings of authors from respondents. Millennial workers would like to receive corporate learning and responsibilities at work. In a survey by Monster.com, between 1981–96, it was found that Millennials prefer open communication and a sense of belonging. In Gallup's 2019 article *What Millennials Want is Good for Your Business*, Millennials indicate that they do not want a boss but a coach. They want to develop their strengths. They do not want annual reviews but an ongoing conversation about their current performance. Millennials were selected for the study as they constitute the largest block of the current US labor force

(PEW Research Center, April 2018). This implies the strength of competency-based approaches for learning and managing performance, which is in alignment with this section of the book. In the chapter titled "Investigating the role of professional accounting, education of professional accounting education in enhancing meta-competency development: Aligning with industry perceptions," a study conducted in the Canadian Industry of Professional Accountants. Directly highlights the perceptions of supervisors and new professional perceptions of their skills. The study identifies the needs and gaps between students and Professional Accountants the respondents and provides solutions from a practice perspective. The chapter "Maximizing organizational performance and goal-achievement through competency-based education" include an experimental approach currently implemented in South Africa. It discusses experiments with competency-based learning (CBL) in industries in South Africa, with tried and proven practices with a human-centric approach and outcomes in alignment with what Millennial workers want.

The second section of this book covers employability. There will be clear overlap with the training and development and the employability and technology sections of the book. Due to COVID-19, the Gross Domestic Product (GDP) in the US contracted 4.8% in the first quarter of 2020. This is the first decline in six years according to the Whitehouse (2020), a significant decline at that. While emerging from the COVID-19 pandemic, the US and the world can regain some of its footing loss in GDP. The employment outcome is expected to improve. Most directly, individuals, graduates, and career professionals need to be prepared for the market. In "Introduction," Dr. Heading-Grant enlightens readers on the necessity to "Growing a diverse pipeline." In this Introduction, we are familiarized with her experiences as a young teen and then a college student through various degrees and the support and encouragement she had. Though she need not utilize the word "coaching," she received it from those that supported her as employers and supervisors. The behaviors described seemed to utilize coaching and a competency-based approach for her learning and development. The outcome was that she became very immersed in her field.

Authors for this book works, highlight some work toward recognizing a need to grow a pipeline, supported by findings from a study. Which skills do candidates need to have? This is discussed in a study in the chapter on correctional professionals. Through qualitative interviews, the chapter "Administrative leadership mindset and philosophical approaches: qualitative method, conceptual framework, consequentialism and capital" shows how corrections and a prison-like environment builds the next generation of leaders. Most of the individuals in this study identified growing up in their professional careers through the ranks by taking on various responsibilities. The study was able to identify a set of professional skills that makes an individual attractable to administrative roles of various types. It demonstrated the transferability of skills from industry to industry, consistent with what Dr. Heading-Grant shared with regard to growing a pipeline through her own experiences.

The chapter "HigherEd through consulting: Developing leadership skills by negotiating and delivering paid client assignments" brings employability home. This chapter presents a model that supports the study to be developed to enter the consulting environment through a participating in consulting negotiation from the date of graduation to the date of employment as opposed to working in a role and not being a part of the negotiation consult process because of the fear that the skills have not been obtained while in graduate school. This model ensures that a hired candidate has the skills necessary from day one and provides evidence to the consulting firm to prove the same. This model builds on what employers say they want from a candidate and offers a quicker return on employee investment by presenting a candidate who is ready to work.

The third and final section of this book covers technology. Technology has undoubtedly changed the landscape of businesses and various industries. Whether it is automation, robots, computer and computer

science, or the management of resources and assets, working differently is a theme that technology brings to the work environment. In this section of the book, the authors focus on the competencies, skills, and upskilling necessary to do the work only humans can do, either because technology is not capable of doing the work being done or because humans are doing work through the use of technology in their operations. As mentioned previously, organizational competencies are human attributes not intended to be replicated by technology. These competencies add value to the business. The chapter "Robot-proof work capabilities" provides evidence of this through an extensive survey and the synthesis of labor data. It identifies a comprehensive list of skills that individuals should develop or consider upskilling for continued success and employability. For instance, the approach used for identification, validating, and articulating is very much novel. Finally, it discusses the use of technology by individuals to assist with the development of individual performance management that has entered the world of technology. The chapter "IT enable-based performance management system" describes specifically the approaches required for behavioral competencies and competency modelling, which the authors have discussed in various forms throughout this book, specifically this chapter discusses how to develop an IT enable-based performance management system. This chapter provides one example, besides other ways, in which continued learning could occur after reading.

Chapter, "Organizational climate and strategic leadership in Industry 4.0," introduces the strategic leadership approaches effective for organizational climates that have been adopted by Industry 4.0 as well as their application to accomplish business functions. Organizations and leaders can maintain their effectiveness by working in tandem with each other using the skills identified through this empirical study. The study also identifies the distinct skills and behaviors that supports the authors' novel approach.

The final chapter, "Sustainability and Competency-based Learning at the University of Seville: Challenges and Opportunities in Educational Sciences' takes an approach to competency development at the college level. This chapter explores sustainability and competencies developed at a university utilizing a case study approved. The study uses Education and Social Innovation for Sustainability, in Spanish (EDINSOST) project a competency map on sustainability utilized to diagnosis problems and solutions.

The compilation of complementary works put forth by researchers, university faculty members, consultants, and business leaders provides readers with decades of knowledge and expertise combined. The authors have put together some of the most relevant and up-to-date literature, data, information, studies, and case studies available. Competency models and competency-based performance management systems meet various organizational and operational objectives. Competency-based performance management is cost-effective and efficient to implement, while competency-based approaches are applicable to the day-to-day changes of industry. Therefore, they provide ready information for decision-makers with regard to human resource skillsets at the individual level and across the organizational level. They are proven commodities!

Integration and Application of Business Graduate and Business Leader Competency-Models is for the graduate, the new and long-term professional, the career-situated and the career-non-situated, practitioners, curriculum designers, librarians, consultants, and industry leaders seeking a reference point and a resource for developing work competencies at the individual level and across the organization. The book is seeking to leapfrog individuals from average performers to superior ones!

REFERENCES

Cengage. (2019). *New Survey: Demand for "Uniquely Human Skills" Increases Even as Technology and Automation Replace Some Jobs*. Retrieved from: https://news.cengage.com/upskilling/new-survey-demand-for-uniquely-human-skills-increases-even-as-technology-and-automation-replace-some-jobs/

Forbes. (2019). *The Value Of Emotional Intelligence For Leaders.* Retrieved from: https://www.forbes.com/sites/forbescoachescouncil/2019/06/03/the-value-of-emotional-intelligence-for-leaders/#1066aa31156d

Gallup. (2019). *What Millennials Want is Good for Your Business*. Retrieved from: https://www.gallup.com/workplace/248009/millennials-good-business.aspx

PEW Research Center. (2018). *Millennials are the largest generation in the U.S. labor force.* Retrieved from: https://www.pewresearch.org/fact-tank/2018/04/11/millennials-largest-generation-us-labor-force/

Pulakos, E. D., Hanson, R., & Arad, S. (2019). The Evolution of Performance Management: Searching for Value. *Annual Review of Organizational Psychology and Organizational Behavior*, *6*(1), 249–271. Advance online publication. doi:10.1146/annurev-orgpsych-012218-015009

Schippmann, J. S., Ash, R. A., Battista, M., Carr, L., Eyde, L. D., Hesketh, B., Kehole, J., Pearlman, K., Prien, E. P., & Sanchez, J. I. (2000). The practice of competency modeling. *Personnel Psychology*, *53*(3), 703–740. doi:10.1111/j.1744-6570.2000.tb00220.x

Shet, V. S., Patil, S. V., & Chandawarker, M. R. (2018). 'Competency based superior performance and organizational effectiveness'. *International Journal of Productivity and Performance Management*, 1741–0401.

Sparrow, P. (1995). Organizational Competencies: A Valid Approach for the Future? *International Journal of Selection and Assessment*, *3*(3), 168–177. doi:10.1111/j.1468-2389.1995.tb00024.x

Whitehouse. (2020). *An In-Depth Look at COVID-19's Early Effects on Consumer Spending and GDP.* Retrieved from: https://www.whitehouse.gov/articles/depth-look-covid-19s-early-effects-consumer-spending-gdp/

Workopolis. (2014). *Survey: The most sought-after skills that employers are having difficulty finding.* Retrieved from: https://careers.workopolis.com/advice/survey-the-most-sought-after-skills-that-employers-are-having-difficulty-finding/

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At time of this project, and after the authors had made the decision of joining, the world was hit by the COVID-19 pandemic. No part of the world was unaffected by the virus. The authors contributed from South Africa, Asia, Australia, New Zealand, United States, Brazil, and India, to name a few of the countries works are represented in this book. I was amazed by each author's steadfast commitment to the project. They completed this despite the impacts of the pandemic on them personally, their families, their countries, and the world. I genuinely appreciate every author who contributed to this book and to what I believe are some great works from each author! I also appreciate all those who could not contribute at the moment but promised to sign on if there was a future project.

As the world was caught a bit off-guard by the pandemic, the works in this book are sure to help us regain some footing and a better position for the future. Competency as a concept can assist with problems, being a part of problem-solving in extreme incidences such as the COVID-19 pandemic. Competencies, whether individual or organizational, are useful tools. They are extremely useful for preparation for dealing with what we experience or plan. All the authors that signed on and completed the works for this project acknowledged that through their commitment to the project, the world would benefit from their expertise and skills shared in this book. I hope you appreciate these works as much as I appreciate them and the authors who contributed them!

Introduction

The Tornado is in our Path

When the storm rips you to pieces, you get to decide how to put yourself back together again. ~ Bryant H. McGill

March 14, 2020 started off like any other day for me, but it ended quite differently for myself and for the thousands of employees I work with. We were going remote. As I gathered a packed bag filled with books, pens, and a set of headphones, I closed my laptop and put it under my arms. I looked around my office one last time, and I wondered if I had packed up everything I would need to work remotely for an unspecified amount of time. I realized I would miss the small things I treasured but inadvertently took for granted as the years passed: the collection of colorful angel figurines on my bookshelf, autographed books colleagues had given me, and the picture frames that held black and white memories of former colleagues and friends. As I reflected on the work I had done to date and the work that had yet to be done, I wondered when I would return to this now sacred space. My home away from home.

Working from home was not a new concept for me. I had done it many times before but only for a day or two when I needed to focus on an assignment with minimal interruption. This was different. Like many, I was about to do it for an undetermined amount of time under unforeseen circumstances. I knew I could do it, but I worried about the relational me, the person who thrives on human interaction. There would be no more strolls to the café for a cup of coffee or trips to the restroom that occasioned an impromptu exchange with a colleague or student. Many people enjoy telework, but I was apprehensive and felt it might test my patience and my ability to be productive outside of the brick and mortar of higher education. Undoubtedly, I would miss the social interactions that fulfill my days as an administrator in higher education. As I turned off my office lights and turned for the door, I reminded myself I had two not-so-secret talents that have never failed me: the gifts of innovation and adaptability.

It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. ~ Niccolò Machiavelli

As I began putting my thoughts into writing about why it would be important for individuals, students, leaders, workers, institutions, organizations, policy makers, and so forth to read this book, the unthinkable happened. A novel coronavirus moved across the country and started to infect thousands of people. The virus known as COVID-19 did not discriminate. We all were, and remain, vulnerable to the physical havoc it can do to a body. It is believed that the first known case started in November 2019 and by May 2020,

hundreds of thousands of people throughout the world had died from the virus. Those who died hailed from all backgrounds and walks of life, but the most vulnerable and marginalized in our society seem to be disproportionately impacted (e.g., elderly, impoverished, Black, Indigenous, Latinx). In addition to the physical toll it takes upon us, an alarming increase in verbal and physical attacks against Asians, Asian Americans, and Pacific Islanders began as some people in our society ignorantly and maliciously blamed China and its residents for infecting the rest of the world. COVID-19 vividly exposed prejudices, numerous systemic inequities regarding health care, internet access, employment, housing and food insecurities, and much more. It is highly probable that such inequities will likely expand if we, leaders, institutions, and organizations around the world do nothing to change our systems.

As our global knowledge and understanding about COVID-19's origins, treatment, and progression evolves, mistakes and ignorance also grows. This book is not about the global pandemic, but unfortunately it serves as a backdrop to why academia and the business industry across both digital and physical spaces must support and lead in the education and preparedness of all citizens. The very foundation we stand on has shifted, and we will likely not completely return to yesterday's work environment. This virus has devasted lives and uprooted many foundations; however, it can now also serve as a catalyst to address massive global and local inequalities, vulnerabilities, and fragilities like our country's massive under-investment in health care and social programs (i.e., policies and programs designed to reduce poverty and vulnerability) for our country's most vulnerable. It is both an unfortunate and unique opportunity to leverage our society into action to do and be better for all our sakes.

Integration and Application of Business Graduate and Business Leader Competency-Models is about educational competency-based programs and how such curricula help to meet the needs of businesses. Competency-based learning is about developing skills for the workplace and mastering them in and outside the classroom Integration and Application of Business Graduate and Business Leader Competency-Models focuses on how the integration of both learning behind a desk in a classroom setting or with a mentor and on-the-job training can best meet and achieve desired strategic organizational outcomes. The book chapters discuss how to identify the right competencies at the right time to meet organizational needs for recruitment, development, and success through scalable approaches. It is intended to offer valuable insights and resources for building pipeline programs from educational institutions to industry and from industry to educational institutions seamlessly. Whether the skills are cultivated through on-the-job training or through educational programs, creating metrics to assess standards of proficiency are key.

In today's competitive marketplace, adult learners, graduates, and institutions are looking for ways to provide multiple options to achieve desired skills in the least amount of time and at an affordable cost. Integration and Application of Business Graduate and Business Leader Competency-Models explores the following themes: the rapidly changing business landscape, technology, employability, education, and training, challenging you to apply what you learn to your business. Competency-based learning is not new, and some people have engaged in it without even knowing the term. As an adult learner, professional, or an aspiring leader who wants to have an impact on your company's bottom line, your career, or be a part of preparing the next generation of leaders, this book offers real world examples and lessons. It addresses how others have achieved the outcomes they wanted by implementing an integrated combination of conventional learning and proficiency-based assessment.

What follows is my own professional journey that shows an essential relationship between multiple modes of learning and hopefully serves as an entrée into this book's fundamental message. It is my objective to share how my terminal degree, certifications, internships, professional development op-

portunities, and use of technology aided me in turning theory into practice, be fiscally efficient, master numerous skills, and successfully contribute to my institution's diversity and human resource goals.

Growing a Diverse Pipeline

Everyone has a purpose. Your real job in life is to figure out as soon as possible what that is, who you are meant to be, and begin to honor your calling in the best way possible. That journey starts right here. ~ Oprah Winfrey

I have not thought much about whether I owe traditional education in a classroom setting or various alternative modes of learning to what I believe has been a successful career in higher education beginning as a clinical social worker in the mental health arena and then mostly as a higher education administrator. The reason I had not was because I knew that both my time learning in the classroom about theory and having the opportunities to practice was exactly how I mastered graduate school, on-line courses, and multiple certification programs. I understood from observing others around me in the workplace that continually learning and enhancing my knowledge and skills were key to improving my financial prospects. As I became more adept in the professional world, it was clear that it was important to not only be a lifelong learner but also a strategic one. It no longer became just about what I wanted to do in life, but about what I needed to do in order to be competitive in a society where the workforce was increasingly well informed and technologically savvy.

As a young teen, I used to think that obtaining a college degree was going to solve all of my family's problems, particularly their financial ones. I counted on a college degree to aid me in helping support my single working mother and two younger brothers. At the time, I did not fully understand I needed to do more than get into college. I needed to rely on multiple skills to earn the degree, become employed, and ultimately stay employed. As a mid-careerist, I became even more deliberate about acquiring knowledge and honing my skills. I leveraged my work setting to help me advance by accessing a wide array of learning opportunities. Having support from my supervisors and the insight to navigate opportunities in the workplace, helped me secure additional competencies quickly and efficiently without having to put my career on hold. This approach was beneficial to both me and my institution. It saved money and time, and I stayed active and productive at work while my employer retained a woman of color. It was a win-win situation.

Stories Matter

If you can't fly, then run, if you can't run, then walk, if you can't walk, then crawl, but by all means keep moving. ~ Martin Luther King Jr.

I never imagined the path after high school would take me into the world of higher education administration. Under my picture in my high school yearbook it says that I aspired to have a career in business. I wrote those words down on an index card that other rising seniors and I were given. We were asked by the yearbook committee to write down what would be our field of study upon graduating. I wasn't sure what I wanted to do for a career. I had been told I was good in math and, as part of a cluster group of students who were expected to attend college, I thought a career in business sounded reasonable and would impress my peers. In that moment, it did not matter that I had never aspired to go into business,

that I had no role models, no plan, or direction regarding how to even make that happen. In reality, I only wanted to attend college and please my mother.

It has been 38 years since I filled out that index card and arrived to a city that felt more like a large town nestled in an inconspicuous New England setting than my home of Trenton, New Jersey. My new city seemed as unfamiliar to me as I was of it. My brown skin seemed to attract both smiles and looks of bewilderment. I could not quite describe the gazes or my feelings at that time, but all of these years later I tell audiences that I was like a puzzle piece in a Norman Rockwell painting that did not fit. More to the point, my arrival to Burlington, Vermont was like a scene from the movie *Coming to America* where the character Prince Akeem, played by actor Eddie Murphy, arrives in Queens, New York from the fairy tale country of Zamunda. Although the Prince identified as Black and was in an all-Black neighborhood, he initially appeared out of place to those who resided there. My problem was that I was not a character in a movie where the cameras could stop rolling. I was stuck with my uneasy sense of feeling out of place.

In that moment, I came to the painful realization that I was no longer home. Unconsciously, and even consciously, I wanted and waited for someone on the street to ask me if they could help me because they assumed, I was lost. That somehow, I had taken the wrong turn and ended up in Burlington by mistake. Thank goodness my final destination was to a college campus that was expecting me and was somewhat better prepared to welcome me and other people from diverse backgrounds.

My story is important to who I am today in my career. After years of a rich, deep, and expansive hands-on experience in higher education, I was recently told by someone that I have gravitas, tenacity, and spirit. It wasn't that I had never been complimented before, but it was the usage of the particular word gravitas that stood out to me. I liked the way it sounded. It made me smile. I began to wonder why this particular word had been bestowed upon me. Was this accolade deserved, and if so, what was it about my evolution as a leader that led to such a compliment?

I believed the word to be an expression of praise, at least in the way I heard it. Nonetheless, I was compelled to explore the word more with my peers and if the truth be told, I wanted to bask in it for as long as I could. I wanted my colleagues to know that it was my supervisor who made the comment because it happened during my performance appraisal and at a time of professional transition for me. I wanted others to know my supervisor had essentially said I have *presence*. I could only hope that they would agree, in addition to sharing with me why they agreed with my supervisor. It is because of that verbal exchange and other conversations with trusted colleagues over the years that I was once again reminded of the role diversity and inclusion has had in my professional development and my success as a leader.

Being in dialogue with my peers and a few direct reports at that time, I learned through their stories and memories of me in action that they saw me as an accomplished leader. However, what stood out the most about those discussions is one common thread. That common variable was diversity and inclusion or components of the two ideas. These stories whether good, bad, or ugly, facilitated my way of being in the world today. My experiences permeated my brain and heart without my knowledge or permission. Embedded in me is the understanding of the importance of integrating an ethic of care, community, civility, accessibility, and inclusion in how I wish to live and lead. Each layer of myself that has been revealed by the unique interactions and experiences I have encountered with other individuals made me want to journey back to how I got on this path. That desire to look back was made easy by my earlier days of maintaining written journals and some old lesson plans from a course I taught, which utilized several personal case studies. I wanted to construct where my dedication to diversity and fairness had blossomed as a professional, and where my gravitas had resulted in salient partnerships, the develop-

ment of practices that united people instead of dividing them, and using innovative opportunities that supported greater diversity and fairness.

When my journey began years ago, words like *diversity, equity, and inclusion* felt more foreign than familiar and gender and racial discrimination was more common than condemned. I spent my formative years observing the dichotomy that existed in many communities between those who allowed the undercurrent of racism, sexism, and inequality to crush their prospects verses those who gained inspiration to turn the tide. Once in college, this motivated me to pursue a degree in social work and a career that would be of service to others.

The challenges I experienced fueled my dedication to inclusivity and social justice work. I knew the community structures and systems where I grew up were less than what they should have been and I, and others, deserved better. I had to find a way to make change happen and to go forward. It did not have to be anything big, but it had to involve me doing something proactively. This is where the origins of my own grit and courage blossomed.

In my earlier years I believed that chance or providence put me on the path to where I am now, but I no longer think coincidence or luck paved my way by itself. After taking the time to examine my personal and professional roadmap, I wanted to better prepare myself for future bumps, obstacles and detours in the road that lie ahead. Taking the time to study the landscape around me, and by clarifying my priorities along with my life experiences, I became better at navigating my way into and through the terrain of higher education. I knew where and when I needed to make stops for self-care and more fueling of empowerment, and I gained wisdom. I was keenly aware of situations in which there was power in numbers and times when bridging understanding and trust was best done alone. There were times when I sped up my pace, slowed down, or coasted to achieve my next objective or goal. I have had to take many spiritual walks when it seemed like no matter what I did, no one could see the importance of respect, civility, integrity, diversity, inclusion, responsibility, innovation, fairness, and equity.

My experience of coming home from school to an empty refrigerator made me want to help others. Watching my mother cry because she could not make rent inspired me to help others. The memory of my mother crying because a white man spat in her face because of the color of her skin motivates me to build coalitions against racism and other forms of oppression. It is clear to me where I get my determination and how it has enabled my passion to aide others to use their stories to push on, pay it forward, inspire, but mostly thrive. My determination and resilience grew out of some dark places, but it no longer lives there nor is it sustained there. I have been able to use those situations to be brave, and to become bold and audacious about creating a better today and tomorrow for all of us in both big and small ways.

38 years ago, as an African American woman, I was not the only person of color transitioning into a space that was and still is predominately white, but I was one of very few. There were others from different cultural backgrounds or different parts of the country but not many. Since that time, much has changed in Burlington for the better, but some things have remained the same. It is a fact that our world is more multicultural now than ever before and that more diverse groups are living, learning, and working together, but the need to build community around belonging, inclusion, and respect still exist. The stories I heard from colleagues and read from my own journals were not all success stories, but even in failure I grew because I learned. In short, I remembered which turns not to take again. This is something I share with audiences, colleagues, and students not because I like to talk about myself, but because self-reliance and having a vision for your future must be emphasized. Through each stage of your own journey, no matter where you started from, you have to chart a course to your own success. Being mindful about how you navigate your roadmap is essential.

Which Way to Turn?

Some beautiful paths can't be discovered without getting lost. ~ Erol Ozan

As our world continues to grow more diverse and complex, it is easy to understand why diversity, equity and inclusion (DEI) are topics of interest for many in our global society. There is a growing demand for in-house DEI professionals in many workplaces. Today's institutions, organizations, and businesses strategize how to make their commitment to DEI visible and embedded in their structure and foundation. They know it is a global imperative. They hire DEI gurus to offer up multicultural education, trainings, and even to help create strategic action plans where inclusive excellence is rooted in what they do. Unfortunately, some even work to create the illusion that meaningful progress is being made toward DEI by simply mentioning diversity in recruiting, hiring processes, and training materials. The demand for culturally intelligent and effective professionals will continue to increase. Changing demographics, regulatory requirements, and new generations will expect more from higher education, vocational, and business settings in regard to diversity (e.g., race, sex, gender identity, sexual orientation, language, ability, religion, national origin, ethnicity, heritage).

During an unexpected shift at the university I work, I was called upon to integrate DEI and Human Resource (HR) management at my university. It was a significant shift in institutional thinking. It was an enterprising approach to support an inclusive, high-performance workforce that would help create a paradigm shift at the university. It would shift things from being simply transactional to transformational. This move acknowledged the changing role of HR professionals and how DEI work was not just about the numbers. It was an opportunity to construct a comprehensive framework for inclusive excellence. This allowed me to infuse together diversity, equity, and inclusion and the concept of equity-mindedness - the ability to make and promote discretionary efforts that interrupt patterns of inequity in outcomes that stem from social and historical exclusionary practices.

As I write this, I am the Vice President for Human Resources, Diversity and Multicultural Affairs at a prominent institution of higher education. I have thirty years of work experience in higher education having held a number of different professional positions in higher education including as a clinical associate professor. My collective experiences range from counseling, student services, faculty affairs to employee wellness and managing compliance matters in higher education. To date, I have not had a career in business, at least not in the traditional sense, but I believe I have become the leader I needed to be in order to do DEI and HR work. The various and alternative roads I took along the way got me here.

It is not uncommon for individuals to change jobs throughout their career. Professionals enhance their knowledge and skills regularly to meet the needs of the employer, to be promoted and to make more money. As part of that journey, my confidence has increased and I evolved to become more adaptable to changing situations. My knowledge of and navigation of innovative digital platforms grew as I took more risks. For example, I helped my university completely redesign and revamp its Performance Appraisal process from one that was antiquated to one that utilized an intuitive, online system. I indulged more deeply into my own self-care and the wellness of others that I worked with and supervised. My interest in professional associations and networks grew. I took advantage of an array of free learning opportunities provided by an employer (e.g., workshops, webinars, conferences, leadership series). I also learned to give back and volunteered to help and mentor others. Those encounters in particular helped me to embrace different perspectives and contributed to me being more creative at what I needed to accomplish as a leader. They also helped me to stay informed about the trends impacting my field.

No matter the profession, the demographic transformation that is occurring in the world today should compel current and future leaders, as well as policy makers, to expand their knowledge and abilities as it relates to being an active practitioner of inclusive excellence. Reflecting back clearly demonstrates that my early learning was traditional in nature as well as scripted and directive. For me that was important because it gave me the foundation that I needed to move forward from a less than ideal economic situation. Still, it was the integration of internships, certifications, proficiency-based assessment, along with traditional education programs that made the difference in advancing me forward in my career.

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Section 1

Chapter 1
Investigating the Role of Professional Accounting Education in Enhancing Meta-Competency Development:
Aligning With Industry Perceptions

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ABSTRACT

A broad set of business competencies, meta-competencies (MCs), include influencing/persuading, teamwork/relationship building, critical/analytical thinking, self/time management, leadership, strategic thinking, presentation, and communication. This chapter incorporates research from two studies examining MCs in undergraduate and professional business programs. The MISLEM project found that, in comparison to graduates, employers demonstrated less optimism about graduates' competencies. Subsequently, Morpurgo investigated differences in the perception of competency acquisition between professional accountants (PAs) and supervisors in Canada by posing three questions: 1) Is there a MC importance gap between Canadian PAs and their supervisors? 2) Do professional accounting programs contribute to bridging the MC capability gap? and 3) What factors contribute to MC development? The study found perceptual differences between PAs and supervisors regarding the importance and capability of MCs as well as differences in work experience and classroom learning for competency development.

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INTRODUCTION

Despite the numerous definitions or interpretations, at its core competence is based on the ability to do something (Bratianu, Hadad, & Bejinaru, 2020; Lysaght & Altschuld, 2000). Boritz and Carnaghan (2003) provide a more refined interpretation and describe competence "in terms of outcomes, or what an individual can accomplish, rather than in terms of an individual's knowledge or capabilities" (p. 7). Individuals can acquire competencies through observation, direct instruction, or practical experience (Guile & Griffiths, 2001). In addition, competencies involve a distinction between technical, task-specific, or *hard* skills and personal, non-technical, or *soft* skills. Some examples of hard skills might include preparing a legal brief or a set of financial statements (Brown & McCartney, 1995), whereas soft skills incorporate critical thinking, interpersonal sensitivity, or creativity (Bethell-Fox, 1982, as cited in Brown, 1994; Ibrahim, Boerhannoeddin, & Bakare, 2017). Empirical research stretching as far back as the 1900s has identified a set of overarching soft skills, also known as generic competencies, enabling competencies, or meta-competencies (MCs), which individuals require when utilizing other competencies (Bogo et al., 2006; Brown, 1993, 1994; Cheetham & Chivers, 1998). MCs involve a set of cognitive, personal, and interpersonal skills, abilities, and capacities that an individual can foster. These competencies relate strongly to the application of professional "judgment, intuition and acumen" (Brown, 1994, p. 292) and "provide the essential skills for ethical behaviour, leadership, teamwork, decision-making, problem-solving, and communication as a professional…"(CPA Canada, 2020).

As an intended resource for university faculty, curriculum developers, consultants, and industry leaders, this book seeks to provide information about the individual and organizational development of competencies. Based on that aim, this chapter leverages recent empirical studies related to the development of eight specific and important MCs in undergraduate business students and Professional Accountants (PAs).

Two main studies provide the theoretical and empirical foundations for this chapter. These researches attempted to address the frequently documented claims of business leaders around the world, who argue that undergraduate business students lack the requisite enabling competencies deemed important by numerous professions and by the business community. Consequently, this paucity of competencies results in "a growing concern among employers that their employees lack adequate levels of the soft skills. These skills include, from the employer's perspective, the ability to communicate, make decisions, think critically and work in high performance teams" (Harder, Jackson, & Lane, 2014, p. 1). More recently, contemporary business literature continues to enforce that business graduates in North America possess deficiencies in the following MCs: critical thinking, problem solving, attention to detail, oral and written communication, leadership, interpersonal abilities, teamwork (Dishman, 2016; Strauss, 2016) and analytical skills (Morgan, 2016). These results justify the claims of professions such as accounting, law, and consulting, which place great importance on these MCs. Consequently, these professions have enhanced their demands that undergraduate programs provide greater emphasis on soft skills rather than focusing primarily on technical competencies. Similarly, in a comprehensive report on the impact of automation and artificial intelligence on organizations, workers, and skills, the McKinsey Global Institute (Bughin et al., 2018) discussed findings from 3,031 surveys involving C-suite executives from Canada, United States, France, Germany, Italy, Spain, and the United Kingdom. These surveys, complemented by face-to-face interviews with different stakeholders, including Chief Human Resource officers and industry executives, found that while the demand for technological skills will continue to grow in the next decade, the demand for social and emotional skills will increase in proportion to the importance of hard skills. The desired social skills include leadership and managing others; entrepreneurship and

initiative-taking; interpersonal skills and empathy; advanced communication and negotiation skills; and adaptability and continuous learning. In addition, the research findings revealed the anticipated need for higher-order cognitive skills, including creativity; complex information-processing and interpretation; and critical thinking and decision-making increasing over the next ten years.

The academic literature provides significant evidence that, in general, business graduates possess low levels of enabling competencies, which indicates the need for undergraduate business schools to ensure that students develop those skills to satisfy the expectations of industry (Chaffer & Webb, 2017; De Lange, Jackling, & Gut, 2006; Hardy & Deppe, 1995; Howcroft, 2017; Jackling & De Lange, 2009; Wilson, 2011). Despite these research findings, university education continues to focus on the development of technical competencies, as employers place the highest value and demand on such skills. Due to the constraints and limitations on university curricula and courses, instructors lack the freedom or opportunity to teach MCs. This reality leads to the hypothesis that a gap exists between MC development and expected MCs for students completing undergraduate business programs, graduates accepted as candidates into major business professions, or individuals employed non-professionally in business-related jobs. The specifics of the gap, however, remain unknown and extremely difficult to observe or measure, especially in the field of business, which lacks formal education or programming dedicated to developing MCs in business graduates.

Attempts to observe and measure broad graduate competency in general business contexts constitutes a difficult endeavor, even when employers provide formal or informal training and require that employees take courses and pursue professional development in such competencies. As the literature suggests, employers and industries overwhelmingly recognize the importance of MCs but lack the knowledge and resources for consistently aiding in the development of such skills. Specifically, employers emphasize the importance of MCs yet identify schools as the institutions responsible for training students in these abilities to save on the additional costs and effort required to train employees. However, universities and colleges lack the capacity and opportunities to teach students MCs alongside technical skills. The labour force expects that students develop MCs in addition to rather than instead of technical competencies, which puts additional pressure on universities and colleges (Prikshat, Kumar, & Nankervis, 2019).

The labour force, and, more specifically, professions, can formally recognize the importance of MCs and actively seek to integrate them into their competency frameworks and educational programs. This integration will aid in the development of professional education and bolster the MCs of university students. For example, the accounting profession considers MCs as integral in the development of accounting professionals and in the maintenance of their status (Douglas & Gammie, 2019; O'Shea, 2017; Siriw Ardane & Durden, 2016; Tan & Laswad, 2018). As a result, accounting bodies and other professions around the world that place high emphasis on MCs realize that they must take action to ensure their graduates possess such skills. Therefore, institutions outside of the university must develop MCs in order to ensure that graduates possess the necessary soft skills expected by employers. By focusing competency development research on professional education programs, studies can provide opportunities for more measurable and observable samples. Specifically, professions, rather than businesses in general, often develop and deliver highly-structured programs aimed at developing the necessary technical and non-technical skills required of the profession. Such research also allows for sampling within a defined population. Accordingly, this chapter provides an overview of research related the development of MCs in one such profession: accounting and the Canadian Professional Accountants (CPAs). Although this discussion mainly encompasses professions, the information presented in this chapter can easily apply

to the development of employees in non-professional roles and in numerous organizations and industries outside of business.

The background for this chapter, and the studies referenced herein, stem from two research projects undertaken independently by Drs. Ana Azevedo (MISLEM Project) and Mark Morpurgo (Doctoral Dissertation on a Canadian Professional Accounting Education Program). While the former study relates to the development of generic MCs in undergraduate business programs, the latter investigation examines the cultivation of MCs in professional programs.

BACKGROUND

The MISLEM Project

The MISLEM project included nine partners in four EU countries: Austria, England, Romania, and Slovenia. Specifically, MISLEM aimed at developing and measuring learning outcomes for undergraduate business programs (Azevedo et al., 2012a). The researchers conducted an extensive literature review on the topic of quality in higher education, with a special focus on learning outcomes, such as knowledge and competencies as well as competence assessment techniques. This theoretical review uncovered important quality assessment issues. Although the research team failed to find any well-established conceptual framework for learning outcomes at the undergraduate level, they identified some specific guidelines and strong examples of learning outcomes from different undergraduate programs in England through the website of the English Quality Assurance Agency. In addition, the team also identified several studies that employed a cluster of key competencies, which varied from four or five in most empirical studies, to 30, as in the case of large international studies, such as the Transnational European Evaluation Project (TEEP). The adoption of a small number of critical competencies received further support from 39 qualitative interviews with alumni and employers in the four EU countries. The interviews indicated that employers and business graduates from undergraduate programs considered certain competencies as more important than others, especially generic competencies. In addition, the respondents deemed a broad knowledge base in business education as very important. The knowledge base incorporated both discipline-specific knowledge as well as material from related disciplines, such as economics, psychology and law.

Survey findings from the MISLEM project revealed that both employers and graduates considered business competencies as even more important than business knowledge in terms of preparing graduates for their careers. In addition, these two sets of respondents (596 recent graduates from undergraduate business programs and 304 employers in the four European countries) provided different evaluations of graduate ability in key business knowledge areas and key competencies. While key business areas include Accounting, Finance, Marketing, Human Resources and Operations, key competencies involve aspects such as influencing and persuading; teamwork and relationship building; critical and analytical thinking; self and time management; leadership, ability to see the bigger picture; presentation; and communication. Specifically, employers demonstrated less optimism about graduates' abilities than graduates themselves. While this difference seems logical, it deserves careful consideration for two reasons. First, graduates rated their capability as somewhat low. The percentage of business graduates that either agreed or strongly agreed that they possessed capabilities in business knowledge and in business competencies ranged from 54.83% to 63.40% respectively, while the corresponding percentage of

employers ranged from 38.63% to 53.03% respectively. Secondly, PLS structural equation modelling in the four EU countries indicated that graduates' abilities in these two critical learning outcomes constituted a significant predictor of employers' ratings of satisfaction with graduates' performance in the workplace (Azevedo et al., 2012b).

In addition to MISLEM project findings, the research team advanced a step-by-step procedure for identifying critical learning outcomes, which included both knowledge and competencies, for any study program. These outcomes incorporated several components, beginning with a literature review and qualitative interviews to identify or select key learning outcomes for a particular program. The second step comprised the design and implementation of questionnaires for assessing the match between the achieved and required learning outcomes. Next, the data analysis and interpretation of results included the aggregation of data to generate quality indicators, and finally, the creation of a feedback system to provide opportunities for curriculum improvement.

Despite its benefits, the MISLEM project contained some limitations. First, the study focused on business graduates in non-specific industries across a broad geographical range. In addition, the research contained a lack of correspondence between supervisors and graduates. Therefore, a logical extension of MISLEM can entail a focused approach on professional education programs that follow the completion of business undergraduate degrees. Such research could determine the extent that professional programs can contribute towards bridging the gaps identified in the MISLEM study and in the broader literature. By further narrowing the population to a specific profession in a single country as well as matching the primary graduate respondents with their supervisors, investigators could establish a foundation for similar research in different professions and throughout the world.

The Role of Professional Education Programs in Promoting the Development of MCs

Morpurgo's (2015) doctoral dissertation sought to address the MISLEM project's limitations and further build upon its findings. The dissertation posed three questions: 1) *Is there a MC importance gap between Canadian Professional Accountants (PAs) and their supervisors?* 2) *Do Professional Accounting Programs Contribute to Bridging the MC Capability Gap?* 3) *What factors contribute to MC development?* The term "importance gap" refers to perceived differences between PAs and supervisors regarding the importance of specific MCs. Similarly, the term "capability gap" addresses the perceived differences between PAs and supervisors regarding PAs' capabilities in specific MCs.

Numerous empirical studies spanning more than 20 years have underscored the importance of MCs or similar attributes to undergraduate business students (Azevedo, et al., 2012b; Evers, Rush, & Berdrow, 1998; Gracia, 2010; Jackson, 2009a, 2010; Warn & Tranter, 2001). In particular, a large body of research examines the relevance of MCs to undergraduate accounting students (Cranmer, 2006; De La Harpe, Radloff, & Wyber, 2000; Hardy & Deppe, 1995; Jackling & De Lange, 2009; Kavanagh & Drennan, 2008; Mason, Williams, Cranmer, & Guile, 2003; Wells, Gerbic, Kranenburg, & Bygrave, 2009; Wilson, 2011). This wide scope of literature suggests that the emergence of a competency gap represents neither a new nor unexpected phenomenon. Schön (1987) observed that "professional educators have voiced with increasing frequency their worries about the gap between the schools' prevailing conception of professional knowledge and the actual competencies required of practitioners in the field" (p. 10).

While an abundance of empirical research examines MC development in undergraduate business students, Morpurgo (2015) have not found any existing research that has observed MC development in

pre-professionals that enter into professional programs after graduating from university. Furthermore, no existing studies have compared the perceptual differences of professionals and employers regarding the importance of MCs as well as the capability of professionals to use MCs in their work. Professional associations have traditionally focused on developing employer-specific knowledge or technical competencies through formal programs of rigorous study. However, these associations have paid insufficient attention to understanding factors that influence the development of MCs, especially in the context of formal versus workplace-based experiential learning. As a result, these literature gaps represented a significant research opportunity, especially since many professions recognize the importance of MCs among a larger set of requisite competencies that appear in the competency maps of most professions, thus indicating that professionals must demonstrate such competencies in their work.

Morpurgo (2015) used the MISLEM study (Azevedo et al., 2012a) as a foundation for the examination of MC development. Specifically, Morpurgo (2015) adapted elements of the MISLEM study to investigate the contribution of professional accounting education to the development of MCs. In Canada, the accounting profession constitutes one of many industries that have adopted a competency-based framework for certification, where professionals must demonstrate proficiency in several requisite competencies (Canadian Nurses Association, 2010; College of Alberta Psychologists, 2013; CPA Canada, 2020; International Federation of Accountants Education Committee (IFAC), 2003; The Law Society of Alberta, 2013). Despite the emphasis on competency development, few studies examine the usefulness of these competencies, the extent to which professionals adopt them in practice, or the manner of their development, especially in the context of a single profession. Other professions with competency frameworks include law, management consulting, nursing, psychology, project management, and financial planning. Consequently, the research described in this chapter can undergo extension or modification to apply to any of these other vital fields.

This material from this chapter emanates primarily from the Morpurgo (2015) dissertation research study that examined the role of the Certified Management Accountants (CMA) of Canada. The study occurred immediately before the unification of three separate Canadian accounting bodies: CMAs, Charted Accountants (CA), and Certified General Accountants (CGA) into a single body currently known as Chartered Professional Accountants (CPA). This merger resulted in the development of eight key MCs identified in the MISLEM project (Azevedo et al., 2012a) through a carefully curated Professional Education Program (PEP):

1. Influencing and Persuading;
2. Teamwork and Relationship Building;
3. Critical and Analytical Thinking;
4. Self and Time Management;
5. Leadership;
6. Ability to See the Bigger Picture;
7. Presentation; and
8. Communication (Azevedo, et al., 2012a, 2012b; Morpurgo, 2015)

The purpose of the PEP aimed to provide post-secondary accounting graduates with opportunities to further develop the necessary technical and non-technical skills required for professional certification. In particular, these opportunities involved formal and experiential learning environments over a two-year period and practical experience through employment.

Prior to this study, no existing research, to the best of the investigators' knowledge, has been conducted in Canada or globally, either directly related to PAs; other business-related professions, such as law or management consulting; or non-business professions, such as nursing or psychology. This paucity represents a significant opportunity to increase the knowledge base about MC development and the contribution of professional education to the enhancement of MCs in students after graduation from a university or college undergraduate program.

METHOD

The Canadian study of meta-competency development in the Canadian Accounting profession (Morpurgo, 2015) adapted the pre-tested and revised Azevedo et al. (2012a, 2012b) MISLEM survey instruments focused on the eight MC clusters and deployed in four EU countries: Austria, the UK, Slovenia, and Romania. In particular, the Canadian study, which sampled data from 2008 to 2013, modified the MISLEM study to independently survey *paired samples* of professional accounting program graduates and their supervisors in three western Canadian provinces: Alberta, Saskatchewan, and Manitoba. The paired sample approach aimed to mitigate the potential for biased responses commonly associated with self-report measures. Survey deployment occurred using SurveyMonkey and underwent analysis in SPSS to identify possible trends, commonalities, and statistically significant differences related to MC development in formal and experiential learning environments. Demographic data, including gender, age, area of work, level of responsibility, and organization size, underwent statistical examination to identify potential interrelationships between demographic factors and MC development.

From a finite population of 2,234 professional accounting program graduates, the study compiled 224 usable graduate surveys and 39 usable supervisor surveys over a 90-day period between September 15 and December 15, 2013. The graduate survey response rate of 17.5% included 224 usable surveys from 1,276 survey invitations, which represented 10% of the finite population. Besides the 39 PAs matched with supervisors, the remaining 185 PAs included in the sample fell into the category of unmatched. Table 1 provides a breakdown of responses from each of the three Canadian provinces.

Table 1. Survey Sample Composition by Province

Province	Total PAs	Unmatched PAs	Matched PAs	Supervisors
Alberta	167	139	28	28
Saskatchewan	30	23	7	7
Manitoba	27	23	4	4
Total	224	185	39	39

The Canadian accounting program study of MC development sought to provide an overall answer to the primary research question: *What role does a Canadian Professional Accounting Program play in the development of meta-competencies?* The answer(s) to this question aims to increase an understanding of MC development in PAs. Although accounting serves as the exemplar profession in this study,

the concepts can transfer directly to other professions grounded in a competency-based framework that emphasizes generalized MCs and discipline-specific technical competencies. This contribution has significant importance in addressing the perceived competency crisis (Brewer, Sorensen, & Stout, 2014) experienced by all professions worldwide. By understanding the importance of MCs, the processes that support their development, and the existence of any gaps, professional associations and universities can enable more effective training, ultimately leading to greater employer satisfaction.

The primary research question raises three additional investigative questions: 1) *Is there a MC importance gap between Canadian PAs and their supervisors? 2) Do Professional Accounting Programs Contribute to Bridging the MC Capability Gap?* and *3) What factors contribute to MC development?* The remainder of this chapter discusses the results of the three investigative questions. First, the difference in ratings between PAs and employers for the value and relevance survey questions can identify the existence of a potential gap in the perceived importance of MCs. This gap relates the value of MCs to the PAs' current job and relevance to their future careers through study findings about the importance of MCs to PAs and their employers. Second, the comparison between PA and supervisor ratings examines whether a capability gap still exists after PAs have completed the PEP. The answer to this survey question can determine the way in which the PEP contributes to bridging the MC gap that exists after graduation from an undergraduate business program. This chapter will also discuss differences in PA and employer perceptions about the importance and capability of MCs and the specific factors affecting their development in PAs.

RESULTS

MC Importance Gap in the Canadian Accounting Profession

Based on the paucity of research in the field of professional MC development, this study aimed to contribute to the existing body of literature by comparing the perceptions of professionals and employers regarding MC importance. Specifically, this study utilized a questionnaire to survey PAs and their supervisors. The survey employed a seven-point Likert scale for participating PAs and their supervisors to indicate the extent to which they agreed or disagreed with statements about each of the eight MCs. Specifically, respondents answered questions relating to the extent to which MCs are (1) valuable to the PA's current job performance and (2) relevant to the PA's future career development. While the need to assess the value of MCs to a PA's current job seems relatively obvious, the questionnaire also examined the relevance of MCs to PAs' future career development because "personal competence [i.e. meta-competence] may be a better predictor of a person's potential to perform in future posts than technical competence" (Cheetham & Chivers, 1998, p. 268).

The responses for MC value and relevance among both PAs and employers were not normally distributed. Specifically, mean capability scores favoured the higher end of the seven-point Likert scale, ranking mostly at 6.0 and above. Consequently, non-parametric tests for statistical significance were applied to median differences in responses using the Wilcoxon signed-ranks test (95% confidence, $\alpha = .05$) for PAs matched with their supervisors and the Mann-Whitney test (95% confidence, $\alpha = .05$) for unmatched PAs. The results of the paired surveys confirmed the study hypothesis: that MCs possess importance (i.e. valuable to PAs in the performance of their jobs and relevant to their future career development). The study also revealed two interesting results. First, the investigation found that PAs and

supervisors seem consistent in their perception of the value for seven out of the eight MCs studied. In particular, the study observed no statistically significant differences between PA and supervisor ratings for the value of seven MCs (Table 2). However, the presentation MC revealed a statistically significant difference between PAs and supervisors. In comparison to PAs, supervisors consider presentation as more valuable to PAs job performance. This discrepancy potentially suggests that PAs may underestimate the value of the presentation MC to their current jobs.

Table 2. MC Value Question – Comparison between PAs matched with their supervisors

MC Value to Current Job	PA (n = 39)			Supervisor (n = 39)			*z*	*p*
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**		
Influencing/Persuading	6.00	6.00	1.28	6.38	7.00	0.81	-1.65	.099
Teamwork/Relationships	6.26	7.00	1.23	6.59	7.00	0.75	-1.24	.215
Critical/Analytical	6.28	7.00	1.57	6.51	7.00	1.21	-0.64	.520
Self/Time Management	6.15	7.00	1.66	6.59	7.00	0.91	-1.44	.151
Leadership	5.77	6.00	1.58	6.26	6.00	0.91	-1.81	.072
See Bigger Picture	6.10	7.00	1.54	6.54	7.00	0.68	-1.77	.077
Presentation	5.46	6.00	1.68	6.21	6.00	0.95	-2.58	.010
Communication	6.26	7.00	1.21	6.64	7.00	0.63	-1.66	.096

Note: The Wilcoxon signed-ranks test investigates the extent of agreement that the above meta-competencies are valuable for the PA's performance of their current job activities based on differences in median values between two paired groups. $\alpha = .05$ ($z = -1.96$) for a two-tailed test. The Wilcoxon W statistic is derived from a rank order of paired differences and it approximates a normal distribution when the number of pairs is greater than 20. Answers were rated on a 7-point Likert scale, 1 = strongly disagree and 7 = strongly agree.

In order to investigate the possibility of generalizing these findings to the rest of the PA sample, this study directly compared the matched and unmatched PA responses for the MC value question. The results revealed a lack of statistically significant differences in the perceived value of MCs with the exception of leadership, which the unmatched PAs considered more valuable to their jobs than the matched PAs (Table 3). The predominant lack of differences between the matched and unmatched PA groups indicates that the consistently similar value perception of MCs between matched PAs and their supervisors can generalize to the entire PA sample.

Second, PAs and supervisors seem consistent in their perceptions about the relevance of MCs to PAs' future career development (no statistical differences were found for seven out of the eight MCs). However, PAs, in comparison to supervisors, consider the communication MC as more relevant to their future careers, suggesting that PAs may slightly overestimate the relevance of this MC. Table 4 summarizes the results of these findings. The analysis of matched versus unmatched PAs revealed no statistically significant differences in perceived relevance, suggesting consistency in the responses (Table 5). These results indicate that the agreement between PAs and supervisors in the matched sample can generalize to all PAs in the study.

In addition to confirming findings previously identified in the literature, this study affirms and extends the conclusions of similar research revealing the vital role of MCs for employers of university graduates and PAs (Azevedo et al., 2012a, 2012b; Hardy & Deppe, 1995; Jackling & De Lange, 2009;

Table 3. MC Value Question - Comparison between matched and unmatched PAs

MC Value to Current Job	PA Matched (n = 38 to 39)			PA Unmatched (n = 182 to 185)			*z*	*p*
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**		
Influencing/Persuading	6.00	6.00	1.28	6.39	7.00	0.88	-1.93	.054
Teamwork/Relationships	6.26	7.00	1.23	6.51	7.00	0.89	-1.34	.182
Critical/Analytical	6.28	7.00	1.57	6.57	7.00	0.83	-0.13	.899
Self/Time Management	6.15	7.00	1.66	6.42	7.00	0.91	-0.29	.773
Leadership	5.77	6.00	1.58	6.40	7.00	1.02	-2.79	.005
See Bigger Picture	6.10	7.00	1.54	6.56	7.00	0.88	-1.81	.070
Presentation	5.46	6.00	1.68	5.91	6.00	1.26	-1.31	.190
Communication	6.27	7.00	1.21	6.55	7.00	0.87	-1.73	.083

Note: The Mann-Whitney test investigates the extent of agreement that the above meta-competencies are valuable for the PA's performance of their current job activities based on differences in median values between two non-paired groups. $\alpha = .05$ ($z = -1.96$) for a two tailed test. The Mann-Whitney U statistic is derived from combining and ordering the two samples scores and then assigning ranks to them; it approximates a normal distribution when the number of pairs is greater than 20. Answers were rated on a 7-point Likert scale, 1 = strongly disagree and 7 = strongly agree.

Table 4. MC Relevance Question – Comparison between PAs matched with their supervisors

MC relevance to future career development	PA (n = 38)			Supervisor (n = 38)			*z*	*p*
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**		
Influencing/Persuading	6.69	7.00	1.17	6.53	7.00	0.76	-1.37	.170
Teamwork/Relationships	6.72	7.00	0.56	6.68	7.00	0.72	-0.86	.388
Critical/Analytical	6.72	7.00	0.56	6.71	7.00	0.57	-0.54	.593
Self/Time Management	6.67	7.00	0.62	6.61	7.00	0.59	-0.79	.433
Leadership	6.85	7.00	0.37	6.66	7.00	0.58	-1.62	.106
See Bigger Picture	6.82	7.00	0.45	6.84	7.00	0.55	-0.26	.792
Presentation	6.52	7.00	0.71	6.50	7.00	0.60	-0.84	.401
Communication	6.92	7.00	0.27	6.68	7.00	0.62	-2.32	.020

Note: The Wilcoxon signed-ranks test investigates the extent of agreement that the above meta-competencies are relevant to the PA's future career development based on differences in median values between two paired groups. $\alpha = .05$ ($z = -1.96$) for a two tailed test. The Wilcoxon W statistic is derived from a rank order of paired differences and it approximates a normal distribution when the number of pairs is greater than 20. Answers were rated on a 7-point Likert scale, 1 = strongly disagree and 7 = strongly agree.

Jackson, 2009b, 2010). This study also affirms Evers et al.'s (1998) observations about the importance of four MCs for workplace success after graduation: managing self, communicating, managing people and tasks, and managing innovation and change.

Table 5. MC Relevance Question - Comparison between matched and unmatched PAs

MC Relevance to Future Careers	PA Matched (n = 39 TO 39)			PA Unmatched (n = 183 to 185)			*z*	*p*
	Mean	Median	SD	Mean	Median	SD		
Influencing/Persuading	6.69	7.00	1.17	6.75	7.00	0.87	-1.29	.196
Teamwork/Relationships	6.72	7.00	0.56	6.80	7.00	0.61	-1.16	.248
Critical/Analytical	6.72	7.00	0.56	6.75	7.00	0.60	-0.47	.642
Self/Time Management	6.67	7.00	0.62	6.71	7.00	0.58	-0.55	.584
Leadership	6.85	7.00	0.37	6.80	7.00	0.56	-0.17	.868
See Bigger Picture	6.82	7.00	0.45	6.85	7.00	0.55	-0.86	.389
Presentation	6.52	7.00	0.71	6.56	7.00	0.74	-0.48	.655
Communication	6.92	7.00	0.27	6.81	7.00	0.56	-1.17	.240

Note: The Mann-Whitney test investigates the extent of agreement that the above meta-competencies are relevant to the PA's future career development based on differences in median values between two non-paired groups. $\alpha = .05$ ($z = -1.96$) for a two-tailed test. The Mann-Whitney U statistic is derived from combining and ordering the two samples scores and then assigning ranks to them; it approximates a normal distribution when the number of pairs is greater than 20. Answers were rated on a 7-point Likert scale, 1 = strongly disagree and 7 = strongly agree.

Meta-Competency Capability Gap in the Canadian Accounting Profession

The previous discussion clarifies the importance of MCs to employers, business school graduates, and PAs. Specifically, the Canadian study demonstrated the vital nature of these competencies in terms of their value to their current jobs and their relevance to future careers. Furthermore, the literature identifies the existence of a capability gap between the MCs that employers expect and those that employees possess. These results apply to both undergraduates and graduates (Albrecht & Sack, 2000; Bui & Porter, 2010; Fortin & Legault, 2010; Gracia, 2010; Hankock et al., 2009; Hardy & Deppe, 1995; Jackling & De Lange, 2009; Jackson, 2009a, 2009b, 2010; Kavanagh & Drennan, 2008; Sin, Jones, & Petocz, 2007; Willcoxson, Wynder, & Laing, 2010). To date, however, no work has sought to determine the potential existence of an MC capability gap between newly designated PAs and their employers. Using a similar methodology as that employed in previous studies (Azevedo, et al., 2012a; Ballou, Bowers, Boyatzis, & Kolb, 1999; Boyatzis, 1994; Boyatzis, Stubbs, & Taylor, 2002; Camuffo & Gerli, 2004), the present investigation employed a multi-constituency approach involving both newly designated PAs and employers. This design aimed to determine the existence of a capability gap and the role that the professional accounting program fulfills in bridging that gap.

The results of both PAs and employers lacked a normal distribution and the mean capability scores favoured the higher end of the range, from 6.0 and above on the seven-point Likert scale. Consequently, the researchers applied the same non-parametric tests for statistical significance to examine median differences in capability responses. Using the same Likert scale as that used for the value and relevance survey questions, participating PAs and their supervisors indicated the extent to which they agreed or disagreed with various statements. These questionnaire statements measured the capability of PAs for using each of the eight MCs in their current jobs. Results from the non-parametric Wilcoxon signed-ranked tests for the 39 PA-supervisor *paired* sample data analysis indicated that PAs and supervisors reported very similar and rather high perceived capability ratings. In fact, the paired comparisons using

the Wilcoxon tests indicated no statistical differences between PAs and supervisors across seven out of the eight MCs. As shown in Table 6, this result indicated that both PAs and their supervisors believe that PAs possess strong capabilities for using MCs in their jobs. The only significant difference involved the ability to see the bigger picture ($p = .031$; $\alpha = .05$), where PAs rated their capability slightly higher than supervisors rated PAs' abilities, thus suggesting that PAs may have a tendency to overestimate their ability to see the bigger picture.

Further investigation measured differences between the matched and unmatched PAs using the non-parametric Mann-Whitney tests for independent or non-paired groups. The results, presented in Table

Table 6. MC capability Question – Comparison between PAs matched with their supervisors

MC Capability	PA (n = 39)			Supervisor (n = 39)			*z*	*p*
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**		
Influencing/Persuading	6.03	6.00	1.18	5.74	6.00	1.04	-1.07	.286
Teamwork/Relationships	6.08	7.00	1.19	5.95	6.00	1.12	-0.50	.618
Critical/Analytical	6.44	7.00	0.85	6.28	6.00	0.79	-0.10	.320
Self/Time Management	6.28	7.00	0.89	6.13	6.00	1.03	-0.72	.473
Leadership	5.87	6.00	1.08	5.85	6.00	1.23	-0.08	.933
See Bigger Picture	6.33	7.00	0.90	5.79	6.00	1.17	-2.16	.031
Presentation	5.64	6.00	1.39	5.90	6.00	1.27	-1.24	.216
Communication	5.95	6.00	1.07	6.15	6.00	0.99	-0.10	.318

Note: The Wilcoxon signed-ranks test investigates the extent of agreement that PAs are capable of using each of the above meta-competencies in their jobs based on differences in median values between two paired groups. $\alpha = .05$ ($z = -1.96$) for a two-tailed test. The Wilcoxon W statistic is derived from a rank order of paired differences and it approximates a normal distribution when the number of pairs is greater than 20. Answers were rated on a 7-point Likert scale, 1 = strongly disagree and 7 = strongly agree.

Table 7. MC capability question – Comparison between matched and unmatched PAs

MC Capability	PA Matched (n = 39)			PA Unmatched (n = 184 to 185)			*z*	*p*
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**		
Influencing/Persuading	6.03	6.00	1.18	6.09	6.00	0.99	-0.70	.484
Teamwork/Relationships	6.08	7.00	1.19	6.35	7.00	0.88	-1.06	.291
Critical/Analytical	6.44	7.00	0.85	6.58	7.00	0.70	-0.73	.465
Self/Time Management	6.28	7.00	0.89	6.29	7.00	0.88	-0.02	.987
Leadership	5.87	6.00	1.08	6.16	6.00	0.97	-1.80	.072
Bigger Picture	6.33	7.00	0.90	6.43	7.00	0.90	-0.71	.481
Presentation	5.64	6.00	1.39	5.95	6.00	1.20	-1.32	.186
Communication	5.95	6.00	1.07	6.32	7.00	0.87	-2.20	.028

Note: The Mann-Whitney test investigates the extent of agreement regarding PAs' capabilities of using each of the above meta-competencies in their jobs based on differences in median values between two non-paired groups. $\alpha = .05$ ($z = -1.96$) for a two-tailed test. The Mann-Whitney U statistic is derived from combining and ordering the two samples scores and then assigning ranks to them; it approximates a normal distribution when the number of pairs is greater than 20. Answers were rated on a 7-point Likert scale, 1 = strongly disagree and 7 = strongly agree.

7, indicate that despite the existence of only 39 paired responses, the Mann Whitney tests for significant differences between the paired PA group and the remaining 185 PA respondents revealed a lack of significant differences in perceived self-capability for all MCs except communication ($p = .028$). The reasons that the 39 matched PAs self-reported lower communication capabilities than the 185 unmatched PAs remains unknown albeit interesting. This finding might suggest the success of the matched-pairs approach for helping to mitigate self-report bias, since the capability responses between matched PAs and their supervisors aligned for the communication MC without the observation of any statistically significant differences. Additional research would be needed to further investigate this issue.

Summary of MC Gap Research

The analysis of MC gaps in Canadian PAs demonstrates three statistically significant differences in the results. Specifically, these differences reveal the existence of two apparent gaps between employer and PA perceptions: an importance gap (based on perceptions of value and relevance of meta-competencies) and a capability gap. The first gap involves an observable difference in the perceptions of importance for the presentation MC. In comparison to PAs, employers perceive presentation to hold greater importance (i.e., value) (median = 6.00; mean = 6.21) to the work of PAs (median = 6.00; mean = 5.46). The second difference concerns the perception of relevance for the communication MC. In comparison to supervisors, PAs consider communication to hold greater relevance (median = 7.00; mean = 6.92) to their future career development (median = 7.00; mean = 6.68). Finally, while PAs and their supervisors appear to agree with PAs' capability to use all eight MCs in their jobs, a notable difference exists in the perceptions of capability to see the bigger picture. Specifically, PAs perceive themselves as more capable (median = 7.00; mean = 6.33) than their employers perceive them (median = 6.00; mean = 5.79). The existence of an MC capability gap demonstrates the reality of some small misalignment between the expectations and perceptions of PAs and employers. Thus, these findings, which further demonstrate employer capability ratings on the higher end of the scale, should mitigate concern among PAs, the profession, and employers.

However, the gap in perceptions regarding the ability to see the bigger picture may cause slight consternation among the Canadian Accounting Profession, which prides itself on the ability of PAs to think strategically. Thus, the evidence of a gap for this particular MC may constitute an important revelation that warrants additional research. One plausible explanation for this gap stems from the fact that, due to the emphasis of the accounting designation as strategic and focused on the bigger picture, accounting graduates may feel predisposed to provide a positive assessment of their ability to see the bigger picture. This tendency may indicate a Socially Desirable Response (SDR) bias, where PAs attempt to create a favourable self-image regarding their ability to see the bigger picture due to their belief that employers expect this quality of them. The fact that employers fail to recognize this capability may raise a concern regarding the efficacy of the training for this MC. Further research can potentially investigate the existence of this bias in other professions such as law, medicine, nursing, engineering or consulting, where professionals may overestimate their competency based on possible predisposed bias.

The empirical evidence from this study suggests that a MC capability gap still exists among Canadian PAs. However, this gap appears extremely narrow in comparison to undergraduates and confined primarily to the PAs' overestimation of their ability to see the bigger picture. Therefore, the results of this study suggest that, at least in Canada, postgraduate professional accounting education developed and delivered by the national body *does* indeed contribute to bridging the undergraduate MC gap. The

next question that logically follows concerns the specific factors that contributed to MC development. In order to answer this question, this study sought to identify the influence of the formal learning environment, work experience, and extracurricular activities on the development of MCs in recently designated Canadian PAs.

Learning Environment Influence on MC Development in Canadian Professional Accountants?

Although formal instruction fulfills an important function in skill development, proficiency and competency increase with practical experience (Dreyfus & Dreyfus, 1980). In addition, (Brown, 1994) examined the contentious issue of "whether the delivery of management knowledge [i.e. MC] is a matter of 'education' or 'training'" (p. 294). While this question implies the mutually-exclusive nature of education and training, the current study appears to show that the development of MCs involves *both* education *and* training. According to Leonard and (Leonard & Swap, 2005), both of these elements consist of guided practice, observation, problem solving, and experimentation. Specifically, a PEP that emphasizes collaborative and guided learning may, in comparison to an individualized program, develop MCs more effectively. The present study found that the PEP, work experience, and extracurricular activities contribute to the development of each MC in different ways. For this investigative question, survey respondents identified the learning environment that they believed contributed most strongly to the development of each MC rather than completing a self-assessment or rating of their capability or performance.

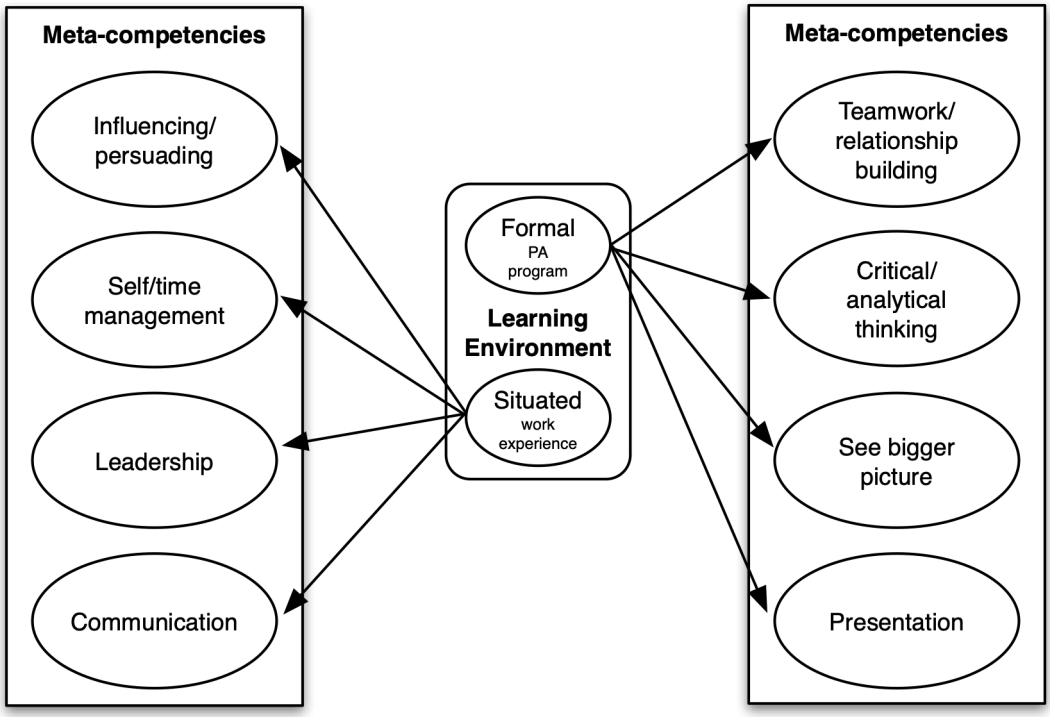
The chi-square ($\chi^{2)}$ test results (95% confidence, $\alpha = .05$) revealed significant differences for all three learning environments, indicating that each learning environment contributes inequitably to the development of the eight MCs, according to PAs. Descriptive analysis, shown in Table 8, demonstrates that the PEP provides the greatest perceived contribution to the MCs of teamwork/relationship building, critical/analytical thinking, bigger picture, and presentation. Conversely, work experience provides the greatest perceived contribution to influencing/persuading, self/time management, leadership, and communication. Finally, extracurricular activities lacked a significant contribution to the development of any MC.

Table 8. Learning Environment Contribution and Significance

MC	#	*p*		Learning Environment		
				PA PEP[a]	**Work Experience[a]**	**Extracurricular Activities[a]**
Influencing/Persuading	220	**.00**		32.7%	**62.3%**	5.0%
Teamwork/Relationships	222	**.00**		**45.9%**	40.1%	14.0%
Critical/Analytical	216	**.00**		**53.7%**	44.9%	1.4%
Self/Time management	210	**.00**		30.0%	**61.0%**	9.0%
Leadership	217	**.00**		35.0%	**53.0%**	12.0%
See Bigger Picture	220	**.00**		**50.0%**	47.3%	2.7%
Presentation	223	**.00**		**77.6%**	18.8%	3.6%
Communication	220	**.00**		43.0%	**48.2%**	8.8%

Note: # = number of valid responses; $n = 224$. One-sample χ^2 test was conducted on nominal variables at a 95% ($\alpha = .05$) confidence level. Statistically significant differences in responses ($p \leq .05$) are presented in boldface.
[a]Percent values represent proportion of responses (n). The highest proportion of responses for each MC is presented in boldface.

Figure 1. Learning environment contribution to MC development



As illustrated in Figure 1, the most likely contributing factors to four MCs include the PA program and work experience:

The study findings imply that both the PEP and work experience constitute major contributors to MC development. Since the PEP includes experiential activities, its program fosters both vertical and horizontal development of MCs. While the former occurs through formal, classroom learning, the latter occurs via hands-on learning (Guile & Griffiths, 2001). The PEP provides guided elements for learning the competencies, but the workplace sometimes lacks the guidance of the professional program, as new professionals develop experience out of necessity rather than through deliberate training.

Respondents that perceived one institution (e.g., the PA program) as providing greater contributions to the development of certain MCs may indicate that the other institution (e.g., workplace) provides insufficient opportunities for guided learning and vice versa. Consequently, such results should alert both the professional association and the workplace to provide more opportunities to PAs for developing their MCs. Specifically, the Canadian Accounting Profession should ensure that the PEP provides additional opportunities for students to develop the MCs of influencing/persuading, self/time management, leadership, and communication. At the same time, the workplace should provide PAs with additional occasions for enhancing teamwork/relationship building, critical/analytical thinking, bigger picture, and presentation MCs. The overall findings highlight the need for *both* the accounting profession *and* the workplace to take steps for maximizing overall MC development, especially since this study identifies all eight competencies as important. This study also enhances the need for greater collaboration among key stakeholders in professional education and work environments, including faculty, program administrators, supervisors, and HR professionals. One of the ways in which both institutions can collaborate occurs through the sharing of best practices on promoting the development of specific MCs.

Many researchers articulate concerns that universities have neglected to develop MCs in students at both undergraduate and graduate levels, leading to the MC capability gap (Albrecht & Sack, 2000; Bui & Porter, 2010; Camuffo & Gerli, 2004; Fortin & Legault, 2010; Hankock et al., 2009; Kavanagh & Drennan, 2008; Rubin & Dierdorff, 2009; Sin et al., 2007; Willcoxson et al., 2010). Despite the limitations stated in this study, the PA PEP fulfills a role in bridging that gap for at least for some of the MCs, especially presentation. The PA program employs a competency-based structure similar to that described by Hardy and Deppe (1995), who discuss the development of nine MCs that correspond to the eight used in this study. Thus, the organization of the PEP focuses on the enabling nature of MCs over technical accounting abilities. The results of this study suggest that a competency-based PEP approach combined with work experience facilitates the development of at least some MCs.

DISCUSSION

Role of PA Professional Accounting Program in Development of MCs

The main objective of this study has sought to ascertain the role of the PEP in developing MCs. The PA program purports to equip students with the strategic management capabilities and MCs required by employers through a blended approach of formal and experiential learning. Specifically, the formal, classroom-type learning component of the PEP includes the pre-reading of related materials, short presentations or lectures by session facilitators, and individually submitted reports or assignments. On the other hand, the experiential learning component includes practical work experience, small and large-group discussions, case and simulation-based activities, and a substantial team project. Through these activities, the PEP assists in bridging the MC capability gap despite the different perceptions of PAs and supervisors regarding PAs' ability to see the bigger picture.

This study offers three likely explanations for the bridging of this gap. The first explanation relates to the structure and delivery of the professional accounting education program, which intentionally combines classroom learning with work experience. In this structure, the formal learning environment relies on evaluative elements to help candidates develop experience that they may have lacked on the job. A second explanation of the narrowed gap could relate solely to work experience, as PA graduates gained experience between the time they completed their undergraduate studies and their PEP. Finally, the third explanation could simply result from the large proportion of study respondents with a bias in favour of the PA program, thereby overstating the contributions of the program to MC development. Since the PA program includes both traditional in-class learning and a work experience requirement, the first explanation seems more plausible, especially since the data analysis of PA surveys revealed that participants credited work experience for enhancing the development of only four of the eight MCs studied. *On other hand, mean ratings for all eight MCs indicated a moderate to somewhat high level of agreement that the PA programs do, overwhelmingly, contribute to the development of all MCs, (though not equally for all eight).* The study also revealed that respondents overwhelmingly perceive the PA program to contribute most strongly to the development of the presentation MC. These findings suggest that PAs lack the opportunity to develop candidates' presentation MCs at work. Such results imply that programs should retain or enhance emphasis on presentation development in future revisions of the program, especially if PAs appear to undervalue the importance of presentation in their jobs.

While the study determined that both work experience and the PA program contribute to the narrowing of the undergraduate MC exceptions gap, some gap still remains concerning PAs' ability to see the bigger picture, especially since PAs, in comparison to employer perceptions of PAs, appear to overestimate this ability. This particularly important and potentially controversial finding appears to contradict one of the major aims and differentiating features of the PA designation: to promote bigger picture, strategic thinking. This finding may have identified a potential bias on the part of PAs regarding their ability to see the bigger picture; PAs may *assume* that since they completed the program and received designations, they must possess the capability of seeing the bigger picture. Alternatively, the PA program may overpromise and underdeliver their ability to enhance PAs' strategic thinking capability.

Despite the significant perception difference for the bigger picture MC, this study can reasonably conclude that the PA PEP contributes towards bridging the MC capability gap. However, this contribution may extend beyond the content in the program. By having a dual structure, which combines formal and experiential learning, the PA PEP can maximize the opportunities for candidates to develop their MCs. The dual structure of the PA program, which involves in-class learning and work experience, provides ideal learning conditions for students to develop all of the MCs. Since this structure appears to have successfully enabled students to learn MCs, the PA program can take at least partial credit for bridging the MC capability gap. However, findings from the questionnaire demonstrated respondents' belief that PAs developed fifty percent of the MCs more strongly in work practice than through the formal PEP. This result suggests that future versions of the PEP should provide additional training opportunities in the MCs of influencing/persuading, self/time management, leadership, and communication. Moreover, employer feedback indicates the need for programs to bolster candidates' ability to see the bigger picture or engage in strategic thinking. Overall, study findings suggest that the combination of PEP and work experience enabled PA program graduates to experience a greatly diminished MC capability gap in comparison to their employers.

Suggested Role of Professional Accounting Program in the Development of MCs

In addition to identifying the role that the PEP serves in the development of MCs, this research examined the contribution of professional education in MC development. One of the most enlightening findings involved an understanding that work experience fulfills a crucial role in MC development, which implies the importance of adjusting PEP to the candidates' experience level. Through its structuring of competencies, the accounting profession clearly expects that PAs possess and demonstrate MCs. Although this study has determined that work experience fulfills a significant role in the development of MCs, most PA programs contain entry-level pre-professionals or business school graduates with minimal professional experience. Based on these findings, this study recommends that future PEP versions take the following steps:

- Understand the expectations and perceptions that employers and PAs hold regarding MCs and ensure that the expectations of PA students and graduates correspond to those of employers for minimizing any potential MC capability and importance gaps
- Continue solid emphasis on the MCs of teamwork/relationship building, critical/analytical, ability to see bigger picture, and presentation, with particular emphasis on the last two MCs to address

the expectations gap for the ability to see bigger picture and lack of work experience related to presentation skills

- Adopt best practices from industry to strengthen emphasis on the other 4 MCs, including influencing/persuading, self/time management, leadership, and communication
- Provide careful consideration to the experience level of candidates and customize the experience to address various streams of professional practice. Specifically, adjust the practice component for some candidates to provide additional time devoted to experiential learning activities, such as participation in applied group projects.

Limitations and Opportunities for Future Research

This study of Canadian PAs possesses five general limitations susceptible to most empirical research. The first limitation involves the restricted context of a single profession in one country: The Canadian Accounting Profession. While most professions share some inherent similarities in their respective competency frameworks, each profession contains its own unique nuances, which undergoes further diversification based on global geography and the inherently different cultures affecting numerous perceptions of MCs. This variation presents wonderful opportunities for future collaborative cross-cultural studies of MC development in individual professions. Ideally, researchers can match professionals with their supervisors to test if the key findings from this study apply to different groups of professionals around the world.

The second limitation pertains to generalizability. Data collection related the results to several demographic factors, thus allowing researchers to investigate the representativeness of the study samples to the population. Since representativeness impacts the researchers' ability to generalize the results to the population, the small sample size of the study may restrict its generalizability. Specifically, this study relied on a sample comprising 10% of the population, so the results may not generalize to the overall population. Moreover, subsets related to demographic factors such as province, program completed, year of program completion, and gender contain limitations due to the insufficient size of sample sizes for conducting conclusive statistical analyses. Despite these results, the analyses carried out for the 39 paired samples of PAs and their supervisors can generalize to the entire sample of 224 respondents. However, the exploratory nature of this study provides suggestions for future research in MC development rather than providing definitive evidence of MC development of PAs in Canada.

The third limitation relates to the incommensurability of MC proficiency. The constructs of MCs contain inherent subjectivity, ambiguity, and complexity, thereby rendering accurate measurement of both importance and proficiency extremely difficult. The development and demonstration of MCs as well as the extent to which education and experience affect MC development contains many unknowable and uncontrollable factors. Aa a result, rather than attempting to provide definitive measurements of MC development, the Canadian study sought to identify the level of agreement between PAs and supervisors regarding the importance of MCs to PAs' career development as well as the capability of PAs to use MCs in their jobs. Future research opportunities may involve the ability to accurately measure MC capability based on the development and implementation of MC instruments, such as those resembling CliftonStrenghts (Gallup, 2020) assessment tools or via simulations and other direct demonstrations of MC proficiency (e.g., competency-assessment days).

Furthermore, the fourth limitation relates to response bias. All samples contain subjectivity to bias, including hypothesis awareness, self-response, and social desirability (SDR) biases. In conjunction, these

biases may "diminish the value of the data collected" (Cooper & Schindler, 2011, p. 248) by reducing generalizability and validity. This study relied on self-report responses and assessments, which indicated the potential for respondents to express a SDR bias by overstating or understating their responses. This bias may have motivated respondents to enhance their apparent capability of demonstrating MCs, create a favourable self-image, or impress the researcher. In addition, supervisor responses remain subject to the same biases: supervisors may understate or overstate their perceptions of a PA's MC capability to create a more or less favourable impression of the corresponding PAs. The paired sample approach attempted to minimize the effect of self-report bias by analyzing differences in PA and supervisor responses for consistency. Moreover, PAs who possessed greater certainty that their supervisors would provide favourable responses of their MC capabilities may have had a greater likelihood of encouraging their supervisors' participation. This tendency could lead to biased supervisor responses that skewed the results in a particular direction, thereby potentially affecting the validity and generalizability of the findings.

While the researcher lacked the ability to control for such biases directly, the study design involved various measures to lessen the impact of such biases. In particular, the use of a comparative analysis between PAs and employers' responses enabled the researcher to identify and explain the potential effects of SDR and self-response biases. The nature of the study and results led to the acknowledgment of the potential existence of self-report and SDR biases: however, the consistency of results between PAs and employers suggested the presence of low risks associated with self-report and SDR. Ultimately, study results "should be accepted for what they are—statements by individuals that reflect varying degrees of truth and accuracy" (Cooper & Schindler, 2011, p. 248).

The last key limitation relates to the differences between quantitative and qualitative research. This study employed mainly a quantitative approach based on a positivist paradigm. Quantitative approaches experience limitations in their application and in the drawing of conclusions; "there can be a tendency for the quantitative researcher to lose perspective, focusing on numbers and not their meaning. Numbers are simply a way to summarize and describe facets of the world. They are not, by themselves, reality" (Johnson & Harris, 2002, p. 99). Although quantitative research can identify statistical relationships between various factors and MCs, such a study design intends that the quantitative data will provide a basis for qualitative interpretation (Jensen, 2012) about MC development. This tendency contains particular relevance given the "complexities associated with . . . [MCs] the heterogeneous nature of the population [and other factors] being investigated" (Jensen, 2012, p. 11). However, other research has taken approaches that resemble the methodologies employed this study by asking participants about their opinions and perceptions of MCs (Azevedo et al., 2012b; Fortin & Legault, 2010; Reynolds & Snell, 1988). Therefore, the positivist approach, which may lack accuracy for interpreting such complex and subjective constructs, has nevertheless been applied by other researchers, hence constituting a recognized way of approaching ideas.

CONCLUSION

This chapter focused on synthesizing the results of an empirical study relating to the post-graduate development of eight key soft skills or MCs: influencing and persuading; teamwork and relationship building; critical and analytical thinking; self and time management; leadership; the ability to see the bigger picture; presentation; and communication. The results of this study yielded some interesting observations regarding perceptual differences between PAs and their supervisors concerning the importance of MC

importance. Another major contribution of this research concerned the role of the Canadian Professional Accounting Program in increasing the capability of MCs in the development of PAs and some recommendations for enhancing MC development. Specifically, study findings reinforced the importance of MCs to PAs and employers as well as showed that PAs may underestimate the value of presentation to their jobs, while concurrently overestimating the relevance of communication to their future careers. However, these two observable importance gaps should refrain from causing alarm since the results show that both PAs and supervisors report relatively high perceptions of value and relevance for presentation and communication. In particular, the study observed only two statistically significant differences in PA versus supervisor perceptions, hence indicating a relatively high degree of alignment. These results suggest the virtual elimination of postsecondary graduate importance gaps, while indicating that the Canadian Professional Accounting program likely fulfills an important role in that outcome. This finding should constitute very good news to the accounting profession and suggest that PAs, in comparison to undergraduate business students, probably have a more realistic assessment about the importance of competencies for their careers. In fact, the study results suggest that PAs' assessment aligns mostly with industry expectations. The combined effect of the PEP program and work experience helped to improve the correspondence of expectations between PAs and their supervisors, with the exception of the presentation MC. The reduction in the importance gap may facilitate the ability of supervisors to motivate PAs to continually work and commit themselves to improving these key competencies in the future.

Furthermore, this research identified the existence of a gap between employer and PA expectations of capability. In comparison to the body of literature relating to undergraduates, the gap between PAs and employer expectations seems relatively narrow, being limited to the ability to see the bigger picture, where PAs appear to overestimate their capability. The misalignment of capability perceptions between PAs and supervisors applied only to the bigger picture MC, as the study observed a statistically significant difference in responses despite relatively high ratings by employers. As with the importance gap, this finding suggests that the PEP increased PAs' MC capability, which implies that PAs have a reasonably accurate sense of their own abilities despite an apparent overconfidence in the ability to see the bigger picture. A reduction in the capability gap provides the accounting profession with affirmation about the effectiveness of their PEP and indicates the capability of PAs in demonstrating important soft skills. Although the study results may enable PAs to confirm to their own MC capability to themselves, they should avoid overconfidence with their ability to see the bigger picture.

The combined results illustrating a reduction in the importance and capability gaps could act as a beacon to other business and non-business professions that rely on a competency framework and espouse MCs similar to the eight MCs in this study. In Canada, professional education has a positive impact on the development of key MCs deemed as significantly important by employers, industry, and professions. This understanding means that professions have a great opportunity and responsibility to contribute to the development of MCs, while universities or employers both contribute towards developing MCs in business graduates. Consequently, professions are in an excellent position to enhance their value for developing professionals that possess both technical and soft skills.

Finally, the study reinforced conclusions of prior research (Kolb & Kolb, 2005, 2009) suggesting that both knowledge and experience fulfill an important role in competency development. In particular, the present study determined that in a Canadian context, all key elements of the PEP structure, including traditional and experiential classroom learning components as well as work experience, significantly influence MC development and bridge the capability gap. While the study examined a variety of demographic and personal factors such as gender, age, income level, and industry, the data suggested that

these elements failed to have any siginificant impact on the development of the eight MCs. Specifically, the formal learning environment of the PEP provided the strongest contribution to the development of teamwork/ relationship building, critical/analytical thinking, the ability to see the bigger picture, and presentation skills. Alternatively, professional work experience contributed most pertinently to influencing/persuading, self and time management, leadership, and communication competencies. Based on these findings, the present study recommends that the Canadian Accounting Profession continue focusing on MC development in its PEP and pay particular attention to strengthening the four MCs to which the workplace appears to contribute more strongly.

The results of this study also enabled four key recommendations to the intended audience:

1. The study highlighted the potential existence of perceptual differences in the importance of MCs to work and future career development between two key groups: university graduates/pre-professionals; and supervisors/industry. As a result, future work should seek to identify those differences and determine the most effective ways in which to align expectations.
2. Since graduates of university business programs still lack the soft skills expected by employers and industry, all stakeholders, including employers, industry, and post-graduate professional organizations must accept their critical role in bridging the competency gap. Stakeholders can accomplish this objective by providing or supporting employees and pre-professionals with additional on-the-job and formal educational opportunities, such as professional development courses, which emphasize and reinforce MC development along with the technical skills required for their jobs.
3. Researchers should continually seek to develop and test accurate methods for measuring MC capability at graduation, upon entry into a profession, or when starting a job as well as at various intervals or milestones in an individual's career progression to observe changes in MC capabilities.
4. Stakeholders should accept that formal and situated learning environments contribute differently to MC development. Consequently, researchers should aim to identify the learning environments that contribute most effectively to the development of particular MCs. Stakeholders should use the results of such research to reinforce those environments, such as formal educational programs and the workplace, in two ways: bolster the capability of PAs to develop MCs to which that environment already contributes most strongly while improving the ability of PAs to develop MCs to which that environment contributes less strongly.

The implications of the study affect various stakeholders, including university faculty, course and program curriculum developers, universities, professions, and professional development, educational consultants, and instustry leaders. Specifically, the results should encourage these groups to obtain a better understanding about the importance of MCs, determine methods for contributing to the development of MCs, and measure MC capabilities in individuals to assess the effectiveness of these efforts.

REFERENCES

Albrecht, W. S., & Sack, R. J. (2000). Accounting Education Series: Vol. 16. *Accounting education: Charting the course through a perilous future*. American Accounting Association. Retrieved from https://aaahq.org/pubs/AESv16/toc.htm

Azevedo, A., Apfelthaler, G., & Hurst, D. (2012a). Competency development in business graduates: An industry-driven approach for examining the alignment of undergraduate business education with industry requirements. *International Journal of Management Education*, *10*(1), 12–28. doi:10.1016/j.ijme.2012.02.002

Azevedo, A., Gomezelj Omerzel, D., Andrews, J., Higson, H., Caballero, A., & Frech, B. (2012b). Satisfaction with knowledge and competencies: A multi-country study of employers and business graduates. *American Journal of Economics and Business Administration*, *4*(1), 23–39. doi:10.3844/ajebasp.2012.23.39

Ballou, R., Bowers, D., Boyatzis, R. E., & Kolb, D. A. (1999). Fellowship in lifelong learning: An executive development programme for advanced professionals. *Journal of Management Education*, *23*(4), 338–354. doi:10.1177/105256299902300403

Bogo, M., Regehr, C., Woodford, M., Hughes, J., Power, R., & Regeher, G. (2006). Beyond competencies: Field instructors' descriptions of student performance. *Journal of Social Work Education*, *42*(3), 191–205. doi:10.5175/JSWE.2006.200404145

Boritz, J. E., Carnaghan, C. A., Carnaghan, C. A., & Waterloo, U. (2003). Competency based education and assessment for the accounting profession: A critical review. *Canadian Accounting Perspectives*, *2*(1), 7–42. doi:10.1506/5K7C-YT1H-0G32-90K0

Boyatzis, R. E. (1994). Stimulating self-directed change: A required MBA course called managerial assessment and development. *Journal of Management Education*, *18*(3), 304–323. doi:10.1177/105256299401800303

Boyatzis, R. E., Stubbs, E. C., & Taylor, S. N. (2002). Learning cognitive and emotional intelligence competencies through graduate management education. *Academy of Management Learning & Education*, *1*(2), 150–162. doi:10.5465/amle.2002.8509345

Bratianu, C., Hadad, S., & Bejinaru, R. (2020). Paradigm Shift in Business Education: A Competence-Based Approach. *Sustainability*, *12*(4), 1348. doi:10.3390u12041348

Brewer, P. C., Sorensen, J. E., & Stout, D. E. (2014). The future of accounting education: Addressing the competency crisis. *Strategic Finance*, *96*(8), 29–37.

Brown, R. B. (1993). Meta-competence: A recipe for reframing the competence debate. *Personnel Review*, *22*(6), 25–36. doi:10.1108/EUM0000000000814

Brown, R. B. (1994). Refrain the competency debate: Management knowledge and meta-competence in graduate education. *Management Learning*, *25*(2), 289–299. doi:10.1177/1350507694252008

Brown, R. B., & McCartney, S. (1995). Competence is not enough: Meta-competence and accounting education. *Accounting Education*, *4*(1), 43–53. doi:10.1080/09639289500000006

Bughin, J., Hazan, E., Lund, S., Dahlstrom, P., Wiesinger, A., & Subramaniam, A. (2018). Skill Shift: automation and the future of the workforce (Discussion Paper, May 2018). *McKinsey &Company*, (May), 3–84. Retrieved from https://www.mckinsey.com/~/media/McKinsey/Featured Insights/Future of Organizations/Skill shift Automation and the future of the workforce/MGI-Skill-Shift-Automation-and-future-of-the-workforce-May-2018.ashx

Bui, B., & Porter, B. (2010). The expectation-performance gap in accounting education: An exploratory study. *Accounting Education*, *19*(1–2), 23–50. doi:10.1080/09639280902875556

Camuffo, A., & Gerli, F. (2004). An integrated competency-based approach to management education: An Italian MBA case study. *International Journal of Training and Development*, *8*(4), 240–257. doi:10.1111/j.1360-3736.2004.00212.x

Canada, C. P. A. (2020). *The Chartered Professional Accountant Competency Map: Understanding the competencies a candidate must demonstrate to become a CPA*. Retrieved from https://www.cpacanada.ca/en/become-a-cpa/pathways-to-becoming-a-cpa/national-education-resources/the-cpa-competency-map

Canadian Nurses Association. (2010). *Canadian nurse practitioner core competency framework*. Ottawa, Canada: Canadian Nurses Association. Retrieved from https://www.cna-aiic.ca/~/media/cna/files/en/competency_framework_2010_e.pdf

Chaffer, C., & Webb, J. (2017). An evaluation of competency development in accounting trainees. *Accounting Education*, *26*(5/6), 431–458. doi:10.1080/09639284.2017.1286602

Cheetham, G., & Chivers, G. (1998). The reflective (and competent) practitioner: A model of professional competence which seeks to harmonise the reflective practitioner and competence-based approaches. *Journal of European Industrial Training*, *22*(7), 267–276. doi:10.1108/03090599810230678

College of Alberta Psychologists. (2013). *College of Alberta psychologists standards of practice*. Retrieved from https://www.cap.ab.ca/pdfs/HPAStandardsofPractice.pdf

Cooper, D. R., & Schindler, P. S. (2011). Business research methods (11th ed.). New York, NY: McGraw-Hill/Irwin.

Cranmer, S. (2006). Enhancing graduate employability: Best intentions and mixed outcomes. *Studies in Higher Education*, *31*(2), 169–184. doi:10.1080/03075070600572041

De La Harpe, B., Radloff, A., & Wyber, J. (2000). Quality and generic (professional) skills. *Quality in Higher Education*, *6*(3), 231–243. doi:10.1080/13538320020005972

De Lange, P., Jackling, B., & Gut, A.-M. (2006). Accounting graduates' perceptions of skills emphasis in undergraduate courses: An investigation from two Victorian universities. *Accounting and Finance*, *46*(3), 365–386. doi:10.1111/j.1467-629X.2006.00173.x

Dishman, L. (2016, May). These Are The Biggest Skills That New Graduates Lack. *Fast Company*. Retrieved from https://www.fastcompany.com/3059940/these-are-the-biggest-skills-that-new-graduates-lack

Douglas, S., & Gammie, E. (2019). An investigation into the development of non-technical skills by undergraduate accounting programmes. *Accounting Education*, *28*(3), 304–332. Advance online publication. doi:10.1080/09639284.2019.1605532

Dreyfus, S. E., & Dreyfus, H. L. (1980). *A five-stage model of the mental activities involved in directed skill acquisition*. Operations Resaerch Center. doi:10.21236/ADA084551

Evers, F., Rush, J., & Berdrow, I. (1998). *The bases of competence*. Jossey-Bass.

Fortin, A., & Legault, M. (2010). Development of Generic Competencies: Impact of a Mixed Teaching Approach on Students' Perceptions. *Accounting Education*, *19*(1–2), 93–122. doi:10.1080/09639280902888195

Gallup. (2020). *CliftonStrenghts Assessment.* Retrieved March 11, 2020, from https://www.gallup.com/cliftonstrengths/en/strengthsfinder.aspx

Gracia, L. (2010). Accounting students' expectations and transition experiences of supervised work experience. *Accounting Education*, *19*(1–2), 51–64. doi:10.1080/09639280902886033

Guile, D., & Griffiths, T. (2001). Learning through work experience. *Journal of Education and Work*, *14*(1), 113–131. doi:10.1080/13639080020028738

Hankock, P., Howieson, B., Kavanagh, M., Kent, J., Sturt, C., Tempone, I., & Segal, N. (2009). *Accounting for the future: more than numbers: A collaborative investigation into the changing skill set for professional accounting graduates over the next ten years and strategies for embedding such skills into professional accounting programs* (Vol. 1). Australian Learning and Teaching Council. Retrieved from https://eprints.usq.edu.au/6333/4/Hancock_Howieson_Kavanagh_etal_v2_2009_PV.pdf

Harder, C., Jackson, G., & Lane, J. (2014). *Talent is not enough: Closing the skills gap*. Academic Press.

Hardy, J. W., & Deppe, L. A. (1995). A competency-based, integrated approach to accounting education. *Accounting Education*, *4*(1), 55–75. doi:10.1080/09639289500000007

Howcroft, D. (2017). Graduates' vocational skills for the management accountancy profession: Exploring the accounting education expectation-performance gap. *Accounting Education*, *26*(5–6), 459–481. doi:10.1080/09639284.2017.1361846

Ibrahim, R., Boerhannoeddin, A., & Bakare, K. K. (2017). The effect of soft skills and training methodology on employee performance. *European Journal of Training and Development*, *41*(4), 388–406. doi:10.1108/EJTD-08-2016-0066

International Federation of Accountants Education Committee (IFAC). (2003). *Towards competent professional accountants IEP 2, April 2003. Education*. Retrieved from https://www.ifac.org/sites/default/files/publications/files/iep-2-towards-competent.pdf

Jackling, B., & De Lange, P. (2009). Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence. *Accounting Education*, *18*(4–5), 369–385. doi:10.1080/09639280902719341

Jackson, D. (2009a). Profiling industry-relevant management graduate competencies: The need for a fresh approach. *International Journal of Management Education*, *8*(1), 85–98. doi:10.3794/ijme.81.281

Jackson, D. (2009b). Undergraduate management education: Its place, purpose and efforts to bridge the skills gap. *Journal of Management & Organization*, *15*(2), 206–223. doi:10.5172/jmo.837.15.2.206

Jackson, D. (2010). An international profile of industry-relevant competencies and skill gaps in modern graduates. *International Journal of Management Education*, *8*(3), 29–58. doi:10.3794/ijme.83.288

Jensen, M. (2012). *Using unstructured questions to enhance critical thinking in an asynchronous, online, introductory financial accounting course*. University of Calgary. Retrieved from http://hdl.handle.net/11023/144

Johnson, P., & Harris, D. (2002). Qualitative and quantitative issues in research design. In D. Partington (Ed.), *Essential Skills for Management Research* (pp. 99–115). Sage. doi:10.4135/9781848605305.n6

Kavanagh, M. H., & Drennan, L. (2008). What skills and attributes does an accounting graduate need? Evidence from student perceptions and employer expectations. *Accounting and Finance*, *48*(2), 279–300. doi:10.1111/j.1467-629X.2007.00245.x

Kolb, A. Y., & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education*, *4*(2), 193–212. doi:10.5465/amle.2005.17268566

Kolb, A. Y., & Kolb, D. A. (2009). Experiential Learning Theory: A Dynamic, Holistic Approach to Management Learning, Education and Development. In The SAGE Handbook of Management Learning, Education and Development (pp. 42–68). SAGE Publications Ltd. doi:10.4135/9780857021038.n3

Leonard, D., & Swap, W. (2005). Deep smarts. *Harvard Business Review*, *30*(2), 157–169. PMID:15449858

Lysaght, R. M., & Altschuld, J. W. (2000). Beyond initial certification: The assessment and maintenance of competency in professions. *Evaluation and Program Planning*, *23*(1), 95–104. doi:10.1016/S0149-7189(99)00043-9

Mason, G., Williams, G., Cranmer, S., & Guile, D. (2003). *How much does higher education enhance the employability of graduates.* Report to the Higher Education funding Council for England. Retrieved from http://heer.qaa.ac.uk/SearchForSummaries/Summaries/Pages/GLM171.aspx

Morgan, H. (2016). Skills New Graduates Need to Improve. *Top (Madrid)*, 4.

Morpurgo, M. T. (2015). *Beyond Competency: The role of professional accounting education in the development of meta-competencies*. Retrieved from http://hdl.handle.net/10791/79

O'Shea, S. C. (2017). Characteristics and Skills Necessary in Accountancy. *International Journal of Business and Management*, *13*(1), 22. doi:10.5539/ijbm.v13n1p22

Prikshat, V., Kumar, S., & Nankervis, A. (2019). Work-readiness integrated competence model. *Education + Training*, *61*(5), 568–589. doi:10.1108/ET-05-2018-0114

Reynolds, M., & Snell, R. (1988). *Contribution to development of management competence*. Manpower Services Commission.

Rubin, R. S., & Dierdorff, E. C. (2009). How relevant is the MBA? Assessing the alignment of required curricula and required managerial competencies. *Academy of Management Learning & Education*, *8*(2), 208–224. doi:10.5465/amle.2009.41788843

Schön, D. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning*. Jossey-Bass.

Sin, S., Jones, A., & Petocz, P. (2007). Evaluating a method of integrating generic skills with accounting content based on a functional theory of meaning. *Accounting and Finance*, *47*(1), 143–163. doi:10.1111/j.1467-629X.2007.00201.x

Siriw Ardane, H. P., & Durden, C. H. (2016). The communication skills of accountants: What we know and the gaps in our knowledge. Communication in Accounting Education.

Strauss, K. (2016). *These Are The Skills Bosses Say New College Grads Do Not Have*. Retrieved December 2, 2017, from https://www.forbes.com/sites/karstenstrauss/2016/05/17/these-are-the-skills-bosses-say-new-college-grads-do-not-have/#513d48bc5491

Tan, L. M., & Laswad, F. (2018). Professional skills required of accountants: What do job advertisements tell us? *Accounting Education*, *27*(4), 403–432. doi:10.1080/09639284.2018.1490189

The Law Society of Alberta. (2013). *Law Society of Alberta code of conduct*. Retrieved from https://www.lawsociety.ab.ca/lawyers/regulations/code.aspx

Warn, J., & Tranter, P. (2001). Measuring quality in higher education: A competency approach. *Quality in Higher Education*, *7*(3), 191–198. doi:10.1080/13538320120098078

Wells, P., Gerbic, P., Kranenburg, I., & Bygrave, J. (2009). Professional skills and capabilities of accounting graduates: The New Zealand expectation gap? *Accounting Education*, *18*(4–5), 403–420. doi:10.1080/09639280902719390

Willcoxson, L., Wynder, M., & Laing, G. K. (2010). A whole-of-program approach to the development of generic and professional skills in a university accounting program. *Accounting Education*, *19*(1–2), 65–91. doi:10.1080/09639280902886082

Wilson, R. M. S. (2011). Alignment in accounting education and training. *Accounting Education*, *20*(1), 3–16. doi:10.1080/09639284.2011.555940

Chapter 2
A Methodological Proposal to Analyse the Process for Implementing Competency-Based Learning (CBL) in a Business School

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ABSTRACT

Societies today face complex economic, political, and social challenges, many of them connected to the prevailing economic paradigm. Management teams that consider not only economic benefit but also the development of the well-being of the different stakeholders and of society in general are needed. This is called humanistic management, a trend business schools (BSs) can contribute to through a certain way of educating their students. To do so, BSs need to implement a competency-based learning (CBL) model that develops specific competencies. One of the ways BSs have used to deploy CBL has been through participation in Tuning projects. This research starts from an integrated model with criteria and indicators for analyzing the implementation of CBL in higher education institutions and operationalizes its dimensions. It then presents a methodological proposal to analyse the processes BSs have followed to implement CBL at different levels and in different contexts, using case study methodology.

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INTRODUCTION

Nowadays society, organisations and businesses are facing complex and diverse challenges (social and economic inequality, lack of trust in institutions, tensions between regions and countries, pollution and environmental problems, health crises...) that make it difficult to integrate social, economic and environmental development, and may compromise the ability of future generations to meet their needs and aspirations.

In this context, higher education institutions (hereon HEIs) play an essential role because of their responsibility regarding the training of the professionals who will have to respond to these challenges (Piza, Aparicio, Rodríguez, Marín, Beltrán, & Bedolla, 2018; Sandri, Holdsworth, & Thomas, 2018). HEIs in general, and business schools (hereon BSs) in particular, have to train future leaders and managers in such a way that they become agents of change, with ability to generate more equitable, sustainable and supportive societies, with more effective, efficient, responsible and inclusive organizations.

According to the humanistic management movement, there are different ways to achieve this: from questioning economic beliefs and paradigms, or developing specific knowledge and competencies, to training through the example of the HEI, its employees and processes, or using active methodologies that allow students to be in contact with different realities (Eizaguirre, Alcaniz, & García-Feijoo, 2020).

In this chapter, we focus on the relevance of developing students' competencies in business administration and management studies, and therefore, on the need to implement a competency-based learning approach (hereon CBL) to do so.

CBL approach has a long history in education and the concept of competency itself is one of the most discussed, both in education and social policy, during the last 30 years (Telling & Serapioni, 2019).

One of the ways universities have used to deploy CBL has been through participation in Tuning projects whose objective is precisely to develop CBL by following a series of steps known as Tuning methodology. On the anniversary of the Bologna Declaration, and after nearly two decades of development of Tuning projects, we feel it is interesting to study CBL implementation processes, as well as the role played by Tuning in the aforementioned implementation.

The objective of this work is therefore to present a methodological proposal to analyse the processes BS have followed to implement CBL at different levels, considering all those factors indicated as relevant in the specialised literature, and explore the role of Tuning in this process..

To do so, this research starts from an integrated model of criteria and indicators for analyzing the implementation of CBL in HEIs which was developed by Bezanilla, García Olalla, Paños Castro and Poblete Ruiz (2019). This model can be extremely useful for universities to identify strengths and fields to develop, since CBL is embodied in specific criteria and indicators. Furthermore, it is a holistic model that urges the revision of the legal and administrative context, the institutional context, the degree and course planning process, the development and evaluation of teaching as well as the revision and improvement of the process.

We have then included a new dimension related to the impact of Tuning projects in CBL implementation, adding some criteria and indicators to analyse the Tuning role at institutional, national, regional and global levels as a contribution to both the scientific community and to policy-makers and practitioners.

Moreover, in this work, we suggest the case study methodology (Merriam, 1998; Yin, 2018) for those researchers or professionals who want to analyse the process for CBL implementation in different contexts. Thus, this article is a bridge between theory and practice. To achieve this, we present a methodological proposal that includes a protocol for research and decision making.

The structure of the chapter is as follows. After this initial introduction we include a second section with the conceptual framework that comprises the three core ideas of the research. These are the definition of humanistic management and the need to develop students' competencies, the description of the CBL model taken as starting point, and the explanation of why case study is the chosen methodology for analyzing the implementation of CBL and the role of Tuning. Next, we explain in detail the proposal to be followed to conduct different types of case studies in different contexts. Fourthly, we make recommendations for putting the protocol into practice. Lastly, we bring together the final conclusions including limitations and future lines of research.

BACKGROUND

Humanistic Management

For many years, the dominant economic paradigm taught in BSs has been the neoclassical paradigm, which is based on two main principles. On the one hand, it was born in a historical context in which the scarce factor was capital, which made shareholders the recipients of the company's governance rights. Second, the paradigm is based on a selfish conception of the human being, which seeks to maximize his or her benefit or self-interest (Dierksmeier, 2011). Therefore, shareholders will seek to maximise their profit, which in business reality means that the company's objective is to maximise shareholder value (Jensen, 2002).

Over the decades, this economic paradigm has coexisted with some negative externalities, such as environmental damage or increasing social and economic inequalities.

For this reason, in recent years have emerged different criticisms of the model. First, financial capital is no longer the most relevant factor within organisations, and other resources such as human capital, natural resources or social capital, which are key to generate value, are needed (International Integrated Reporting Council- IIRC, 2016). Second, beyond the relevant role of shareholders, it is necessary to consider the role and impact of other different stakeholders (Freeman, 1984). Furthermore, it has been proven that maximizing individual profit has not resulted in improved living conditions for all people (Oxfam, 2019), which highlights the need to include an ethical approach in economic and business decisions (Naughton, 2015). The last criticism is related to the anthropological conception of the neoclassical model. While the so-called "economic being" is considered selfish and only interested in maximizing his immediate utility, other authors argue that the human being is social, morally oriented, free and with dignity (Dierksmeier, 2011).

Incorporating humanism into business, moving towards humanistic management, means making a paradigm shift from conceiving the human being as "homo economicus" to considering him or her as "homo socialis" (Dierksmeier, 2011). Under the humanistic approach, each individual uses his or her freedom to carry out social interactions in the long term, considering the rest of individuals as ends in themselves and not as means (Pirson & Lawrence, 2010). People are intrinsically motivated to improve and acquire virtues that make them grow as human beings (Melé, 2009). In that sense, humanism assumes that human nature can be improved, through education and learning, and attributes inalienable rights to all people, regardless of their ethnicity, nationality, social status or gender.

Based on this new conception of the individual, management should be modified, moving from the neoclassical paradigm to what is called humanistic management. Humanistic management, as its name

suggests, aims to incorporate a more humane approach to management and business decisions (Melé & Schlag, 2015). In a broad sense, it refers to incorporating concern for people and human issues in the management of organizations. It is aimed not only at obtaining results through people, but also, and above all, for people themselves, showing interest in their growth, flourishing and well-being (Melé, 2016). This approach proposes a change in four aspects (Melé, 2009, 2016): a) the way of understanding work, with more flexible and people-oriented structures; b) the way of understanding the company, as a community of people who cooperate to achieve a common goal; c) the role of the individual in society and in the company, with a participatory and committed role; d) the objective of the company, which should be to generate value for society (value-based organizations).

In this context, BSs can be a catalyst for change in society: depending on the theories, models, competencies and values they teach and promote, university graduates will build one type of organization or another, which will generate one type of impact or another in society. It is what Aguado and Eizaguirre (2020) call the virtuous circles of humanistic management: education in humanistic management carried out in BSs impacts the way of being and doing of corporations, which can contribute to their generating social value through their economic activity.

The action proposals in BS education can be divided into initiatives of two different natures: "education for humanism", which means that students know and apply humanistic management (through questioning beliefs and paradigms; incorporating the knowledge and competencies of humanistic management in the curriculum; and experimenting the humanistic dimension and connecting students with reality); and "educating in a humanistic way", which implies that students feel that they are treated that way and receive examples from the entire institution in that direction (through teaching, research, and the internal management and organizations of the BS).

In this research, we focus on the relevance of developing certain needed competencies in BSs' students, such as leadership; self-reflection; judgment and proactivity; critical, analytical and reflective thinking; sustainability competencies; or competencies for political and civic life, among others (Euler & Seufert, 2011; Lozano, Merrill, Sammalisto, Ceulemans, & Lozano, 2017; Pirson, 2011; Wolf, 2018).

Competencies cover three areas: knowledge and understanding, skills and abilities, and attitudes (Segalàs, Ferrer-Balas, Svanström, Lundqvist, & Mulder, 2009). They are a functionally linked complex of knowledge, values, skills and attitudes that enable successful task performance, and enable students to address the complex problems they will encounter in their personal lives and future professional careers (Lozano et al., 2017; Wiek,Withycombe, & Redman, 2011). In order to develop their students' competencies, BS need to implement a competency-based approach.

Competency-Based Learning (CBL) Model

Twenty years have passed since the Bologna Declaration underlined the importance of adopting CBL in the design and implementation of university degrees at the European scale. This focus has also been adopted in other parts of the world following different processes.

Our point of departure in this work is the model proposed by Bezanilla et al. (2019) who explore the degree of CBL implementation in HEIs across seven dimensions: two of these relate to the context in which CBL implementation is carried out (within a regulatory framework and institutional context); three dimensions relate to the implementation process inside the institution itself (degree design, course planning and teaching-learning practices); and two dimensions that analyse the results obtained and revise the planning (both at degree and course levels).

The following table, Table 1, shows the 18 criteria suggested by Bezanilla et al. (2019) for each of the 7 dimensions (the indicators for each criterion can be consulted in the original paper).

Table 1. CBL assessment model in HEIs: dimensions and criteria (prepared by authors, based on Bezanilla et al., 2019).

Dimensions	Criteria
1. Legal and administrative context	1.1. There is some legislation in place that promotes Higher Education innovation and incorporates CBL and/or student-centred learning. 1.2. There is guiding legislation on how to develop a competency-based degree. 1.3. HEIs and Education Authorities or delegated agencies/ organisations have put in place mechanisms or procedures to certify and supervise degrees, including references to CBL. 1.4. There is governmental support available (financing, training, teaching innovation and improvement, incentive programmes…) for implementing CBL.
2. Institutional context	2.1. CBL is included in institutional documents (policy and strategy and pedagogical model). 2.2. There is support for CBL from the organisational structure. 2.3. There are guidelines for developing mechanisms for the design, approval and supervision of competency-based degrees and courses. 2.4. There are procedures for the selection, development, assessment and/ or certification of teaching and non-academic staff.
3. Degree planning process	3.1. There is a study plan that defines the competencies to be acquired in the degree and explicitly states how certain competencies are acquired within a given course (or other equivalent unit). 3.2. Teachers involved in the delivery of the degree programme define how competencies will be achieved in their respective courses (or equivalent units). They do so by engaging in joint procedures and decisions.
4. Course planning process	4.1. The contribution of the course to the graduate profile is described and competencies are specified. 4.2. Appropriate teaching-learning strategies for the acquisition of competencies are detailed. 4.3. An assessment system is developed that is appropriate to the competencies students are to acquire (formative and summative assessment).
5. Teaching/ learning practices and assessment	5.1. Active methodologies and appropriate resources (resources, ICT, activities, spaces) are used to ensure the competencies for the course can be achieved. 5.2. The teacher uses tutorials to guide and support the teaching/learning process. 5.3. Acquisition of competencies by students is assessed by using appropriate criteria and techniques.
6. Course review and improvement	6.1. Teachers analyse teaching and learning outcomes and propose and take actions for improvement.
7. Degree review and improvement	7.1. There are mechanisms for degree review and improvement.

One of the ways BSs have used to deploy CBL has been through participation in Tuning projects whose objective is precisely to assist in the implementation of this competency-based approach.

That is why, in addition to the dimensions of the initial model, our proposal considers an eighth dimension defined as the role played by Tuning in the process followed in order to implement CBL.

Tuning projects have proved to be powerful instruments for promoting understanding and cooperation between institutions, countries and regions across the world. They focus on developing student-centred, competency-based learning. Their strength is twofold: openness to the different cultural contexts in which academics and students work, built-in sustainability through developing working groups beyond the immediate project participants; and the active quest for a mutually understood discourse and developments that are not fed in 'top-down' manner, but negotiated across projects.

The first Tuning project began in Europe in 2000 and involved 100 universities in reflection on the different ways a competency-based approach could be the basis for building a common higher education area (González & Wagenaar, 2003; González, Wagenaar, & Beneitone, 2004; Kallioinen, 2010). The Tuning methodology combines clearly designed steps with a dynamic perspective that allows for adaptation to different contexts. "It represents a concrete approach for the implementation of the Bologna process in different subject areas within university institutions, by means of a methodology for planning, developing and evaluating study programmes in the three cycles of university studies (Bachelor's degree, Master's degree and doctorate), making them comparable and compatible. The project tackles the key issue of quality, promoting wide academic consensus on concepts and tools for its recognition and assurance in university programmes" (Caena & Margiotta, 2010, p. 319).

As from 2003, this European-born project went through an internationalization phase and became a worldwide initiative. Today, 34 projects with the collaboration of over 600 academics in 118 countries have been carried out. These projects have been mainly backed and financed by the European Commission, which has invested over 22 million euros in their execution, and they have been supported by national governments and universities. As a result, over 70 different publications in 17 different languages have been produced. Besides, educational reforms have been implemented on an institutional, national, regional and global scale - for example in Chile and Russia.

Following the same methodology as Bezanilla et al. (2019), we approached a review of the literature by focusing on those articles that analyse the objectives set out by Tuning projects, or that describe its impact and application in different contexts (Brøgger, 2019; González and Wagenaar, 2003; González et al., 2004; Isaacs, 2014, 2016, 2017; Nováky, 2015, 2017). The list of resulting criteria and indicators was contrasted with all the authors of the previous model as well as with key experts in Tuning projects implementation so that the level of congruence, clarity and relevance of the proposal could be assessed (Bisquerra, 2009). Table 2 shows the additional dimension, number 8, together with its criteria and indicators.

The model's eight dimensions are of different nature. Dimensions 1, 2 and 8 are facilitating and contextual for the implementation of the CBL. Dimensions 3 to 7 reflect the implementation of the CBL in an HEI or BS, and therefore, are those that should be taken into consideration to select possible case studies.

Taking this model with its dimensions, criteria and indicators as a basis, this paper presents a methodological proposal to analyse whether the different key elements for the implementation of CBL are present in a BS, and where relevant, look into how they were attained. Accordingly, we define a research protocol and indicate the necessary evidence to be collected, as well as the sources and techniques we consider most adequate.

Case Study Methodology

Case study is one of the optimal research methods for exploring 'how' and 'why' questions, especially recommended when the study focuses on contemporary events in a real-life context, but researchers have little control over the events examined (Yin, 2018). Case study methodology allows enough attention to be given to contextual conditions, relevant to the phenomenon under study, as well as to analyse phenomena so deeply embedded in their context that boundaries between the two are not clear, while no experimental design is possible to draw such boundaries (Baxter & Jack, 2008). There are no strict limitations as to what these phenomena can be, or to what data collection instruments must be used. The objects of study can be as diverse as individuals, organizations, simple or complex interventions,

Table 2. Dimension 8. The role of Tuning (projects and/or methodology) in the process followed for CBL attainment (prepared by authors)

Criteria	Indicators
8.1. In the legal and administrative context there are references to Tuning in the documents that regulate higher education, as well as in the mechanisms for the certification and quality assurance.	8.1.1. At the legal level, Tuning is quoted as one of the reference sources, as an antecedent, or as an argument for CBL implementation processes. 8.1.2. There are references to Tuning in the documents produced by the quality assurance and/or certification agencies. 8.1.3. There are incentives for CBL implementation where Tuning methodology is mentioned as one of the means. 8.1.4. The National Tuning Centres (whose aim is to support dissemination and sustainability of CBL-implementation efforts beyond the project lifetime) have played a supporting and/or accompanying role in the implementation processes.
8.2. At institutional level Tuning forms part of the arguments and actions that were used to initiate and implement CBL.	8.2.1. At institutional level there are references to Tuning as one of the main resources for CBL implementation. 8.2.2. The awareness-raising documents mention Tuning as a tool for launching CBL implementation processes. 8.2.3. There are working documents that mention the university's participation in a Tuning project and its importance for the CBL implementation process. 8.2.4. Dissemination and training activities on Tuning methodology have been carried out in the university (information or working meetings, workshops, courses…) 8.2.5. A team has been created for CBL implementation through Tuning methodology (with relevant composition, recognition and continuity). 8.2.6. An institutional action plan has been designed to implement the outcomes achieved in the framework of a Tuning project.
8.3 Tuning methodology is used in degree design.	8.3.1. The university participant in the Tuning project later on played a key role in the degree planning processes at his/her institution. 8.3.2. The Tuning definition of competency is used. 8.3.3. Two types of competencies are distinguished using Tuning methodology- generic and subject specific. 8.3.4. Degree competencies were selected and defined with reference to the Tuning list(s) of competencies for the relevant region/Subject Area 8.3.5. The results obtained from consultation with the stakeholders conducted in a relevant Tuning project have been taken into account. 8.3.6. The meta-profiles developed by Subject Area Groups in the Tuning project have been taken into account (meta-profile brings together the core aspects to be included into the degree profile for a degree to be recognizable). 8.3.7. The renovation or the creation of new degrees responds to the needs detected in society that have been documented and demonstrated, as indicated in Tuning. 8.3.8. Study plans have been contrasted with different stakeholders, as Tuning methodology proposes. 8.3.9. Study plans have been designed and/or reviewed collegially in accordance with Tuning methodology. 8.3.10. Academic credits used are based on student workload (ECTS, CLAR etc), in accordance with Tuning methodology.

relationships, communities or degrees (Baxter & Jack, 2008). In other words, data can come from a variety of sources and diverse instruments can be used, even if there is a tendency to expect qualitative data collection from a case study research project (De Weerd-Nederhof, 2001).

Indeed, distinctive features of an example of case study research cited by Miles and Huberman (1994) are much more typical of qualitative than quantitative research: interest in the global picture, attempt to capture insiders' perspectives and to bring together perspectives of different stakeholders, and, as a consequence or a pre-condition, a prolonged contact with the object(s) of study. Our aim is coherent with these characteristics, so we consider this methodology to be appropriate.

However, flexibility of case study as a research method needs to go hand in hand with rigour, which means that the researchers have to document every decision taken at the study design stage. Here, even before selecting or creating data collection tools, researchers need to address at least three issues (Yin, 2018):

Issue 1. Decide on the type of the case study
Issue 2: Set the boundaries of the case
Issue 3: Make provisions for increasing validity and reliability of the study

Firstly, according to what the research objective is, Yin (2018) proposes three different types of case studies: descriptive, exploratory and explanatory. Descriptive case studies are used to characterise the object of the study in the most complete way possible. Such studies present a complete description of the object of analysis with regard to its context, that is, they analyse how a phenomenon occurs inside its real context. Exploratory case studies are normally developed when there is great uncertainty about some relevant aspect in another "main" study. Finally, explanatory studies are those which attempt to bring to light cause-effect relationships by departing from the explanation of which causes produce which effects, that is, why a determined phenomenon is brought about (Yin, 2018). The proposed methodology, the object of this work, suggests a descriptive case study, as it intends to know the process of CBL implementation.

Secondly, Baxter and Jack (2008) stress that once you have determined what your case will be, you will have to consider what your case will not be. One of the common pitfalls associated with case study is the tendency for researchers to attempt to answer a too broad question, or to formulate too many objectives for one study. In order to avoid this, several authors, including Stake (1995) and Yin (2018) suggest that placing boundaries on a case can prevent this situation from occurring. Suggestions on how to bind a case include: (a) by time and place (Creswell, 2003); (b) by time and activity (Stake, 1995); and (c) by definition and context (Miles & Huberman, 1994). Binding the case will ensure that the study remains reasonable in scope.

Thirdly, the in-depth approach of a case study necessarily limits the number of cases explored in each research project (e.g. single case study, or comparison of two cases).

The main criticism voiced in relation to case study research methodology is the difficulty of generalising the results obtained (Bonache, 1999). To address this criticism, researchers are advised to maximise the validity (constructive and external) and the reliability of their studies by taking the need for both into consideration at the stage of research design.

Constructive validity supposes the establishment of correct operational measures for the concepts to be studied (Yin, 2018). To achieve this end, it is recommendable to use multiple data collection methods, thus providing quality to the data collection, and consequently, to the research. Combining methodologies in the study of the same phenomenon increases the belief that the result is valid (Denzin, 1984). Tellis (1997) considers that case study is known as a triangulation research strategy. In case study, each element of evidence obtained must be supported by at least two sources. Therefore, triangulation is one of the most relevant strategies to guarantee constructive validity, since the use of different sources of data and of different methods enables the achievement of a more exact picture of the reality (Bonache, 1999; Yin, 2018).

External validity implies establishing the domain in which the results of the study can be generalised. Generalisation methods used in case studies are analytical generalisations, in which the results obtained

in each case are used as references to compare the results with the rest. If two or more cases provide support for the same theory, it can be considered that the empirical base of the latter is correct and it has been possible to replicate the experience (Yin, 2018).

Reliability is the magnitude that reflects the fact that if the data were collected by another researcher and/or in another moment of time, it would be the same (McCutcheon & Meredith, 1993), that is, consistency among researchers at the time a study is undertaken (Bonache, 1999). To guarantee this condition, Yin (2018) emphasises establishing rigorous control over the evidence gathered, both regarding the protocols that are used to conduct the field work and the systematization of the evidence collection, registration and processing.

Given the recommendations of research methodology experts (Merriam, 1998; Tellis, 1997; Yin, 2018), the possibilities offered to scholars who adopt case study methodology, and the phenomenon under study (how the competency-based approach is implemented at a BS and why the implementation efforts are successful in certain institutions but not in others), case study methodology seems highly appropriate for our study.

THE RESEARCH PROTOCOL TO ANALYSE THE IMPLEMENTATION OF THE CBL MODEL IN A BS

Case studies have been very much used in social sciences research, since they have the qualities to understand a phenomenon in depth in varied contexts and situations. There are several theoretical perspectives on case studies, fundamentally based on different epistemological approaches. Having said that, they all coincide in strongly suggesting the design of a protocol or action plan (Eisenhardt, 1989; Kyburz-Graber, 2016; Merriam, 1998; Stake, 1995; Yin, 2018).

The protocol must specify each and every one of the steps to be followed in devising the case, which will enable the data collection procedures to be replicated by other researchers with the same results. In this way, the protocol is an instrument that facilitates and provides the already mentioned reliability and validity to the data collection and a map to guide the researcher in the process (Miles & Huberman, 1994; Yin, 2018).

Taking as references Merriam (1998), Yazan (2015) and Yin (2018), this protocol proposal includes the following sections:

1. Overview of the case study design: theoretical framework, research questions and propositions.
2. Case study selection.
3. Data collection procedures.
4. Outline for the case study report.

Each of these elements is described in the following sections.

Overview of the Case Study: Theoretical Framework, Research Questions and Propositions

Once the general objective has been determined and the boundaries defined (process of implementation of CBL in BSs) it is important to consider the additional components required for designing and imple-

menting a rigorous case study. These could include the conceptual framework, the research questions (generally "how" and/or "why" questions), and the propositions (explicitly mentioned or not) (Baxter & Jack, 2008; Miles & Huberman, 1994; Yin, 2018).

With regard to the first point, the suggested theoretical framework is the enlarged proposal in Figure 1, based on Bezanilla et al. (2019), which includes the additional dimension related to the Tuning role.

The research questions guiding the case study refer to the implementation process of CBL in BSs in different contexts, and on the other hand, they will be bound to the Tuning role in such a process.

More specifically, the questions guiding the case analysis research are as follows:

1. How does the legal, administrative and institutional context influence the implementation of CBL?
2. How is the degree and its courses planned and reviewed in order to achieve the implementation of CBL?
3. How is the teaching-learning process to implement CBL in the classroom?
4. What is the role of Tuning projects in the implementation of CBL in the institution?

As far as the propositions are concerned, they serve to focus the data collection, determine the direction and scope of the study and contribute to the construction of a conceptual structure/framework (Baxter & Jack, 2008; Miles & Huberman, 1994; Stake, 1995). They "may come from the literature, personal/professional experience, theories, and/or generalizations based on empirical data" (Baxter & Jack, 2008, p. 551).

As stated by Baxter and Jack (2008, p. 552), "a common pitfall for novice case study researchers is to include too many propositions and then find that they are overwhelmed by the number of propositions that must be returned to when analysing the data and reporting the findings".

The propositions to define in our study will be related to the 21 indicators set out in Tables 1 and 2 and they can incorporate specificities of concrete cases (for example, the level of the BS autonomy in different institutions or parts of the world, or how participatory the institutional culture is).

Case Study Selection

Researchers can choose to focus on one case (single-case designs) or on more than one (multiple-case designs), and can also decide whether to have a single unit of analysis (holistic designs) or more than one unit of analysis (embedded designs) (Gaikwad, 2017; Yin, 2018). Table 3 gives examples of the four basic types of case study designs that can result: what they could look like given the theoretical framework, the research questions, and the propositions outlined above.

For the selection of the case study, we propose a previous phase to collect data from the BSs in a standardised way so as to identify those who possess the most significant elements of the model's dimensions and will therefore allow a greater in-depth analysis. The aim is to identify the cases in which CBL implementation has reached a sufficient level to justify the selection of the case. In this phase, it is recommended to formulate the questions to some member(s) of the managerial team such as the dean, the director, vice rector of academic affairs, etc. (acting as gatekeepers) and if the answers are satisfactory, it will then be possible to move on to contrast with other groups (teachers, students, graduates…).

Below, we propose some questions to ask the gatekeeper(s), which should be adapted to each specific case:

Table 3. Examples of basic types of case studies designs (prepared by authors, based on Gaikwad, 2017, and Yin, 2018)

	Single-case designs	Multiple-case designs
Holistic	Single context, one unit of analysis. For example: to study the CBL implementation process of a specific BS in one country.	Several contexts, one unit of analysis for each one. For example: to study the CBL implementation process in two BSs (in the same or in different countries).
Embedded	Single context, several units of analysis. For example: to study the CBL implementation process: ● In two different departments at one BS in a specific country; ● In two different programmes at one BS in a specific country.	Several contexts, each having several units. For example: to study the CBL implementation process: ● In different departments at different BSs in different countries; ● In different programmes at different BSs in different countries.

1. Is the competency-based approach applied in your institution?
2. Is there a specific higher education policy in your country that promotes or contains indications regarding the implementation of CBL?
3. Are there any documents/guidelines developed by the institution authorities (rector's office, vice-rector's office, department, etc.) that facilitate/support the implementation of CBL at the BS?
4. Are the BS degree profiles defined in terms of competencies?
5. Has the time and effort required from students (student workload) been considered in order to adjust study plans?
6. Have instructors been offered relevant training (in order to help them introduce CBL)?
7. Have the teaching, learning and assessment methodologies been changed in any way following CBL?

An example of a question just for teachers would be: Do you follow CBL (methodologies, assessment of competencies, workload…) in the course(s) you teach?

According to the answers received to the above questions, and to the specific objectives of the research, it will be assessed whether it is a suitable case study.

Data collection procedures

As we have already pointed out above, triangulation is one of the most relevant strategies to guarantee validity, since the use of different data sources and methods of analysis enables a more exact image of the reality (Bonache, 1999; Bouchard, 1976; Denzin, 1984; McCutcheon & Meredith, 1993; Yin, 2018).

In terms of triangulation of techniques (both at inter- and intra-methodological levels) we propose using three different data collection techniques: content analysis, in-depth interviews and focus groups. On the one hand, and in terms of source triangulation, we propose gathering information from four different agents; the HEI or BS managers, the teaching staff, the non-academic staff and the students. As Baxter and Jack (2008, p. 544) state, "using a variety of data sources ensures that the issue is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood".

We propose starting the data collection process with the secondary data by carrying out a content analysis of different key documents from the universities and BSs that are the objects of the study, and

then moving on to the primary data, by carrying out in-depth interviews and focus groups with the main stakeholders of the institution.

Content analysis, in its broadest sense, is a technique to interpret texts of different natures (written, recorded, painted, filmed …) and with different components (data, words, symbols…) that host a content that read and interpreted properly gives access to the knowledge of diverse aspects and phenomena of social life (Andreú, 2002). Its basic aim is to identify specific constituent elements of the written documents and classify them under the form of variables and categories for the explanation of social phenomena under investigation (Fernández, 2002). The objective of this stage is to have an initial idea of how advanced the BSs are in their implementation of CBL, since it is considered that the existence of official and/or working documents related to CBL reflects a commitment and a greater degree of maturity in the implementation of the same. It is important to point out that the non-existence of documents does not imply that the process is not being developed. Nonetheless, this previous analysis allows the researchers to centre their later steps on exploring the information that is not featured in any document and that cannot be obtained except from the persons involved.

In-depth interviews, a data collection technique used in the second stage, are one-to-one conversations scripted with an essentially open-question guide, which serve to obtain a better comprehension of each case (McMillan & Schumacher, 2011). Academic executives in charge of each degree and/or of a respective department bring the insider's perspective. Their responses can clarify any doubts that emerged during the previous stage and supply information not reflected in the available written documents. Given the unique nature of every case, semi-structured in-depth interviews, with both clearly defined interview protocol and the in-built degree of flexibility, are an optimal tool. This data collection technique enables gaps in the initial picture to be filled in, while adjusting the protocol to each case and allowing for necessary probing and/or defining additional questions relevant for each particular context (Cohen, Manion, & Morrison, 2008).

The information collected so far will be finally complemented by several focus groups. It is a data collection method that brings together a small group of persons (usually between 5 and 10) to answer certain questions so that a discussion or a debate related to a specific research topic is created. According to Mariampolski (2001), it is one of the most versatile qualitative data collection techniques, and it can be applied to research of a very different nature. In our proposal, it was considered essential to form focus groups, both with teaching and non-academic staff, as well as with students. The reason lies in the very benefits or advantages of the technique: it enables the typical language (verbal and non-verbal) of the participants to be known together with their understanding of the concepts and their concerns; it generates a lot of rich information in relatively little time due to its dynamism and interactive possibilities among individuals; moreover, it offers the chance to observe collective sense-making in action, because participants can build on answers from others (Linville, Lambert-Shute, Fruhauf, & Piercy, 2003; Sagoe, 2012; Wilkinson, 2014).

Table 4 shows the intersection of the dimensions of the extended model, with the proposal for data collection techniques and the main sources of the same.

According to Baxter and Jack (2008, p. 554), "each data source is one piece of the 'puzzle', with each piece contributing to the researcher's understanding of the whole phenomenon. This convergence adds strength to the findings as the various strands of data are braided together to promote a greater understanding of the case".

Table 4. Relation between techniques, sources and dimensions (prepared by authors)

	Content analysis	In-depth interview with managers	Focus group with teaching staff	Focus group with non-academic staff	Focus group with students
D1	X	X	--	--	--
D2	X	X	--	X	--
D3	X	X	--	--	--
D4	X	--	X	--	X
D5	X	--	X	--	X
D6	X	--	X	--	X
D7	X	X	--	--	--
D8	X	X	X	--	--

Secondary Data: Content Analysis.

In order to analyse the CBL implementation process in the light of the criteria collected in Tables 1 and 2, we propose collecting and reviewing the list of documents below (Table 5).

Primary Data: In-depth Interviews and Focus Group.

As set out in Table 4, we also propose using in-depth interviews with managers, and focus groups with teachers, non-academic staff and students. This is done in order to clarify any ambiguous or confusing issue, as well as verifying the information received from the secondary data. Therefore, the questions to be used in each case should be essentially open (Mariampolski, 2001; McMillan & Schumacher, 2011).

The questions for the interview with managers will focus on dimensions 3 (degree planning), 7 (degree review and improvement) and 8 (role of Tuning in CBL implementation). In addition, questions relating to dimensions 1 (legal and administrative context) and 2 (institutional context) can be incorporated with regard to those aspects which have either not remained clear or been covered in the documents.

Likewise, focus group questions will be mainly related to dimensions 4 (course planning), 5 (learning/teaching and assessment), 6 (course review and improvement) and 8 (role of Tuning in CBL implementation). Questions concerning the other dimensions could also be incorporated in the case of any doubts.

Below are some examples of questions for teachers in the focus groups:

- Which educational model is implemented in your institution? Can you describe it? What are its fundamental elements?
- How is a typical week in your course?
- How is the process of designing and implementing a course?
- What is the process like for evaluation of and introducing improvements into a course? Who intervenes? How are the improvements put into practice?
- What is coordination among teachers like?
- Do you know what Tuning is? What do you think its consequences have been for your institution? And in your degree?

Some examples of questions for students in the focus groups might be:

- Which competencies have you developed in recent years at university?

Table 5. List of documents to be analysed in order to assess CBL implementation (prepared by authors)

List of documents	What criteria can be analysed through the document
Documents external to the institution	
1. Current Higher Education law.	Criteria 1.1; 1.2; 1.3 and 8.1
2. Ministerial decisions linked to CBL implementation.	Criteria 1.1; 1.2; 1.3 and 8.1
3. Official guidelines concerning the design of new degrees and/or the revision of existing ones.	Criteria 1.1; 1.2; 1.3 and 8.1
4. Official documents that gather criteria for approving degrees.	Criteria 1.1, 1.2 and 8.1
5. Official documents that gather criteria for quality assurance and certification of degrees.	Criteria 1.1, 1.3 and 8.1
6. Public incentives programmes for CBL implementation.	Criteria 1.1, 1.2, 1.3, 1.4 and 8.1
7. Information of official bodies or existing agencies for degree/institution approval, monitoring and/or assessment.	Criteria 1.1, 1.2, 1.3, 1.4 and 8.1
8. Public calls for: a. presentation of proposals for CBL implementation b. renewal of equipment, spaces… c. training for academic and non-academic staff	Criteria 1.1, 1.2, 1.3, 1.4 and 8.1
Internal institutional documents (concerning the whole university or BS)	
9. Institutional strategic plan.	Criterion 2.1
10. Institutional documents that may include the university's learning model.	Criteria 2.1 and 8.2
11. Document(s) defining what a competency is.	Criteria 2.1 and 8.2
12. A list of key competencies/distinctive features showing the identity of the institution in terms of competencies.	Criteria 2.1 and 8.2
13. The organigram.	Criterion 2.2
14. Documentation of degrees/courses/modules with indications for: a. development of new degrees b. review of existing degrees c. development of study plans and course/module guides d. review of study plans and course/module guides	Criteria 2.3 and 8.3
15. Documentation concerning teaching staff: a. guidelines (criteria, processes, techniques …) for teacher selection b. professional development plan c. training courses of the previous academic year for teaching and non-academic staff d. guidelines for assessment and certification (including promotion processes) e. teacher promotion criteria	Criterion 2.4
16. Documents of the latest calls for innovation and/or research projects.	Criterion 2.4
17. Plan for CBL awareness-raising/dissemination/training activities	Criteria 2.4 and 8.3
Internal BS documents (concerning the object-of-study degree)	
18. Study plans	Criterion 3.1
19. A document listing the competencies of the course/degree and explaining how they were chosen.	Criterion 3.1
20. Curriculum map.	Criterion 3.1
21. Document(s) describing the degree/courses in terms of student workload.	Criterion 3.1
22. Minutes from degree/course coordination meetings.	Criterion 3.2
23. Documents of all the courses (detailed programme and/or learning guide and/or syllabus) of a study plan.	Criteria 4.1, 4.2, 5.1, and 5.2
24. Documents describing the assessment of student learning.	Criteria 4.3 and 5.3
25. Documents describing the teaching assessment: example of survey or interview, sources used, how teachers receive feedback etc.	Criterion 6.1
26. Documents describing teachers' reflections on learning and on their teaching.	Criterion 6.1
27. Documents with degree review protocol: persons responsible, participants, frequency, process…	Criterion 7.1

- How is assessment done in the different courses you are studying?
- How do you think your teachers monitor your workload throughout the course?

In this phase of data collection, it is indispensable to have the informed consent of all the persons involved, as well as to guarantee to respondents that the information will be processed anonymously so that participants will provide sincere answers (Ballesteros & Mata-Merino, 2018).

The analysis and interpretation of the data collected must be carried out in accordance with the particularities of each of the techniques proposed above and having the conceptual framework, the research questions and the propositions as guiding principles (further information for the interested reader can be found in Boyatzis, 1998; Creswell, 2019; Kolbe & Burnett, 1991; or Vaismoradi, Turunen, & Bondas, 2013).

Outline for the Case Study Report

Once the results have been analysed and interpreted, and conclusions obtained, the final stage is preparing the final report for the case study.

Different structural modalities can be identified in order to write up the report (Yin, 2018). They can go from following a traditional structure (questions-methods-results-interpretation) to the absence of all logical sequence, passing through a chronological structure of the facts, opting for a comparison of the study from different angles, or rather presenting a structure that favours theory generation. When the study brings together multiple cases, there are also different ways of presenting each individual case: in their complete form (for example, using annexes) versus a summarised one (employing, for example, tables and conceptual charts), or simply not explicitly including them at all.

Regardless of the structure finally adopted, what constitutes an additional quality measure is the possibility for the participants in the different cases to revise the contents of the corresponding report, and thus corroborate one more time the evidence presented therein.

In the final case study report it is recommendable to include the propositions and the initial questions; the study design; the procedures for data collection and analysis; the reflection on internal coherence; the conclusions of the study and their implications, in addition to the possibility of extrapolating them to other contexts (Yin, 2018).

It is also important to follow a clear structure that is appropriate for the objectives of the study and the target audience, and if possible, simple, straightforward and attractive for the public in general (Caulley, 2008). In this way, its possible dissemination will be greater, and it will not be limited exclusively to the academic field.

RECOMMENDATIONS

In this section we emphasise some methodological recommendations, which may prove to be of interest when carrying out a case study with similar characteristics to the one here proposed.

First of all, we consider it is essential to bear in mind the different tactics proposed by Yin (2018) to guarantee the validity and reliability of the case study, as set out in Table 6.

A further important recommendation is related to triangulation of researchers when the data is collected (Krippendorff, 1980). Researcher triangulation, together with the already mentioned triangulation

Table 6. Case design test tactics (Yin, 2018)

Test	Case study tactic	Test	Case study tactic
Construct validity	Ø use multiple sources of evidence Ø have key informants review draft case study report	External validity	Ø use theory in single-case studies Ø use replication logic in multiple-case studies
Internal validity	Ø do pattern matching Ø do explanation building Ø address rival explanations Ø use logic models	Reliability	Ø use case study protocol Ø develop case study database Ø maintain a chain of evidence

of techniques and sources, represents a third way to increase the research quality. As Ballesteros and Mata-Benito (2018, p. 170) assert "investigator triangulation is warranted when it serves to compare, neutralise or at least bring to light different disciplinary biases". It is a complex process due to the risk associated with several different persons, each with their own background and outlook, assessing together the collected data. Consequently, it is considered that "collective analysis must be understood from a flexible perspective in which intersubjectivity expands its possibilities" (Ballesteros and Mata-Benito, 2018, p.168).

Following this line of argument, we propose bringing into practice a triangulation element named member checking (Morse & McEvoy, 2014), which consists of "taking the data and the initial interpretations back to the persons they were derived from so as to consult them about the plausibility of the results" (Merriam, 1998, p. 204). This step reduces the threat of inaccurate interpretation, and thus increases the validity and precision of the conclusions that are reached.

In third place, we recommend carrying out an audit trail (Merriam, 1998; Morse & McEvoy, 2014; Yin, 2018), which involves gathering all the details of the data-collecting process, the methods used and how the data analysis has been carried out (notes, transcripts, quotations, interpretations, protocol, etc.). Although it is complicated for a study to be replicated exactly, in this way it is guaranteed that if it is done, the same conclusions will be reached.

And finally, another recommendation refers to the relevance of piloting, which enables learning from the process and incorporating relevant changes into the research. For example, piloting would allow relevant cultural and contextual considerations to be incorporated, related to the different terminology employed in different countries with regard to CBL and with the elements of the internal structure of the BS (in some institutions there is a director of studies, in others a coordinator; the functions of a dean may be different; the legal context is less or more developed, etc.).

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The main limitation of this study has to do with our theoretical approach, as we present CBL as the best option to provide BS students with the desired competencies to face the complex challenges society, organisations and businesses are experimenting nowadays. However, there can be other approaches in a BS to educate future managers.

Another limitation we would like to highlight is that we depart from a specific theoretical model of CBL implementation that may be incomplete, or in need of greater validation. At the present time, we are

in the process of applying this methodological approach ourselves in two institutions in Latin America, which could lead us to refining the model.

Moreover, we have taken into account the role of Tuning in CBL implementation, but other enablers could be taken into consideration, such as international accreditations, the Washington Accord or others.

Furthermore, approaching research through case study methodology implies working with the intrinsic limitations of the methodology itself: the complexity of depending on several researchers, using different techniques, the necessary commitment of and prolonged contact with the object of study, and the great volume of documentation and information to collect, organise, analyse and interpret, among others.

Finally, we recognise that our proposal is not free of researcher bias as we write from a specific educational and cultural context.

These limitations generate the following lines of future research:

- Applying the methodological model to different case types: BSs in different geographical regions; BSs in the same regions; internationally accredited and non-accredited BSs; BSs with different profiles (teaching-oriented, research-oriented), etc. Thus, it will be possible to refine the model and make it more global.
- Incorporating quantitative data collection to complete the analysis of any of the dimensions considered in the model.
- Incorporating features of other theoretical models to the methodological proposal.
- Replacing the eighth Tuning dimension with another facilitating aspect in CBL implementation.

CONCLUSION

In this chapter we have described humanistic management, defending that we need management and leadership teams that take into account not only economic benefit, but also the development of the well-being of the different stakeholders and of society in general. To achieve this, BSs need to educate their students in a certain way, developing key competencies such as sustainability, critical thinking, leadership or competencies for civic life. BSs are therefore recommended to implement a competency-based learning (CBL) model. One of the ways BSs have used to deploy CBL has been through participation in Tuning projects whose objective is precisely to assist in the implementation of this competency-based approach.

In the preceding pages we have made a methodological proposal for analysing the process a BS has followed in implementing CBL, taking into consideration all those factors deemed relevant by the specialised literature. We have operationalized a theoretical model from Bezanilla et al. (2019), to which we have added a new dimension to represent the role played by Tuning projects in implementing CBL into higher education in different parts of the world.

The contribution of this work is related to the link between theory and practice. From a theoretical point of view, we have described what humanistic management is, we have presented a model with criteria and indicators to assess the deployment of CBL in a BS, and we have reviewed the specificities and benefits of case study methodology. From a practical point of view, we have proposed how to analyse the process for implementing CBL in a BS.

This is, firstly, of interest for BSs, which can analyse their level of CBL implementation through this proposal and detect both strengths and weaknesses. This enables them to know where to start actions to improve their students' learning. Secondly, policy makers will possess indispensable information for

sound decision making. Thirdly, other researchers can be inspired by our proposal, either to assess the CBL implementation with another promoting element different from Tuning (for example, it could be the effect of an external certification or the norms of an international professional association), or to assess the application of other theoretical models.

REFERENCES

Aguado, R., & Eizaguirre, A. (Eds.). (2020). *Virtuous Cycles in Humanistic Management*. Springer. doi:10.1007/978-3-030-29426-7

Andreú, J. (2002). *Las técnicas de análisis de contenido: Una revisión actualizada*. Centro de Estudios Andaluces.

Ballesteros, B., & Mata-Benito, P. (2018). The inner process of collective interpretation in qualitative research. *Qualitative Report*, *23*(1), 168–183.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *Qualitative Report*, *13*(4), 544–559.

Beneitone, P., Esquetini, C., González, J., Maleta, M. M., Siufi, G., & Wagenaar, R. (Eds.). (2007). *Reflections on and outlook for higher education in Latin America: Final report Tuning Latin America project 2004-2007*. Universidad de Deusto.

Bezanilla, M. J., García Olalla, A. M., Paños Castro, J., & Poblete Ruiz, M. (2019). A model for the evaluation of competence-based learning implementation in higher education institutions: Criteria and indicators. *Tuning Journal for Higher Education*, *6*(2), 127–174. doi:10.18543/tjhe-6(2)-2019pp127-174

Bisquerra, R. (2009). *Metodología de la investigación educativa*. La Muralla.

Bonache, J. (1999). El estudio de casos como estrategia de construcción teórica: Características, críticas y defensas. *Cuadernos de Economía y Dirección de la Empresa*, *3*, 123–140.

Bouchard, T. J. (1976). Field research methods: Interviewing, questionnaires, participant observation, systematic observation, unobtrusive measures. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 363–414). Wiley.

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage.

Brøgger, K. (2019). How education standards gains hegemonic power and become international: The case of higher education and the Bologna Process. *European Educational Research Journal*, *18*(2), 158–180. doi:10.1177/1474904118790303

Caena, F., & Margiotta, U. (2010). European Teacher Education: A fractal perspective tackling complexity. *European Educational Research Journal*, *9*(3), 317–331. doi:10.2304/eerj.2010.9.3.317

Caulley, D. N. (2008). Making qualitative research reports less boring: The techniques of writing creative non-fiction. *Qualitative Inquiry*, *14*(3), 424–449. doi:10.1177/1077800407311961

Cohen, L., Manion, L., & Morrison, K. (2008). *Research methods in education*. Routledge.

Creswell, J. W. (2003). *Research design. Qualitative, quantitative and mixed methods approaches*. Sage.

Creswell, J. W. (2019). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson.

De Weerd-Nederhof, P. C. (2001). Qualitative case study research. The case of a PhD research project on organising and managing new product development systems. *Management Decision*, *39*(7), 513–538. doi:10.1108/EUM0000000005805

Denzin, N. (1984). *The research act*. Prentice Hall.

Dierksmeier, C. (2011). Reorienting Management Education: From Homo Oeconomicus to Human Dignity. In W. Amann, M. Pirson, C. Dierksmeier, E. Von Kimakowitz, & H. Spitzeck (Eds.), *Business Schools Under Fire. Humanistic Management Education as the Way Forward* (pp. 19–40). Palgrave Macmillan. doi:10.1057/9780230353855_2

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532–550. doi:10.5465/amr.1989.4308385

Eizaguirre, A., Alcaniz, L., & García-Feijoo, M. (2020). How to Develop the Humanistic Dimension in Business and Management Higher Education? In R. Aguado & A. Eizaguirre (Eds.), *Virtuous Cycles in Humanistic Management* (pp. 3–20). Springer. doi:10.1007/978-3-030-29426-7_1

Euler, D., & Seufert, S. (2011). "Reflective Executives" - A Realistic Goal for Modern Management Education. In W. Amann, M. Pirson, C. Dierksmeier, E. Von Kimakowitz, & H. Spitzeck (Eds.), *Business Schools Under Fire. Humanistic Management Education as the Way Forward* (pp. 212–226). Palgrave Macmillan. doi:10.1057/9780230353855_14

Fernández, F. (2002). El análisis de contenido como ayuda metodológica para la investigación. *Revista de Ciencias Sociales*, *96*(2), 35–53.

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Gaikwad, P. (2017). Including rigor and artistry in case study as a strategic qualitative methodology. *Qualitative Report*, *22*(13), 3431–3446.

González, J., & Wagenaar, R. (Eds.). (2003). *Tuning educational structures in Europe. Final report. Phase one*. Bilbao: University of Deusto.

González, J., Wagenaar, R., & Beneitone, P. (2004). Tuning-América Latina: Un proyecto de las universidades. *Revista Iberoamericana de Educación*, *35*(1), 151–164.

International Integrated Reporting Council (IIRC). (2016). *Creating Value. The Value of Human Capital Reporting*. Retrieved from www.theiirc.org

Isaacs, A. K. (2014). Building a higher education area in Central Asia: Challenges and prospects. *Tuning Journal for Higher Education*, *2*(1), 31–58. doi:10.18543/tjhe-2(1)-2014pp31-58

Isaacs, A. K. (2016). *Tuning Central Asia guidelines and reference points*. Dedizioni.

Isaacs, A. K. (2017). Tuning and History: A personal overview. *Arts and Humanities in Higher Education*, *16*(4), 403–409.

Jensen, M. C. (2002). Value maximization, stakeholder theory, and the corporate objective function. *Business Ethics Quarterly*, *12*(2), 235–256. doi:10.2307/3857812

Kallioinen, O. (2010). Defining and Comparing Generic Competences in Higher Education. *European Educational Research Journal*, *9*(1), 56–68. doi:10.2304/eerj.2010.9.1.56

Kolbe, R. H., & Burnett, M. S. (1991). Content-analysis research: An examination of applications with directives for improving research reliability and objectivity. *The Journal of Consumer Research*, *18*(2), 243–250. doi:10.1086/209256

Krippendorff, K. (1980). *Reliability*. John Wiley & Sons.

Kyburz-Graber, R. (2016). Case study research on higher education for sustainable development. Epistemological foundation and quality challenges. In M. Barth, G. Michelsen, M. Rieckmann, & I. Thomas (Eds.), *Routledge Handbook of Higher Education for Sustainable Development* (pp. 126–141). Routledge.

Linville, D., Lambert-Shute, J., Fruhauf, C. A., & Piercy, F. P. (2003). Using participatory focus groups of graduate students to improve academic departments: A case example. *Qualitative Report*, *8*(2), 210–223.

Lozano, R., Merrill, M. Y., Sammalisto, K., Ceulemans, K., & Lozano, F. J. (2017). Connecting competences and pedagogical approaches for sustainable development in higher education: A literature review and framework proposal. *Sustainability*, *9*(10), 1889. doi:10.3390u9101889

Mariampolski, H. (2001). *Qualitative market research. A comprehensive guide*. Sage. doi:10.4135/9781412985529

McCutcheon, D. M., & Meredith, J. R. (1993). Conducting case study research in operations management. *Journal of Operations Management*, *11*(3), 239–256. doi:10.1016/0272-6963(93)90002-7

McMillan, J. H., & Schumacher, S. (2011). *Investigación educativa*. Pearson.

Melé, D. (2009). Current trends in humanism and business. In H. Spitzeck, M. Pirson, W. Amann, S. Khan, & E. Von Kimakowitz (Eds.), *Humanism in business* (pp. 123–141). Cambridge University Press. doi:10.1017/CBO9780511808395.009

Melé, D. (2016). Understanding humanistic management. *Humanistic Management Journal*, *1*(1), 33–55. doi:10.100741463-016-0011-5

Melé, D., & Schlag, M. (Eds.). (2015). *Humanism in Economics and Business. Perspectives of the catholic Social Tradition*. Springer. doi:10.1007/978-94-017-9704-7

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass.

Miles, M., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Morse, A., & McEvoy, C. D. (2014). Qualitative research in sport management: Case study as a methodological approach. *Qualitative Report*, *19*(31), 1–13.

Naughton, M. (2015). Thinking Institutionally about Business: Seeing its Nature as a Community of Persons and its Purpose as the Common Good. In D. Melé & M. Schlag (Eds.), *Humanism in Economics and Business. Perspectives of the Catholic Social Tradition* (pp. 179–199). Springer. doi:10.1007/978-94-017-9704-7_11

Nováky, G. (2015). The same history for all? Tuning history. In D. Ludvigsson, & A. Booth (Eds.), *Enriching History Teaching and Learning: Challenges, Possibilities, Practice. Proceedings of the Linköping Conference on History Teaching and Learning in Higher Education* (pp. 101-119). Linköping: Linköping University.

Nováky, G. (2017). The yin and yang of Tuning History. *Arts and Humanities in Higher Education*, *16*(4), 410–414. doi:10.1177/1474022216686524

Oxfam. (2019). *Public good or private wealth*. Retrieved from https://www.oxfam.org/en/research/public-good-or-private-wealth

Pirson, M. (2011). What is Business Organizing for? The role of Business in Society over Time. In W. Amann, M. Pirson, C. Dierksmeier, E. Von Kimakowitz, & H. Spitzeck (Eds.), *Business Schools Under Fire. Humanistic Management Education as the Way Forward* (pp. 41–51). Palgrave Macmillan. doi:10.1057/9780230353855_3

Pirson, M. A., & Lawrence, P. R. (2010). Humanism in business–towards a paradigm shift? *Journal of Business Ethics*, *93*(4), 553–565. doi:10.100710551-009-0239-1

Piza, V., Aparicio, J. L., Rodríguez, C., Marín, R., Beltrán, J., & Bedolla, R. (2018). Sustainability in Higher Education: A Didactic Strategy for Environmental Mainstreaming. *Sustainability*, *10*(12), 4556. doi:10.3390u10124556

Sagoe, D. (2012). Precincts and prospects in the use of focus groups in social and behavioral science research. *Qualitative Report*, *17*(15), 1–16.

Sandri, O., Holdsworth, S., & Thomas, I. (2018). Vignette question design for the assessment of graduate sustainability learning outcomes. *Environmental Education Research*, *24*(3), 406–426. doi:10.1080/13504622.2016.1263280

Segalàs, J., Ferrer-Balas, D., Svanström, M., Lundqvist, U., & Mulder, K. F. (2009). What has to be learnt for sustainability? A comparison of bachelor engineering education competences at three European universities. *Sustainability Science*, *4*(1), 17–27. doi:10.100711625-009-0068-2

Stake, R. E. (1995). *The art of case study research*. Sage.

Telling, K., & Serapioni, M. (2019). The rise and change of the competence strategy: Reflections on twenty-five years of skills policies in the EU. *European Educational Research Journal*, *18*(4), 387–406. doi:10.1177/1474904119840558

Tellis, W. M. (1997). Application of a case study methodology. *Qualitative Report*, *3*(3), 1–19.

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, *15*(3), 398–405. doi:10.1111/nhs.12048 PMID:23480423

Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: A reference framework for academic program development. *Sustainability Science*, *6*(2), 203–218. doi:10.100711625-011-0132-6

Wilkinson, S. (2014). Focus group methodology: A review. *International Journal of Social Research Methodology*, *1*(3), 181–203. doi:10.1080/13645579.1998.10846874

Wolf, R. (2018). Self-Awareness: A Way to Promote Ethical Management. In Information Resources Management Association (Ed.), Business Education and Ethics: Concepts, Methodologies, Tools, and Applications (pp. 860-871). Hershey: IGI Global. doi:10.4018/978-1-5225-3153-1.ch045

Yazan, B. (2015). Three approaches to case study methods in education: Yin, Merriam, and Stake. *Qualitative Report*, *20*(2), 134–152.

Yin, R. K. (2018). *Case study research and applications: design and methods*. Sage.

KEY TERMS AND DEFINITIONS

Case Study: Research methodology whose fundamental objective is to know and understand the particularity of a situation.

Competency: The sum of knowledge, skills, values, attitudes, and individual characteristics that enable a person to perform actions successfully.

Competency-Based Learning: A teaching-learning approach that encourages the student's own activity and responsibility and the development of his or her autonomy, placing the assessment of the desired learning outcomes at the centre of the student's learning process.

Criterion: Condition that must be fulfilled by a certain activity, action or process to be considered of quality.

Humanistic Management: School of thought that aims to incorporate a more humane approach to management and business decisions; it focuses on the development of the human being and considers human dignity and well-being as an end in itself, understanding economic activity as the mean to achieve it.

Indicator: The particular way in which a criterion is measured, assessed or evaluated.

Triangulation: A technique used in research that helps to increase objectivity and credibility by using various sources, evaluators or methods for data collection and/or analysis.

Tuning: Methodology whose objective is to design competency-based degrees that are compatible and comparable, relevant to society and focused on improving quality, through Tuning projects developed by universities and educational authorities in a given geographical region.

Chapter 3
Maximizing Organizational Performance and Goal-Achievement Through Competency-Based Education:
Competency-Based Education for Improved Performance

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ABSTRACT

Maximizing organizational performance and goal-achievement through competency-based education, this chapter focuses on the organizational development of competency-based learning, with respect to how organizations in South Africa should design and deliver programming. This chapter provides readers with a practical and experimental approach that is based on the author's education and extensive experiences. These experiences are drawn from a journey of different levels of delivering competency-based learning to education and industry in South Africa. The author provides a perspective of interpretation for the utilization of a behavioral approach to competencies development in organizational environments. The author proposes learning occurs because of a behavioral approach to understanding competencies as a concept.

1. INTRODUCTION

Current global practices in learning across all disciplines and in particular Organisational Leadership and Management have proved to be inefficient and non-responsive to real-world needs in that they are underpinned by too much theoretical foundations devoid of practical constructs and dictates of business (Mahomed,2004). In trying to find a perfect way, Australia and New Zealand have led the way

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in implementing Outcomes-Based Education (OBE) system, followed by other countries of the world including United Kingdom (UK), South Africa and the United States (US) who all have adopted OBL in their educational policies.

Whereas in South Africa the OBE model has since been phased out in public schools (Krishna, 2013), it is still used in all occupational/vocational and learning programmes. One of the reasons for replacing it at basic education level was misplaced assumptions about delivery of OBE, lack of training on the concept and poor support from those designated for supporting educators through the process (Jansen, 1998) In this presentation, the author briefly discusses OBE as a model of instruction that is central to learning delivery and teaching maximises contribution at workplaces. Those institutions who employ principles of OBE will see more impactful results than those which do not use OBE, sometimes called Competency-Based Learning (Curry & Docherty, 2017).

Competency-Based Learning will also be used to described OBE henceforth, builds a framework for the role of competency modeling in both undergraduate and postgraduate Organisational Leadership and Management education which dove-tails seamlessly into practical workplace scenarios (Curry & Docherty, 2017). Competency-Based Learning on its own it clearly creates a role for Business and Leadership School that is consistent with practices helping to prepare learners for the real business world after graduation (Citation needed?).

As a basis of this study, the author's assertion is that, "If properly implemented, CBL as a conceptual model of Organisational Leadership and Management education and training will transform the African learners into entrepreneurial thought leaders and authentic venture creators who will revive and restore African economies and livelihoods" as postulated in (Costa, 2019) It should therefore be noted that the key words in this presentation are proper implementation.

Below is an abridged summary of how the author define CBL and its relationship to the learning paradigms found in the theory developed by Boyatzis (2002) that will be discuss further later in the paper. The author also will describe how paradigms should be implemented in order to achieve the desired outcomes. The conclusion remarks of this paper makes suggestions to curriculum designers at business schools as to what should be identified as viable incorporation into programme (Mokhaba, 2005).

2. DEFINING CBL/OBE

There are many definitions of CBL that can be found in many information repositories and publications, but in this presentation, the author will be providing a perspective on interpretation based on his own practical experience in business facilitation/teaching and also evidenced by research on the topic, as emphasised by Boyatzis (2008). CBL is a model of meta-cognitive approach to learning that integrates both theory and practice into experiential learning that is founded on the following six (6) key learning paradigms (Boyatzis, 2002):

a) **Active learning** – From day one learners are encouraged to participate in the learning process and teaching practices that includes in-class participation, peer-to-peer engagements, group work, learning expeditions and independent research.
b) **Constructive learning** – creative thinking and entrepreneurial trait-building is facilitated and innovation encouraged to allow learners to produce authentic and practical ideas and models of business applications

c) **Cumulative learning** – learning content and facilitation methods build on existing knowledge and experience, merging the two aspects of learning to form new value and thinking.
d) **Goal oriented learning** – Learners are introduced to engage in tasks and projects that are goal oriented towards measurable outcomes.
e) **Learner- centered approach** – Learning programmes in Organisational Leadership and Management should stimulate learners and "push" them beyond what is known (concrete) to what is not yet known (abstract) in order to help them craft meaningful visions of their future entities. This practice on its own will develop the student's self-awareness, social intelligence and leadership readiness skills to run an enterprise.
f) **The Design -characteristic:** Curriculum design, aims and objectives are to contain three characteristics:
    - ***Cognitive*** – foundational competence translated in linguistics (knowing);
    - ***Psychomotor*** – which is demonstration of practical competence (doing) and;
    - ***Intrinsic*** – the manifestation of feelings through reflexive competence (feeling)

3. RATIONALE FOR IMPLEMENTING CBL IN ORGANIZATIONAL LEADERSHIP AND MANAGEMENT TRAINING.

In preparation of a 21st Organisational Leadership and Management degree programme both at undergraduate and postgraduate, the focus and emphasis should be totally androgogical and problem-field centred as opposed to content focus, putting the learner as the champion of their own development towards mastery of the outcomes, in a very meta-cognitive approach. Focus in facilitation and teaching should be on building business acumen and competency as fundamental in both curriculum design, instruction and assessment (Jansen, 1998). For instance, in another study, researchers found that integrating clear goals related to business needs produced results with direct response to meet needs and dictates of the economy (Morcke,Dornan & Eika, 2013). Furthermore, Curry and Docherty (2017) concluded in their study that OBE (CBL)'s goal is to enhance and maximize organizational perfomarnce through supply of graduates with requisite competencies.

A business school's choice of CBL model should be based on the premise that business and organisational leadership education in tertiary schools should involve learners in the planning and instruction of their learning while at the same time giving them a practise of the real business world through syndications and simulations.

The dynamic nature and dictates of the real business world demands employees who can adapt and apply themselves to learn new knowledge and capabilities in order to compete (Acklin,2013; Bradshaw, Langley, Simon, 1983).

Learning design should be underpinned by strong belief that Organisational Leadership and Management programmes need to foster CBL philosophical constructs as a response to business environment needs, where graduates will ultimately be released to practice. Demonstration of such a response in designing learning programmes, delivery and assessment instruments should on its own support applied experiential learning through practice more than just traditional passive learning (Millar, Groth & Mahon, 2018).

Those institutions of higher learning who have leadership that are fully persuaded by CBL and its benefits to learning and mainstream economy should adopt a learning delivery philosophy that is premised on the following five (5) basic constructs:

a) Learners will advance upon demonstrated discovery and ultimate self-mastery in relation to the subject matter through application of robust knowledge development skills.
b) To be declared competent, outcomes should include explicit, measurable, and portable learning objectives (goals) that will empower learners in achieving those outcomes.
c) Assessment practices should create robust, dynamic and meaningful positive learning experience for learners.
d) Although being on a facilitated front end - learners should receive rapid, differentiated support based on their personal learning needs.
e) Specific learning outcomes put emphasis on demonstrable competencies premised on knowledge, comprehension, ability, application along with development of meta-skills.

In-depth review of these principles will seamlessly integrate well with a business school or institution of higher learning who's core objective is learner's practical ***knowledge development*** and its pursuit is to produce a caliber of learners that understand the real world and how it evolves, embraces the archetypes of economics of the information age and reconstruction and development opportunities in Africa (Abraham, 2009).

I have developed building blocks of knowledge progression, for which knowledge dimensions flow, leading to resulting outcomes. There are six learning areas which emanate from the learning paradigms of Boyatzis (2008). Based on my experiences in workplace teaching and facilitation, studying and through observations of which individuals performed in various environments. Knowledge develops and flows as described in figure 1, factual, conceptual, procedural and meta-cognitive knowledge that all result in differing outcomes. This taxonomy has proven itself useful over my experiences and therefore is meaningful for supporting my original proposition stated early in the reading. The implementation of CBL in education and training will transform African learners. This can be done though knowledge sharing and knowledge understanding. Though there is no empirical study that describes the building blocks of knowledge *Figure 1* covering the information collectively as described in the paper. Each block however, has been studied separately studied and resulting empirical findings supports the author overall findings. The experimental approach by this author is the first of its kind that the author is aware utilizing the blocks in combination as described in this paper.

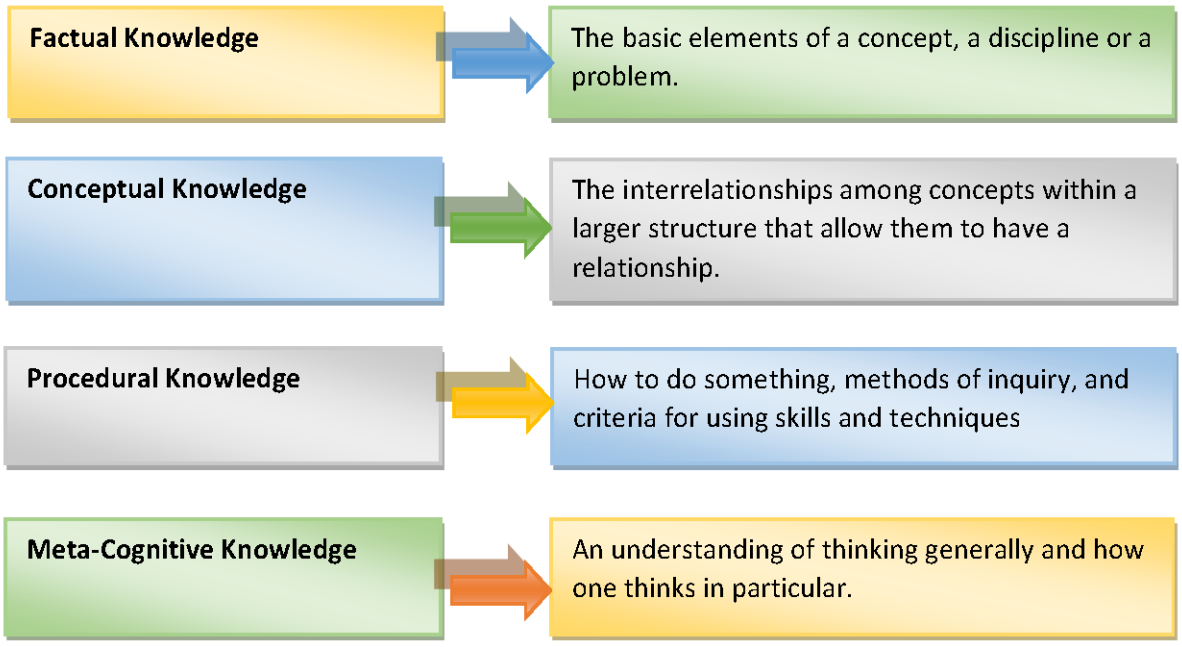
Building Blocks of Knowledge

4. CURRICULUM DESIGN AND APPLICATION OF CBL

Drivers of business in the real world are key to developing learning practices for Organisational Leadership and Management education that is relevant and responsive (Shuayto, 2013). In other words, CBL curriculum designers should bear I mind the skills required to meet the needs of the ever changing, volatile, uncertain, complex and ambiguous global village (Cousins, 2018) Curriculum specifications should seek to clearly demonstrate the three key foundations of OBE/CBLE:

a) Explain or demonstrate what actions the learner must perform to achieve the desired outcome.
b) Clarify the process map for attainment of these outcomes.

Figure 1. Levels of knowledge development – adapted to Bloom's Taxonomy by King Costa



c) Demonstrate critical success factors and performance indicators attributable to attainment of outcomes.

When designing Curriculum, a business school's focus should bear in mind the changing needs of the business world and information age, with special attention to the archetypes of Millennial and Centennial generations as obvious entry level participants into the mainstream business environment (Curry & Docherty, 2017). Curriculum design focus needs to encourage self-reliance, innovation and creativity – desire to explore economic sustenance of communities and job creation modalities, (Kee et Al 2006). Key design focus area needs to align OBE/CBL approach to the following basic imperatives:

a) Learning modules should be synergistic with the entire programme of Organisational Leadership and Management faculty. They should create a seamless fit with other modules as part of a "whole".
b) Learning design should identify and develop a competency framework/model with clear behavioural indicators (outcomes) that encapsulate the cognitive content requirement of the subject.
c) Competency framework should have four quadrants underpinning programme design, namely:
   I. Problem-solving;
   II. Communicating for impact;
   III. Team building and cohesion; and lastly
   IV. Continued personal and professional development.

OBE Curriculum Designers should bear in mind the changing needs of the business world and information age, tap into the archetypes of Millennials and Centennials as key focus of learning institutions but also entry level into the mainstream economic activity. Curriculum should encourage self-reliance,

innovation and creativity – desire to explore economic sustenance of communities and job creation modalities. The model of teaching and instruction should encourage learners to be at the fore-front and cutting edge of their learning development.

5. CONCLUSION

This model is now adopted by many forward thinking institutions and commonly known as "flipped classroom" concept.

Flipped methods focus on flipping the traditional pedagogical approach in adult learning where teaching instruction focuses on content delivery as opposed to androgogical approach that focuses on facilitating knowledge acquisition by putting the learner at the fore-front – learner centeredness. It is interesting to note that way back to the time of the Stoics, Socrates down to Aristotle and other notable ancient philosophers; education was always structured in an outcome based approach. If implemented well, OBE is transformative, innovative and encourages leaner creativity through experiential learning.

Taking it back to Aristotle, your curriculum design must have three main agendas:

a) ***Logos*** (*intellectual agenda*): this fosters transfer of skills and knowledge through clear understanding of application of basic linguistic concepts.
b) ***Ethos*** (*Behavioral agenda*): the programme design must recognize that human beings are likely prone to ***act their way*** into a ***new way of thinking*** than ***think their way*** into a ***new way of acting***. The programme structure needs to engage participants to learn practical leadership experiences that are fully enriched by diverse and multiple behavioral reviews and feedback. Ethics must be core foundation of the programme in order to transform leaders to be generators of a new breed of global business pioneers and change agents.
c) ***Pathos*** (Emotional agenda): The design of the programme should produce 21st century leaders who are emotionally intelligent to understand that followers prefer leaders who practice acceptable engagement methods that stimulate them both intellectually and emotionally than those leaders are intellectually compelling only.

REFERENCES

Abraham, S., & Karns, L. (2009). Do Business Schools Value the Competencies that Businesses Value? *Journal of Education for Business*, *84*(6), 350–356. doi:10.3200/JOEB.84.6.350-356

Acklin, C. (2013). Design management absorption model: A framework to describe and measure the absorption of knowledge by SMEs with little or no prior experience. *Creativity and Innovation Management*, 147–160. doi:10.1111/caim.12022

Boyatzis, R. (2008). Competencies in the 21st Century. *Journal of Management Development*, *27*(1), 5–12. doi:10.1108/02621710810840730

Boyatzis, R. E., Stubbs, E. C., & Taylor, S. N. (2002). Learning Cognitive and Emotional Intelligence Competencies through Graduate Management Education. *Academy of Management Learning & Education*, *1*(2), 150–162. doi:10.5465/amle.2002.8509345

Bradshaw, G., Langley, P., & Simon, H. (1983). Studying scientific discovery by computer simulation. *Science*, *222*(4627), 971–975. doi:10.1126cience.222.4627.971 PMID:17776217

Costa, K. (2019). *Maximizing organizational performance and goal-achievement through competency-based education*. Preprints.

Cousins, B. 2018. Design Thinking: Organizational Learning in VUCA Environments. Academy of Strategic Management Journal, 17(2).

Curry, L., & Docherty, M. (2017). *Implementing competency-based education* (Vol. 10). Collected Essays on Learning and Teaching.

Jansen, J. D. (1998). Curriculum reform in South Africa: A critical analysis of outcomes-based education. *Cambridge Journal of Education*, *28*(3), 321–332. doi:10.1080/0305764980280305

Kee, J., Rodrigues, P., Kundu, S. & Racine, J. (2006). *Entrepreneurial Curriculum - Project Report for JIP Grant*. Academic Press.

Krishna, A. (2013). *From OBE to CAPS: Educator's Experiences of the new Life Skills Curriculum in the Foundation Phase*. University of Kwazulu-Natal.

Mahomed, H. 2004. Challenges in Curriculum Transformation in South Africa. *Fifth Annual Educationally Speaking Conference*.

Millar, C., Groth, O., & Mahon, J. (2018). Management Innovation in a VUCA World: Challenges and Recommendations. *California Management Review*, *61*(1), 5–14. doi:10.1177/0008125618805111

Mokhaba, M. (2005). *Outcomes-Based Education in South Africa Since 1994: Policy Objectives and Implementation Complexities*. University of Pretoria.

Morcke, A. M., Dornan, T., & Eika, B. (2013). Outcome (competency) based education: An exploration of its origins, theoretical basis, and empirical evidence. *Advances in Health Sciences Education: Theory and Practice*, *18*(4), 851–863. doi:10.100710459-012-9405-9 PMID:22987194

Shuayto, N. (2013). Management Skills Desired by Business School Deans and Employers: An Empirical Investigation. *Business Education & Accreditation*, *5*(2), 93–105.

Section 2

Chapter 4
An Analysis of Employer Perceptions of Business Graduate Competencies: A Case of New Zealand

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ABSTRACT

This exploratory study assesses employers' perceptions of the importance and competence levels of performing identified graduates' competencies in the New Zealand public sector. The tertiary education institutions in New Zealand are facing increasing demands from employers and stakeholders. The employers demand that the educational institutions today should provide relevant skillset needed by the current organisations. What kind of skillsets required by employers and what institutes are offering to their graduates, however, are yet to be determined. This study attempts to fill the gap in the literature by examining this in the New Zealand public sector. Therefore, this study will determine what employers' work perceptions are regarding skills needed versus what skills graduates actually bring to the workplace.

INTRODUCTION

There are a number of definitions of competencies that exist in the literature from various perspectives. For instance, Sparrow and Bognanno (1993) note that: "Competencies represent a simple concept, i.e. behavioural repertoires that have been identified as relevant to a particular organisational context that some people can perform better than others" (p. 51). On the other hand, Spencer and Spencer (1993) define the term competency as "an underlying characteristic of an individual that is casually related to

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criterion referenced effective and/or superior performance in a job or situation" (p. 90). This notion is further supported by Cardy and Selvarajan (2006), who found that competencies were the characteristics which could significantly differentiate high-qualified employees from others who showed inferior performance. In short, the competency is "the ability to turn/transform knowledge into action effectively" (Aslan, 2016:13).

Competency models have been proven widely useful as they are in practice among many industries and therefore have become well established (Lucia & Lepsinger, 1999; Lombardi, & Saba, 2010). Similarly, Rothwell and Lindholm (2002) explain that competency models that clarify organisation-specific competencies improve human performance and unify individual capabilities with organisational core competencies. Furthermore, competency models are being used widely in other areas of human resources management to align the goals of an organisation and talents of its workers. This is further supported by a study conducted by Lombardi and Saba (2010) who identified that best-in-class organisations were more likely to have competency models in place than those that did not.

Heneman and Judge (2009) analysed the literature and identified three key strategic reasons for competency modelling: 1) create awareness and understanding of the need for change in business, 2) enhance the skill levels in the workforce, and 3) improve teamwork and coordination. As a result, a number of competency initiatives have been undertaken in education, training and professional development, especially in higher education.

At the higher education level, graduates are expected to bring current relevant knowledge to the company as compared to those without higher education. According to Figueras-Moreno, (2013) in a survey of employers, indicated university graduates are expected to demonstrate involvement, commitment, and flexibility in adapting to a job. In this survey employers three pre-requisites for graduates which responsibility, self-discipline and integrity. However, Harnandez-March, Del Peso and Legeuy (2009) carried out a mixed-method study involving forty in-depth interviews with HR managers/Directors and from a questionnaire targeting 872 Spanish companies. They found that there was the gap exist between current business needs and the education that graduates have upon entering the labour market. This view is supported by Branine (as cited in Tymon (2013)): "Graduate employers are more interested in personal attributes and 'soft skills' than degree classification/disciplines, subjects or university attended" (p. 842).

Tertiary education institutions in New Zealand are also facing increasing demands from employers and other stakeholders. The employers demand that the universities of today should provide relevant skillsets to match their own employer needs. However, the type of skillset required by employers does not match in many cases, what educational institutes are offering to their graduates. There are minimal outputs relating to soft skills such as creative thinking, problem solving, innovation etc (Doyle, 2017). Therefore, this study will serve as an exploratory research for business graduate competencies in meeting the New Zealand public sector needs. These points are also highlighted in the New Zealand Productivity Commission Report – Tertiary Education Issues (New Zealand Productivity Commission, 2016). Hence, the aim of this chapter is to explore the expectations of the public sector employers from the business graduates because the New Zealand public sector is a top employer of business graduates according to the GradNewZealand survey (Wynn, 2020).

This chapter is significant because it identifies conditions that contribute towards business graduates' ability to enhance managerial competence. To date, little research has been dedicated to assessing the effectiveness of applied competences in the New Zealand public sector. This area still needs thorough research, especially with the required and taught competencies. This study contributes to filling the gap in the literature from New Zealand public sector perspective.

Competencies Defined

A comprehensive definition of competency was provided by Society of Human Resource Management (SHRM). According to SHRM (2012): "Competencies are individual characteristics, including knowledge, skills, abilities, self-image, traits, mindsets, feelings, and ways of thinking, which, when used with the appropriate roles, achieve a desired result. Competencies contribute to individual exemplary performance that creates reasonable impact on business outcomes" (p. 5). It means that competency is the capability of the individual who applies or uses knowledge, skills, abilities, behaviors, and personal characteristics to successfully perform critical work tasks, specific functions, or operate in a given role or position. Similarly, Hodges and Burchell (2003) and Parry (1998) define competency in a workplace as a cluster of interconnected cognitive skills (technical knowledge, expertise & abilities), and personal or behavioral characteristics (principles, attitudes, values & motives), which are a function of an individual's personality.

In the human resource management literature, the competency is divided into two categories, soft competencies and hard competencies. In relation to important of hard and soft, Coll and Zegwaard (2006) found that comparison of hard skills and soft skills are important. Alsabbah and Ibrahim (2013) explain the difference between hard and soft skills as: "Hard skills refer to the skills in the technical category, dealing with data and administrative skills. Soft skills are defined as the interpersonal, human, people or behavioral skills needed to apply technical skills and knowledge in the workplace" (p. 68). Furthermore, they found that behavioral (soft) skills such as those gained through curriculum that incorporate critical outcomes such as analytical skills, teamwork, organise and manage oneself, usually deliver more competent and employable graduates. However, a convincing review by McQuade, Hogan, O'Donoghue, Maguire and Murphy (2005) on competency discussion states: "the new environment requires that individuals need to be increasingly flexible, innovative, good communicators and team players, contributing to the strategic goals of the company and increasingly technically/professionally competent. This presents companies, education providers and development agencies with some significant challenges and the opportunity to be creative" (p. 19).

Regarding the competencies and the performance relationship, Assamoi (2015) notes that soft skills are critical requirement for employment and success in work as job specific skills. In line, Hsieh, Lin and Lee (2012) found that: "soft skills were the key in determining the actual tasks being performed because soft skills such as emotional ability led to superior performance more than did intelligence" (p. 28). In another study, Kolibacova (2014) examine the relationship between the competencies of employees and their performance in the company. She found that: "The results of the research suggest that when the competency rate of one employee is a unit higher than the competency rate of another employee, it can be assumed that his performance rate is 7 to 12.5% higher" (p. 1318).

Graduate Competencies Required by Employers

The literature highlights that recent employers expect new graduates entering the workforce to have adequate competencies (cognitive and behavioural skills) that match the organisational needs (Martensen & Gronholdt, 2009; Assamoi, 2015). In a US survey of IT employers, Jackson (2010) note that: "technical skills are important, but without employability skills, technical skills are merely commodities. Employability skills turn intellectual commodities into intellectual capital" (p. 31).

Employability skills can be considered as the transferable skills needed by an individual to make them 'employable'. Al-Ajmi (as cited in Iqbal and Zenchenkov, (2014)) has divided the employability skills into three broad categories 1) Basic skills (i.e. basic skills required by all the graduates) 2) Attributes (i.e. opinions, morale, flexibility and motivation etc.), 3) Knowledge (acquired knowledge). In order to identify the required graduates' competencies, Robinson and Garton (2008) conducted a study in the College of Agriculture, Food and Natural Resources (CAFNR) at the University of Missouri. The findings of their study revealed that problem solving, working independently, and functioning well in stressful situations were the most significant competencies for their jobs. Similarly, Chhinzer and Russo (2018) conducted a study in the Canadian context. The purpose of the study was to explore employer perceptions of graduate student employability by using two-phased approach. The results of the study demonstrated that professional maturity, soft skills (problem solving), continuous learning and academic achievement had a significant relationship with employer perceptions of graduate employability.

Various researchers have suggested the competencies required or expected of graduates. Hodges and Burchell (2003) reported that computer literacy, customer and client service, interpersonal communication and problem solving to be the four most important competencies required of graduates. Furthermore, their study revealed that business employers perceived soft skills more important than technical skills.

Using a qualitative approach, Iqbal and Zenchenkov (2014) investigated Saudi employers' opinion on the performance of graduates working in the business positions and whether there is a gap between graduates and employers on their perceptions of the importance of skills and competencies that are needed by graduates seeking entry-level employment. Their study highlighted that there is vital need of 'soft skill' development in the future graduates. This finding was consistent with the studies conducted by Azevedo, Apfelthaler ad Hurst (2012) and Azevedo, Gomezeli, Andrew, Higson, Caballero and French (2012). Similarly, Aluko (2014), conducted a study to identify the employers' perception on graduate employability in the Nigerian context. The results revealed that, employers do expect graduates to have better understanding of technical and discipline competences from their degrees, however, they also require graduates to demonstrate broader skills and attributes that include team-working, communication, leadership, critical thinking, innovativeness, problem solving and managerial abilities. In line with the above study, Done (2011) and Bovinet (2007) see critical thinking, cross-functional competence, communication skills, global and cultural awareness, full competence in a discipline, technological competence skills and competencies be foremost in a student's skill-set.

Ismail, Youssof and Sieng (2011), in a survey of 749 employers in the services sector of Malaysia, found that among the factors that cause unemployment among graduates, some include the lack of soft skills, high employers' expectation, mismatching and the fluctuation of the country's economy. Related research by Shivoro, Shalyefu and Kadhila (2018) reported that a mismatch exists in responses between stakeholders regarding the attributes that are important for the job market, those that are emphasised in curricula, and those that graduates need more training on.

Although graduates' entry level jobs in public sector vary widely, however, there are some key skills required to succeed at work regardless of their area of specialisations. The identification and development of graduates' competencies is as important to the public sector as they are to other sectors. A study by Dantzer (2000) on the future leaders' competencies in the Canadian public sector. She identified future leadership competencies for the public sector that include leaders, vision, communication, teamwork, cosmopolitan/world view, and ability to learn. Hence, the purpose of this study is to analyze and understand the perception of New Zealand Public sector organisations about business graduates entering employment into their sector. Coupled with this is the analysis of business graduates' perceptions of

how their qualifications are aligned to the needs of the New Zealand public sector organisation. What question are you asking? Why or why not?

RESEARCH QUESTIONS

The purpose of this research is to identify the relevance of the current competencies of business graduates to the job market especially New Zealand public sector. A research was conducted to identify the most sought-after employers among New Zealand's university students and recent graduates. Wynn (2020) noted that: "The results of the study reveal that New Zealand's soon-to-be graduates are especially eager to enter the country's public service. There were 22 government organisations named among the country's Top 100 graduate employers".

In addition, the research attempts to identify the competencies required by the employers (New Zealand public sector) in the future business graduates. Hence, this chapter aims to answer the following research questions:

1. What competencies do the employers of the New Zealand Public sector demand when employing a business graduate?
2. What is the relevance of the current competencies of business graduates to the job market and how was this measured?
3. What are the future competencies that will be required in the job market and employers' expectations from future business graduates?

METHOD

This exploratory study deployed a quantitative (survey) method to the HR managers to collect the data. The respondents of the HR managers in the New Zealand public sector for this study obtained from the Human Resource Institute New Zealand (HRINZ) database.

Sample Size

A sample consisted of about 60 HR managers/Employers with the help of convenient Sampling from the directory of HRINZ managers in Auckland, Wellington and Christchurch. The main concern with these respondents was to involve those respondents who are directly involved in developing or utilising business graduates' competencies and skills. This study was carried out during 2018-19 and the participation was voluntary basis.

A convenience sampling refers to the collection of the information from the population who are conveniently available to provide it. A convenience sampling is the best method to collect the information for the exploratory study (Dörnyei, 2007).

Research Instrument

The questionnaires have already been tested and used in the previous research by the author of the article (Iqbal and Zenchenkov, 2014). The collected data had been analysed through the Microsoft package (Excel) to determine the impact of different parameters. The next section discusses the descriptive analysis.

FINDINGS

Describing the relationship between a sample and its population is very significant and, to convey such a relationship, we must be able to describe it in terms of characteristics that are common to both, the sample and its parent population (Oppenheim, 1992). Therefore, this section is mainly concerned with presenting a descriptive analysis of the sample to provide an overview of the respondent characteristics. It aims to provide a brief description of the respondents' demographic variables

- As we explained, we shared the online link to our respondents.
- 60 HR practitioners/ Employers initiated the online questionnaire. Among 60, only 38 completed the online questionnaires so the rate of return was 63%.
- Among those completed the online questionnaires, 98% respondents were from New Zealand and 2% were serving outside of the New Zealand.
- 70% respondents were part of New Zealand public sector and 27% were not fully part of the public sector.
- Among those from the Public sector, they belong to education (28%), Health (7%) and others (64%) such as Dispute, local govt, cultural, information etc.

Question 1: What competencies do the employers of the New Zealand Public sector demand when employing a business graduate?

1. Technical Skills

According to the respondents, Problem solving (83%), computer literacy (80%) and action plan (71%) were the critical competencies required in the graduates.

2. Interpersonal Skills

On the question of importance of the interpersonal skills and the required competencies in the business graduates, the respondents identified Teamwork (90%), Ability to work under pressure (85%) and Networking skills (84%).

3. Intrapersonal Skills

According to the respondents, effective communication (94%), customer-client centric skills (89%), willingness to learn (86%) and readiness to explore (82%) were the vital competencies required in the business graduates.

Figure 1. Technical Skills

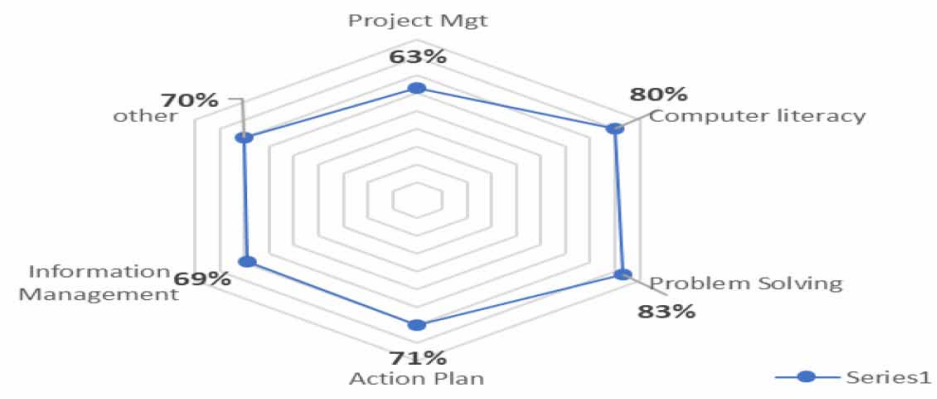
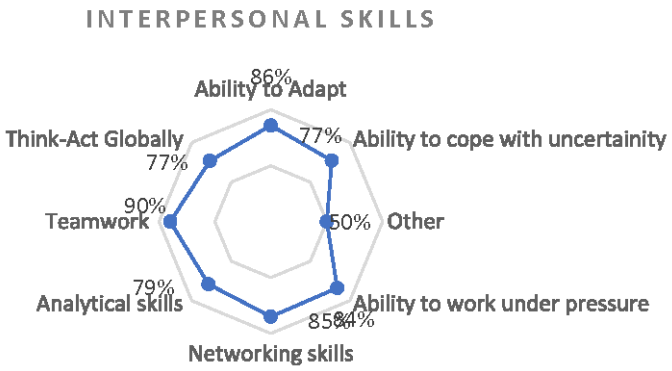


Figure 2. Interpersonal Skills



4. Business Knowledge

When asked to identify the significant skills under the category of business knowledge skills, respondents found cultural awareness and adaptability (86%), knowledge of how to customise a solution to a client (67%) and treaty of Waitangi (67%) critical for business graduates.

Graduate Skills Deficiencies

When the employers and HR in the NZ public sector were asked about the level of skills and the skills lacking among the graduate working in the New Zealand public sector. The respondents found that the technical skills and business skills were adequate but found shortcomings in intrapersonal and interpersonal skills.

Figure 3. Intrapersonal Skills

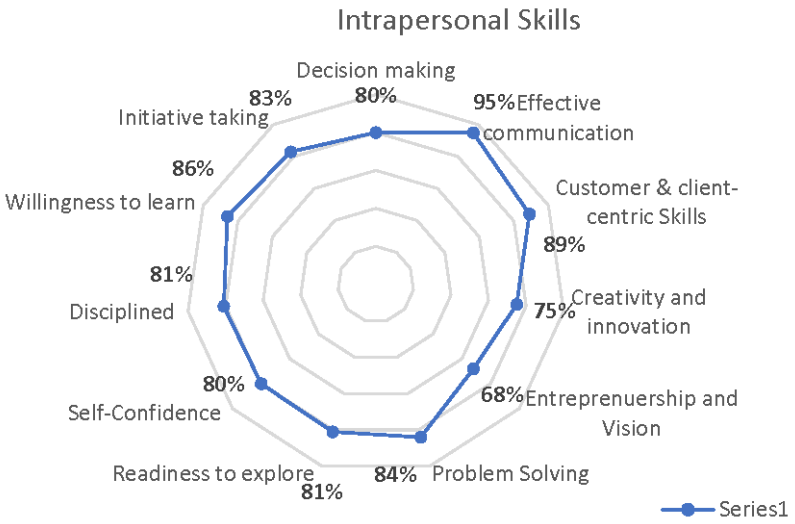
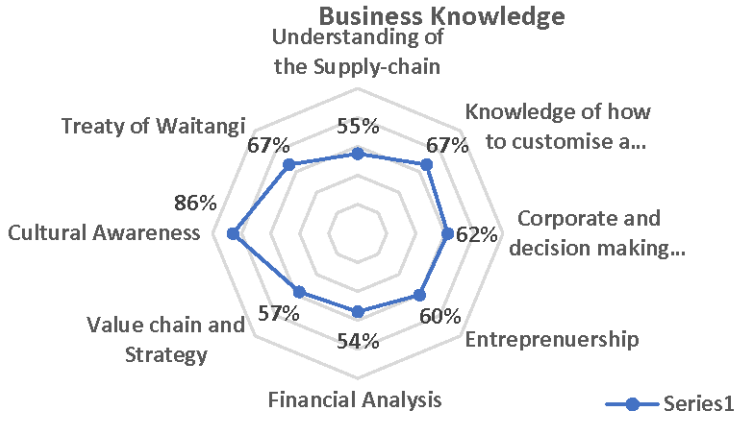


Figure 4. Business Knowledge



Future Competencies that Will be Required in the Future Graduates

When respondents, HR managers and the employers, were asked about the skills required in the future graduates, the respondents identified the competencies that are needed for the future graduates entering the workforce to have the following competencies and rated their importance.

Most of the respondents found that agility, adaptability, interpersonal skills, problem-solving, creativity and leadership are the critical and essential competencies for the future graduates. This finding is consistent with the study conducted by McLaughlin et. al (2017). They conducted the study to identify and describe the core competencies and skills considered essential for success in the health care environment. They found eight overarching themes integral to being successful in the health care environment. The skills they identified are critical thinking and problem solving; collaboration across networks and

Table 1. Graduate Skills Deficiencies

Skills	Critical Skills	Level (Excellent/ Satisfactory/ Needs Improvement)
Technical skills	Problem solving, computer literacy and action plan	**Satisfactory**
Business Skills	cultural awareness and adaptability, knowledge of how to customise a solution to a client and treaty of Waitangi	***Satisfactory***
Intrapersonal Skills	effective communication, customer-client centric skills, willingness to learn and readiness to explore	***Needs Improvement***
Interpersonal Skills	Teamwork, Ability to work under pressure and Networking skills	***Needs Improvement***

Table 2. Competencies and their Importance for the Future Graduates

Competencies	Importance
Agility and Adaptability	Very Important
Interpersonal skills	Very Important
Problems solving and creativity	Very Important
Treaty of Waitangi awareness (Local culture)	Very Important
Initiative and Leadership	Very Important
Organisational Skills	Important
Presentation skills/Communication Skills	Important
Business knowledge	Important
Training and new applications knowledge	Important
Networking and socialisation	Important
Writing skills – Communication	Moderately important

leading by influence; agility and adaptability; initiative and entrepreneurialism; effective oral and written communication; accessing and analysing information; curiosity and imagination; and self-awareness.

The findings of Wongpinunwatana (2019) and Ayling, Hebblethwaite & Kirkland (2019) are also in support of our findings. For instance, Wongpinunwatana (2019) found that students' logical thinking and collaboration directly affect analytical thinking, therefore, these skills are required to solve business problems in the changing environment.

CONCLUSION AND IMPLICATIONS

The results of this study revealed the skills and competencies that public sector employers would like to see in future graduates are technical skills, business skills, customer services, native culture understanding, as well as learning about other cultures. Some respondents highlighted that tertiary students not only require the core competencies (hard skills) but must also have the essential range of broader

people management capabilities (transferrable soft skills) in order to secure employment. Overall, the summary of this study is given below:

- Our study has received mixed responses regarding the business graduates' skills set required by employers.
- Business graduate expectations are misaligned with employers' expectations
- Confusion over whether soft skills (which cannot be taught theoretically but can be learned) were components of their academic studies
- Misunderstanding that whilst hard skills are important, it is how they are applied in work, that makes them transferrable soft skills.

This study has many implications for the Tertiary Education sector and for the future graduates. The main points are presented below:

- New Zealand culture is based on low power distance (Hofstede 2011). According Wei, Sun, Liu, Zhou and Xue (2017): "In societies with low power distance, superiors and subordinates are perceived as partners. Employees consider that they have rights to participate in making decisions that concern them", therefore, it is expected that New Zealand graduates should have an ability to network and work along with colleagues and managers.
- Our graduates not only to have key competencies (skills and knowledge) but the range of broader capabilities necessary for them to know when and how to apply these skills to unique contexts and situations and how to continuously update them.
- International students need to network with locals and learn to integrate well. They need to conduct research on the NZ employment market and the industries they wish to work in.
- Language proficiency and interpersonal skills are highly advantageous especially in the public sector /and local government.
- It has also been observed that graduates have a lack of knowledge or understanding of what local government does and how it fits. So, they need to study the public sector functioning in depth before they apply, therefore, it is suggested that educational institutes should invite guest speakers from the public sector in their respective courses.
- There should be a good working relationship between academia and industry. Working with institutions closely as the final year students complete their projects/thesis is a very good point of the time for employers to be exposed to talented students.
- The New Zealand Tertiary Education sector should equip their future graduates with transferable skills that retain relevance in a changing job market. These skills should be highlighted in the course outlines.
- Some Tertiary education providers are focusing on developing transferable skills; however, they are not well integrated into graduates' assessments/assignments and/ in their certification process.

LIMITATIONS

The current study is subject to some limitations:

1) This study was conducted as small-scale exploratory research. However, it has established certain ground for future research undertakings and may also serve for extension of the research by further in-depth examination of the New Zealand public sector practices.
2) The method of data collection, which is convenience sampling, may have caused the data to be biased or skewed. Therefore, the findings of this study should be interpreted with caution and cannot be generalised to cover the entire population of the New Zealand public sector.

REFERENCES

Aliko, Y. A. (2014). Employers' perception of the employability skills of new graduates in Nigeria. *Journal of Educational Review*, *7*(4), 547–556.

Alsabbah, M. Y. A., & Ibrahim, H. I. (2013). Employee competence (Soft and Hard) outcome Of recruitment and selection process. *American Journal of Economics*, *3*(C), 67-73. https:// doi:10.5923/c.economics.201301.12

Aslan, M. (2016). *Yönetici Yetkinlik Denetimi* [Auditing Management Competency] (MS Thesis). Istanbul Arel University, Istanbul.

Assamoi, C. A. O. (2015). Core competencies development among Science and Technology (S&T) college students and new graduates. *American Journal of Educational Research*, *3*(9), 1077–1084.

Ayling, D., Hebblethwaite, D. E., & Kirkland, K. (2019). Back to the Future: Business workplace competencies revisited. In K. E. Zegwaard & K. Hoskyn (Eds.), *Our place in the Future of Work: New Zealand Association of Co-operative Education 2019 Refereed Conference Proceedings* (pp. 1-6). Academic Press.

Azevedo, A., Apfelthaler, G., & Hurst, D. (2012). Competency development in business graduates: An industry-driven approach for examining the alignment of undergraduate business education with industry requirements. *International Journal of Management Education*, *10*(1), 12–28. doi:10.1016/j.ijme.2012.02.002

Azevedo, A., Gomezelj Omerzel, D., Andrews, J., Higson, H., Caballero, A., & Frech, B. (2012). Satisfaction with knowledge and competencies: A multi-country study of employers and business graduates. *American Journal of Economics and Business Administration*, *4*(1), 23–39. doi:10.3844/ajebasp.2012.23.39

Berhem, B., Salih, A. H., & Yousef, D. A. (2008). The Business curriculum and the future employment market: UAE Business leaders' views. *Education, Business and Society*, *1*(2), 124–137. doi:10.1108/17537980810890301

Bovinet, J. W. (2007). Different Skill-set views: A four-year study of Marketing students, Practitioner and educators. *Journal of Business and Public Affairs*, *1*(1). http://www.scientificjournals.org/journals2007/articles/1023.htm

Calhoun, J. G., Vincent, E. T., Calhoun, G. L., & Brandsen, L. E. (2008). Why competencies in Graduate health management and policy education. *The Journal of Health Administration Education*, *1*(1), 17–37. PMID:19655616

Cardy, R. L., & Selvarajan, T. T. (2006). Competencies: Alternative framework for competitive Advantage. *Business Horizons*, *49*(1), 235–245. doi:10.1016/j.bushor.2005.09.004

Chhinzer, N., & Russo, A. M. (2018). An exploration of employer perceptions of graduate student employability. *Education + Training*, *60*(1), 104–120. doi:10.1108/ET-06-2016-0111

Coll, R., & Zegwaard, K. E. (2006). Perceptions of desirable graduate competencies for science And technology new graduates. *Research in Science & Technological Education*, *24*(1), 29–58. doi:10.1080/02635140500485340

Dantzer, M. R. (2000). *Leadership requirements in the 21st century: The perceptions of Canadian public sector leaders* [Unpublished Doctoral Thesis]. Andrews University.

Done, A. (2011). *Supply Chain Knowledge Management: A Conceptual Framework* (Working Paper WP-900). https://www.iese.edu/research/pdfs/DI-0900-E.pdf

Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.

Doyle, A. (2017). *List of Soft Skills.* https://www.thebalance.com/list-of-soft-skills- 2063770

Ennis, M. R. (2008). *Competency Models: A review of literature and the role of the employment and training administration.* https://www.careeronestop.org/COMPETENCYMODEL/info_documents/OPDRLiteratureReview.pdf

Figueras-Moreno, M. M. (2013). *Model de competències personals per a l'empleabilitat internacional dels alumnes de postgrau*. Universitat Rovira i Virgili.

Heneman, H. G., & Judge, T. A. (2009). *Staffing Organisations*. McGraw Hill.

Hernadez-March, J., Del Peso, M. M., & Leguey, S. (2009). Graduates' Skills and Higher Education: The employers' perspective. *Tertiary Education and Management*, *15*(1), 1–16. doi:10.1080/13583880802699978

Hodges, D., & Burchell, N. (2003). Business graduates' competencies: Employers' views on importance and performance. *Asia Pacific Journal of Cooperative Education*, *4*(2), 16–22.

Hofstede, G. (2011). Dimensionalising Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, *2*(1). Advance online publication. doi:10.9707/2307-0919.1014

Iqbal, A., & Zenchenkov, M. (2014). Market tested business education: Corporate sector perceptions of Saudi graduates. *Asia Pacific Journal of Cooperative Education*, *15*(2), 91–106.

Ismail, R., Youssof, I., & Sieng, L. W. (2011). Employers' perceptions on graduates in Malaysian services sector. *International Business Management*, *5*(3), 184–193. doi:10.3923/ibm.2011.184.193

Jackson, D. (2010). An International Profile of industry-relevant competencies and skills gap in modern graduates. *International Journal of Management Education*, *8*(3), 29–58. doi:10.3794/ijme.83.288

Kelley, C. A., & Gaedeke, R. M. (1990). Student and Employer evaluation of hiring criteria for entry-level marketing positions. *Journal of Marketing Education*, *12*(3), 64–71. doi:10.1177/027347539001200309

Kolibacova, G. (2014). The relationship between competency and performance. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, *62*(6), 1315–1327. doi:10.11118/actaun201462061315

Lombardi, M., & Saba, J. (2010). *Talent Assessment Strategies: A Decision Guide for Organisational Performance*. Aberdeen Group.

Lucia, A. D., & Lepsinger, R. (1999). *Art and Science of Competency Models*. Jossey-Bass.

Martensen, A., & Gronholdt, L. (2009). Quality in higher education: Linking graduates' competencies and employers' needs. *International Journal of Quality and Service Sciences*, *1*(1), 67–77. doi:10.1108/17566690910945877

McLaughlin, J. E., Bush, A. A., Rodgers, P. T., Scott, M. A., Zomorodi, M., Pinelli, N. R., & Roth, M. T. (2017). Exploring the Requisite Skills and Competencies of Pharmacists Needed for Success in an Evolving Health Care Environment. *American Journal of Pharmaceutical Education*, *81*(6), 116. doi:10.5688/ajpe816116 PMID:28970617

McQuade, E., Hogan, D., O'Donoghue, J., Maguire, T., & Murphy, E. (2005). *The competencies for next generation employability.* Ninth Quality in Higher Education International Seminar, Birmingham UK

New Zealand Productivity Commission. (2016). *New models of tertiary education: Issues paper*. www.productivity.govt.NewZealand/inquirycontent/tertiary-education

Oppenheim, A. (1992). *Questionnaire design, interviewing, and attitude measurement*. Pinter Publishers.

Parry, S. B. (1998). Just what is a competency? (And why should we care?). *Training (New York, N.Y.)*, *35*(6), 58–64.

Robinson, J. S., & Garton, B. L. (2008). An assessment of the employability skills needed by graduates in the College of Agriculture, Food and Natural resources at the University of Missouri. *Journal of Agricultural Education*, *49*(4), 96–105. doi:10.5032/jae.2008.04096

Rothwell, W. J., & Lindholm, J. E. (2002). Competency identification, modelling and assessment in the USA. *International Journal of Training and Development*, *3*(2), 90–105. doi:10.1111/1468-2419.00069

Shivoro, R. S., Shalyefu, R. K., & Kadhila, N. (2018). Perspectives on graduate employability attributes for management science graduates. *South African Journal of Higher Education*, *32*(1), 216–232. doi:10.20853/32-1-1578

SHRM Competency Model. (2012). *Society of Human Resource Management, Competency Framework*. https://www.shrm.org/LearningAndCareer/competencymodel/Documents/Full%20Competency%20Model%2011%202_10%201%202014.pdf

Sparrow, P. R., & Bognanno, M. (1993). Competency requirement forecasting: Issues for international selection and assessment. *International Journal of Selection and Assessment*, *1*(1), 50–58. doi:10.1111/j.1468-2389.1993.tb00083.x

Spencer, L. M., & Spencer, S. M. (1993). *Competence at work*. Wiley.

Tymon, A. (2013). The student perspective on employability. *Studies in Higher Education*, *38*(6), 841–856. doi:10.1080/03075079.2011.604408

Wei, C., Sun, X., Liu, J., Zhou, C., & Xue, G. (2017). High Power Distance Enhances Employees' Preference for Likable Managers: A Resource Dependency Perspective. *Frontiers in Psychology*, *7*. Advance online publication. doi:10.3389/fpsyg.2016.02066 PMID:28119654

Wongpinunwatana, N. (2019). Enhancing Students' Creative Thinking Skills through the Process of Teaching Business Research. *Journal of Management Policy and Practice*. doi:10.33423/jmpp.v20i2.2100

Wynn, K. (2020, February 13). Best workplaces revealed: Is yours in the top 100? *NZ Herald*.

Chapter 5
Authentic Leadership Competencies:
Antecedents to Entrepreneurial Emergence

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ABSTRACT

Now, more than ever, while facing the worldwide pandemic COVID-19, communities such as Tasmanian cities are anticipating for the build from the ground up after the pandemic passes. Entrepreneurial emergence will play a crucial role in the re-establishing of Tasmania's identity, as these individuals are described as being motivated by opportunities and are recognized by their distinct eye for creation and innovation. Leadership competencies are the underlying characteristics of an individual, which can be demonstrated though knowledge, values, capabilities, and behaviors. With the COVID-19 pandemic depleting our resources and population, the need for individuals with effective and ethical leadership competencies has seen a rise, sparking the research question: How can authentic leadership competencies create and enable entrepreneurial emergence?

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INTRODUCTION

Now, more than ever, while facing the worldwide pandemic COVID-19, communities such as Tasmanian cities are anticipating for the build from the ground up after the pandemic passes. Entrepreneurial emergence will play a crucial role in the re-establishing of Tasmania's identity, as these individuals are described as being motivated by opportunities and are recognized by their distinct eye for creation and innovation (Rowlands et al., 2020a*).* There are multiple factors which have shown to directly influence entrepreneurial emergence: age, education, and dissatisfaction of past employment (Reynolds et al., 2000).

This Chapter begins with exploring the setting of Tasmania and entrepreneurship, as well as the theorized leadership gap. The leadership gap we refer encapsulates ineffective principles, corrupted organizations, unethical activity, failing coaches, mentors and leaders alike which all have flow-on effects to the community (Campbell et al, 2020*).* Highlighted in the literature review is the strong competencies and behavior's that entrepreneurial leaders use to guide their employees/followers to create better leadership practices among businesses (Avery et al., 2011).

Leadership competencies are the underlying characteristics of an individual which can be demonstrated though knowledge, values, capabilities and behaviors (Gosling, 2006). With the COVID-19 pandemic depleting our resources and population, the need for individuals with effective and ethical leadership competencies has seen a rise. Sparking the research question: *How can authentic leadership competencies create and enable entrepreneurial emergence?*

Authentic leadership is characterized, in part, by an authentic leader who focuses on continuous efforts in improving values, ethics, morals, and behavioral traits, enabling balanced processing for them to be understanding when engaging with both, other leaders and followers (Crawford et al., 2020). The way in which, by bringing an individual self-awareness into the forefront of their conscience it may alter the effects of how leadership competencies become heightened in areas such as entrepreneurial emergence (Rowlands et al, 2020b*).* Leadership competency models assist in educating and allowing leaders to develop behaviors to encourage organizational innovation, creativity and success.

To progress, we investigate how authentic leadership, helps to foster ethical behaviors, values, and beliefs in leaders by highlighting the leadership competencies relevant to emerging Tasmanian entrepreneurs. In summary, this chapter looks to explore ways in which authentic leadership behaviors directly influence leadership competencies and how it may affect the leadership gap evident in Tasmania.

CRITICAL REVIEW METHOD

This Chapter applies the method of a critical literature review, focusing on the research question: *How does authentic leadership competencies create and enable entrepreneurial emergence?* The aim of this Chapter is to develop a critical perspective on the role of authentic leader competencies in enabling entrepreneurship while addressing evident shortfalls in current leadership methods. In doing so, we explore the role of authentic leader competencies in Tasmania and its effect on designing, launching and running businesses and developing entrepreneurial ideas into reality. We also explore the way in which authentic leadership can lead to beneficial outcomes, such as ethical entrepreneurship and business practice.

The rationale for engaging in a critical review over an umbrella review is due to the importance of identification of primary studies in Tasmanian entrepreneurship, which is absent in umbrella reviews (Grant & Booth, 2009). The critical review method evaluates existing research while exploring compet-

ing ideas. Subsequently, it contributes to existing literature or expands on new theory in the topic of authentic leadership competencies. The lack of scholarly consensus surrounding authentic leadership competencies and their effect on entrepreneurial development in Tasmania calls for a more critical and exploratory approach for stakeholders such as business graduates, universities, leaders and organizations. While there are leadership programs and educational courses in Tasmania, including the Tasmanian Leaders Program and Emerging Community Leaders Program, authentic leadership continues to lack much consideration in the Tasmanian entrepreneurship context (Crawford, 2020). It requires a critical lens to examine the potential advantages of its development in leaders throughout Tasmania and internationally.

TASMANIA

Located south of the Australian mainland, boasting untouched landscapes and impressive contrast between snow and surf. Tasmania has developed as the ultimate contemporary tourist destination, likewise, playing host to a variety of entrepreneurial ventures. For example, Tasmania's capital, Hobart is home to the Museum of Old and New Art (MONA) an enterprise of David Walsh. Since it's opening, MONA has created a shift in cultural perspective regarding the value of Tasmanian art and business. Population size, GDP, and tourism have all undergone notable growth, attributable in part to the success of David Walsh's venture (Lehman et al., 2014).

In Tasmania, ecotourism has been touted as the fastest growing sector of tourism (Rowlands et al., 2020a). Domestically speaking, there is a growing desire to engage in holidays that include an ecotourism experience, with 21.6 percent of Australians wanting to an ecotourism experience for their next holiday in 2015, compared to 19.3 percent in 2011 (Roy Morgan, 2015). Tasmania's predisposition for this style of tourism can be traced to the Tasmanian population's general endorsement of environmental preservation (Ford et al., 2009). This endorsement is so significant that economic benefits, or improvements to ease of living are often withdrawn by the populous in favor of conserving the state's natural assets (Cullen-Knox et al., 2017). Nonetheless, mutually beneficial collaborations between the government, non-Government organizations (NGOs), and corporations fuel economic growth and enterprising in Tasmania *(Eversole, 2013).* 2019 hosted a series of entrepreneurial incubators (e.g. Van Diemen Project, 2019), accelerators (e.g. EnergyLab Energy-IoT Accelerator: Ferguson, 2019), startup non-profits (e.g. Start Up Tasmania, 2019), and innovation hubs (e.g. Enterprize, 2019). This sector, however, remains in its infancy. One of the first instances of support networks for entrepreneurs was the Enterprize spaces. With a seed grant of $500,000 from the state government and support from the University of Tasmania, the accelerator focuses on tech-based startups, only established itself in 2016. While enterprising has increased in Tasmania, the sector remains in its infancy, yet to develop the social rules that dictate the style of ventures, as well as the corporate and social ethic that accompany them.

This increase in economic activity has offered foundational growth in underlying economic stabilizers (e.g. unemployment, wage growth and social welfare) in a formerly stagnant State. This outlined situation should be considered as a precedent and a template on the ability to capitalize on a state's individual advantages and even disadvantageous. Tasmania's quick and successful expansion within the tourism industry can be directly linked with the ability of entrepreneurs within the state to seize and capitalize on the natural offering that Tasmania has developed over the last decade. The continued support from the state government and NGO's in relation to budget modifications and preserved perception in rela-

tion to natural assets across the state, has benefited the growing industry and developed a foundational structure for further progress.

THE LEADERSHIP GAP

Effective leadership within any organization is paramount, regardless of its size. The leadership gap is a multileveled challenge faced by many and is caused by a multitude of catalysts: many still foreign to management literature. A lack of motivation within followers can have a direct effect on a leader, as well as causing a decrease in morale, productivity, and innovation, with a flow on effect of limiting an organizations ability to achieve competitive advantage (Hanaysha & Majid, 2018). Motivation can be divided into two forms: intrinsic and extrinsic. Intrinsic motivation refers to the completion of an activity with no further incentive other than the process of carrying out the activity itself (Teo, Lim & Lai, 1999; Benabou & Tirole, 2003). Extrinsic motivation refers to the performance of an activity for the sake of external payoffs and rewards (Teo, Lim & Lai, 1999; Covington & Mueller, 2001). If leveraged in isolation, extrinsic motivation can undermine intrinsic motivation (Benabou & Tirole, 2003), bringing forth the necessity to utilize a combination of the two. Another cause for the leadership gap can be that of poor communication. This can negatively impact productivity, efficiency, as well as the leader/follower relationship (Van Kleef et al., 2009). It can also negatively influence the strategic management of an organization, as well as the implementation of strategies and other causes of change (Barney & Hesterly, 2010). Authentic leadership behaviors, if demonstrated, can improve communication and how individuals respond to change implementation; these behaviors being authenticity, sincerity, positive moral perspective, heightened awareness, and balanced processing (Crawford, Young & Knox, 2020).

Over the years one may observe the ebb and flow of leadership quality within Australia, from political leaders to business leaders alike. In more recent times, past and present Australian Prime Ministers and State Premiers have provided scholars with examples of what good leadership should look like, and what poor leadership looks like. During the COVID-19 pandemic, Prime Minister Scott Morrison's leadership was under scrutiny by his followers; both within the greater population and by fellow politicians. Victorian Premier, Daniel Andrews, led the charge regarding state and national lockdowns (Graham, 2020), with his methods demonstrating a proactive approach in dealing with the plethora of issues facing the social, economic, and physical health of the state of Victoria, and Australia as a whole (Murphy, 2020). The leadership demonstrated during the COVID-19 pandemic may provide scholars with further examples of effective leadership, which could be utilized in future research areas.

Due to a leadership gap, along with poor organizational culture, Tourism Tasmania gained a reputation for workplace bullying and an apparent disregard for everyday pleasantries normally exchanged with staff (Baker, 2019; Denholm, 2019). The establishment of this poor reputation was brought to light following an external investigation into the organization. The leadership gap found occurred during a period of stagnation within the organization, thus suggesting a direct correlation between effective leadership and revenue from operational activities (Rowlands et al., 2020a). Another example which resonates with many, is the Tasmanian public health sector. In recent years, poor leadership along with poor management of resources have caused some healthcare providers to lose accreditation as clinical schools for specialist medical trainees (Dolan, 2018; Fantin, 2017). This issue was likely brought on by funding cuts handed down by the Federal and State Governments (Dunlevy & Abey, 2016; Whitson &

Humphries, 2019), as well as a shortage of specialist medical staff (Zwartz, 2017), following the election of the Liberal Party in 2014.

The leader/follower relationship is a concept which is greatly unexplored (Rowlands et al., 2020b). In the context of this Chapter, the authentic follower is an individual who is self-managing and shares values with their leader, while demonstrating positive engagement and authenticity (Crawford, Young & Knox, 2020). The leader/follower dynamic provides another example of where a leadership gap may occur, although given the lack of exploration into follower theory scholars can only assume the relationship between leaders and followers directly contributes to the leadership gap, rather than definitively state this as fact. Scholars, however, explicate the notion that without followers, there are no leaders (Rowlands et al., 2020b), and as such have less in the way of influence over the actions and behaviors of any followers they do have.

LITERATURE REVIEW

This section begins by considering the literature on leadership competencies, followed by a brief explication of authentic leadership behaviors and traits. The exploration of these three sub-topics will highlight the theoretical foundations of this Chapters' research question: *How can authentic leadership competencies create and enable entrepreneurial emergence?* Furthermore, it will provide a foundational knowledge which will assist in the formulation of the first Hypothesis theorized from our proposed Chapter's discussion.

Leadership competencies are leadership behaviors and skills that can contribute to superior performance, by focusing on specific characteristics of an individual and allowing these attributes to develop with the correct manner and within an applicable environment, such as a business or professional workplace. Sparrow (1997) identified three main categories of leader competencies that covered a range of organizations, which include:

- Management;
- Behavioral
- Organizational

Authentic leadership is a positive organization psychological theory that explicates ethical and effect leadership while demonstrating a relationship with origination success and progress (Crawford 2020). The occurrence of authentic leadership within contemporary organizations allows for sustainable and beneficial growth to occur internally, allowing previously unavailable channels to be accessible. The desirable leadership quality allows for social entrepreneurs to thrive in an economic climate that for many decades, experienced limiting opportunities on the basis of their ethics and morals.

The contemporary economic environment has enabled many individuals to gain entrepreneurial skills and traits that at some point allowed for success to form. This driving situation has not only been beneficial for individuals but also industries and organizations as new leaders and creators have been given more opportunities to perform. The continued emergence of entrepreneurs in the current business atmosphere is a doubled edge sword, it allows for both corporate psychopaths and authentic leaders to exist.

This paper aims to investigate how authentic leaders enable individuals to emerge with positive attributes that can assist industries and workplaces through ethical behaviors, values and beliefs within emerging Tasmanian entrepreneurs.

LEADERSHIP COMPETENCIES

Competencies are the knowledge, values, capabilities and behaviors that individuals establish and demonstrate (Seemiller, 2013b). Leadership competencies can be defined as underlying characteristics of individuals, being causally related to effective, or superior performance within the workplace (Boyatzis, 1982; Bolden & Gosling, 2006). Leadership competences are widespread throughout businesses and professional organizations (Ammons-Stephens et al., 2009; Conger & Ready, 2004). Fundamentally, competencies are an intentional process (Seemiller, 2013b). Consequently, the concept of leadership competencies has been developing in recent literature, being adopted by the American Management Association (Bolden & Gosling, 2006). United Kingdom governmental departments incorporate leadership competencies to develop their own National Occupational Standards in management. As a result, competencies for leadership effectiveness have become a dominant practice (Management Charter Initiative, 1987, 1997).

Given leadership competencies can be represented by three distinct aspects of leadership as identified by Tubbs and Schulz (2006), the notion of leadership competencies is applicable across all attributes of individuals. First, personality is formed early during life and is relatively fixed. Second, values shape people behaviors. Values can be transformed but typically over time through incremental change. Third, leadership development can change an individual's behavior and certainly more easily than personality or values.

In recent years, the need to develop leaders with appropriate competencies has become obvious (Bonnstetter, 2000; Morrison, 2000; Suutari, 2002; Jokinen, 2005). Given this notion, greater emphasis has been placed on the need for one to observe leadership competency as a baseline standard rather than a goal, or as a set of individual competencies as opposed to a series of distributed organizational capabilities (Bolden & Gosling, 2006). This can be applied to the domain of authentic leader behaviors, as it encourages individuals to alter the way they view leadership competency, allowing specific behaviors to become habitual rather than forced. An appropriate competency of an authentic leader would be that of sound ethical decision-making, as well as the ability to influence and motivate followers in order to achieve collective goals, through positive moral perspective and heightened awareness (Luthans & Avolio, 2003; Crawford et al., 2018).

Leadership competency research has evolved over time (Seemiller & Whitney, 2020). Bennis (1984) discovered that corporate and non-for-profit leaders worldwide exhibited the following leadership competencies: attention, meaning, trust and self. Additionally, verbal communication was the most dominant leadership competency found within U.S. higher education providers (Seemiller, 2013a). Leadership competencies have been added following Bennis's research, including a leadership taxonomy Seemiller's (2013b) that expanded upon the sixty Student Leadership Competences (Seemiller & Whitney, 2020). This taxonomy features five hierarchical tiers, four larger categories and six domains that provide a comprehensive leadership education tool. Due to the flexibility within the taxonomy, entrepreneurship could be integrated in by tailoring specific competencies to entrepreneurial needs. For example, leadership resiliency is critical for entrepreneurs who experience failure during the start-up development.

A study conducted by surveying leaders globally, found that the most important leadership competencies could be grouped into five themes (Giles, 2016). First, strong ethics and moral standards (67% selected as 'most important'). Second, self-organizing by imparting goals, objectives, direction and clear communication (56% selected the individual competency clear communication as 'most important'). Third, efficient learning through flexible change options. Fourth, nurturing growth by delivering continuous training and development. Finally, connection and belonging through the following: open communication, next-generation leadership mentality, and provides environment and opportunities for mistakes.

These five elements highlight how ethical decision making and active communication enables followers or employees to engage in innovative, creative and ambitious means (Giles, 2016). Organizations that foster some of the best leadership competency models include General Electric, PepsiCo, Royal Dutch Shell, and Bank of America (Conger & Ready, 2004). For example, PepsiCo initiated the Transformational Leadership Program that launched during 2015 (Benton, 2019). The program provides women with leadership development and decisive skills to successfully enter the workplace. Their program 'developing diverse talent' has had over three hundred women from twenty countries participating. PepsiCo is one company, however, each organization mentioned delivers on their promises (Conger & Ready, 2004). They discuss leadership development and practice it too. While these companies understand that leadership competency models are not the only solution to leadership development, they recognize that competencies have a foundational function.

AUTHENTIC LEADERSHIP

Authentic leadership theory is growing in academia as an essential component in fostering positive organizational growth, sustainability and success. Stemming from positive organizational psychology as a response to unethical business practice (Avolio et al., 2004), the theory is applied to a variety of organizational discussions. Authentic leaderships scope specifically applies behavioral analysis that informs positive and ethical leadership (Gardener et al., 2005; Crawford et al., 2020). This scope incorporates areas as broad as organizational change, to narrower focuses such as social entrepreneurship (Knox et al., 2020) and FinTech firms (Campbell et al., *in-press*). Crawford (et al., 2020, p. 126) highlights five behaviors essential for authentic leadership, specifically his definition of an authentic leader describes an individual who:

influences and motivates followers to achieve goals through their sincerity and positive moral perspective, enabled through heightened awareness and balanced processing.

The incorporation of informal influence, being the ability to motivate followers regardless of rank or position, has bought attention to the other half of the authentic leadership dyad, followership. Although the study of authentic followership has been largely neglected (Aagho, 2009) an increase in authentic leadership produces an increase in authentic followership. Crawford (et al., 2018) provides reasoning behind two behaviors of authentic followers which include, psychological capacity for authenticity and positive organizational engagement. Incorporating considerations of follower behaviour into research on leadership is a crucial step in utilizing the potential of authentic leaders (Knox et al., 2020).

The application of authentic leadership to entrepreneurial studies has been explored in academia, although the translation to competencies and their effect is yet to be discussed. This Chapter offers that

and more, translating behaviours to competencies and synthesising these with the literature on entrepreneurial emergence. While such studies have been avoided in recent literature (Luthans & Avolio, 2002), its re-emergence allows the application of behavioural studies to shift focus onto the processes, as much as outcomes and antecedents. The following section shall explore entrepreneurial emergence prior to our synthesis.

ENTREPRENEURIAL EMERGENCE

The phenomenon of entrepreneurial emergence has been decisively debated in scholarly discourse. Many types have been identified, with different goals and leadership competencies attached. A social entrepreneur for example, "leads social innovation in pursuit of solving wicked problems" (Crawford et al., 2020, p. 285). Consensus lacks on successful ways to foster entrepreneurship, with various skills, and behaviors theorized to have a positive influence on growth (Mirabella & Young, 2012; Knox et al., 2019). Fostering authentic leadership behaviors for example, has been theorized to encourage entrepreneurial development and emergence through appropriate education (Knox et al., 2019). Balancing one's personal intrinsic framework, with the collective interests of their enterprise (an authentic leadership behavior), is necessary for the cognitive processes behind entrepreneurial behavior (Cardon et al., 2012; Mourshed et al., 2017).

The need for authentic leadership has become increasingly prevalent in the corporate, business and entrepreneurial arenas (Platske, 2017). Leaders have not adopted authentic leadership competencies as fast as the adoption of new technology, manufacturing techniques and communication methods. Empowering entrepreneurs and employees to where their skills can be maximized and integrated into organizations, is the direction today's workplace is heading (Platske, 2017). Genuine authentic leaders are however few and far between, with increasing evidence of unethical leadership in complex environments (Crawford et al., 2019; Amir et al., 2014; Bird et al.,2012).

Historically, education paved the way for an individual's career (Dunn & Odom, 2019). Upon graduation, one became qualified in a field and continued to be employed in that specialization until retirement. In an information age, the economy and individuals' career paths have changed. The shift towards multi-track careers has resulted in entrepreneurship becoming a compelling career path or addition to one's field of expertise (Chan et al., 2012). Individuals can start entrepreneurial initiatives or startups while continuing professional positions. Entrepreneurship enables career freedom, flexibility, innovation, satisfaction, and economic progress (Butz et al., 2018; Engle, Schlaegel & Delanoe, 2011; Ramsay et al., 2017). The rapid popularity of self-employment is a testament to the emergence of entrepreneurship prevalent in today's workforce (Geldhof et al., 2014). In Australia, self-employment equates to nearly eighteen percent of the paid workforce (Marriner, 2017).

Entrepreneurship has shaped and bolstered the Tasmanian economy and society, transforming the northern Tasmanian city of Launceston into a vibrant, competitive and compelling city for locals and visitors (Commonwealth of Australia, 2017). Initiatives such as the Great Regional City Challenge in Northern Tasmania have been directed by Community Led Impact Partnerships to allow members of the community to lead entrepreneurial solutions to problems (Aquilina, 2019). Nonetheless, while entrepreneurship in Tasmania is on the rise, the lack of authentic leadership in the island state continues to present problems for its future success and progress (Boscia, 2018).

SYNTHESIS

Throughout this chapter, we have highlighted the critical flaws within entrepreneurial emergence which is hindering the growth and education necessary for leaders to observe and duplicate. With many recent threats such as COVID-19 that has had devastating impacts on the global economy, it is only a matter of time before we witness and surge of entrepreneurial emergence globally. This will deem to be an identity changing movement for rapid rural development areas like Tasmania in the tourism industry. With a 'seeing a light at the end of the tunnel' mindset, leaders are preparing to re-establish organizations and communities with the assistance of government and non-government organizations such as: Enterprize2019, Start-Up Tasmania 2019 and the Van Diemen Project 2019, the community can redevelop its growing economy. Our piece looks to aid in fostering good behavioral foundations for leaders to incorporate into learning new leadership competencies.

Leadership Gap and Competencies

There is an evident leadership gap in entrepreneurial emergence that is detrimental to Tasmania. Studies on leadership gaps reveal that large gaps can lead to less motivated followers which in turn will directly affect the performance of their leader (Tirole, 2003). However, through identifying the types of motivations, intrinsic and extrinsic, demonstrates that with proper use of extrinsic motivation can undermine intrinsic benefits (Benabou & Tirole, 2003). Another factor that shows signs of a leadership gap is the quality of communication between leaders and their followers. Without proper directions and goals, the team suffers from being unable to be productive, efficient and effective in reaching said goal (Campbell et al., 2020). As the relation between leader and followers makes for a solid foundation in a company, the company will suffer greatly from poorly formed principles.

By embodying the five elements of leadership competencies.

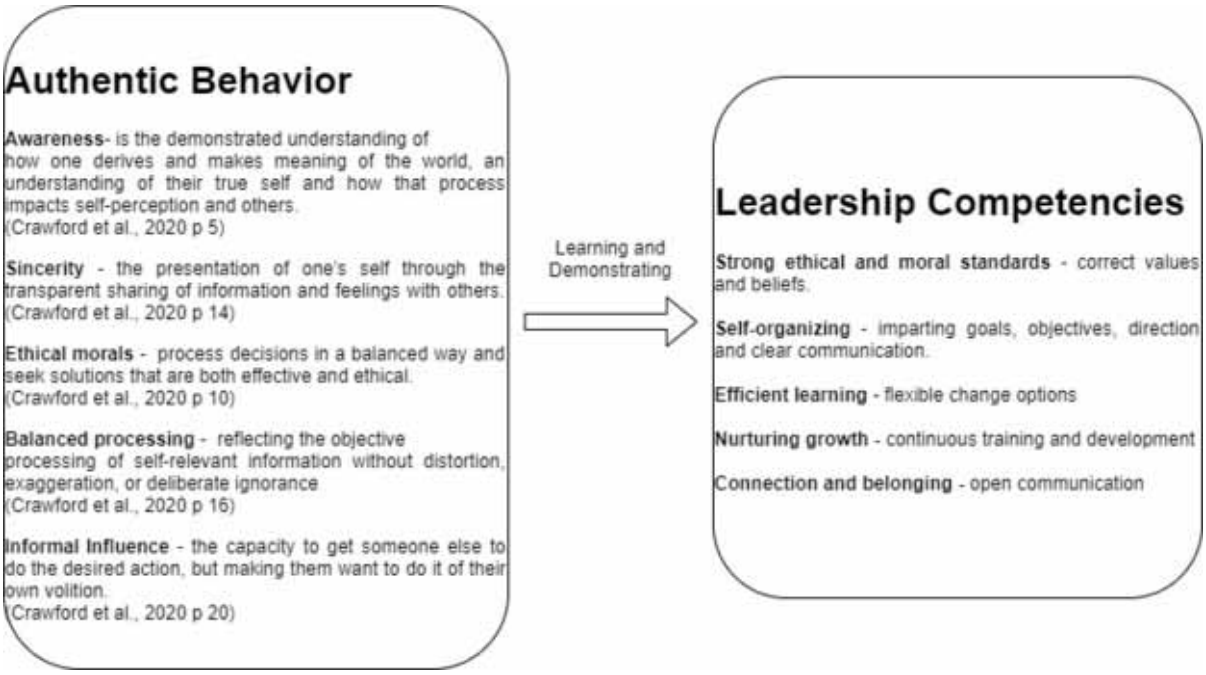
- strong ethics and morals,
- self-organizing by; imparting goals, objectives, direction and clear communication,
- efficient learning through flexible change options,
- nurturing growth by delivering continuous training and development, and;
- connection and belonging thought the following: open communication, 'next-generation leadership' mentality, and provides environment and opportunities for mistakes (Giles, 2016).

We can address the issue of insufficient education and implementation of leadership competencies into entrepreneurial emergence. Leadership competencies offer a possible solution for our defined leadership gap due to the widespread nature of intentional competencies (Seemiller, 2013). For the following explication of authentic leadership, we offer the following synthesis:

Awareness

Authentic leadership considers self-awareness to be an essential part of becoming a more effective leader. Being aware of the surrounding environment, stakeholders, and followers will allow for the leader who is self-aware, to make a decision which would deem to be beneficial to all participating parties (Rowlands et al., 2020b). By maintaining sustained awareness of others, authentic leaders can provide

Figure 1.



solutions to those around them, fostering positive engagements from followers internally and externally to the company forming a culture around the brand and workplace (Crawford et al., 2020). With more research into authentic leadership occurring, literature has emerged correlating self-awareness in a leader and organizational success, growth and participation among entrepreneurial emergence in Tasmania (Rowlands et al., 2020b).

Sincerity

Through sincerity, a leader is able to create a stronger bond with their followers. Elements that make up sincerity are transparency and modesty, these elements contribute to the trustworthiness of a leader and it is also a deeming feature that separates a leader as being authentic or not (Campbell et al., 2020). Sincere behavior by leaders can encourage followers to be more open and transparent with their thoughts and expressions of interest in meetings and group work (Salamzadeh & Kesim, 2015). When starting a business, being sincere is crucial to the businesses' survival and for fostering an honest workplace environment for employees to grow and develop, this is especially important for the anticipated entrepreneurial emergence Tasmania. Without the presence of sincerity in the workforce, there will be a lack of transparent, open and honest relationships between leaders and followers will pose as an obstacle for all emerging entrepreneurs. Causing for the leaders of the organizations to resist listening to criticism, disregarding self-reflection and exposing personal weaknesses which will result in the leader's powers being relinquished, leading to the failure of the newly started business (Salamzadeh & Kesim, 2015).

Ethical morals

Individuals gain respect through their actions which are driven by their sense of ethics and morals. Growing evidence of companies taking advantage of their employees by misleading or exploiting them through dishonesty, deceit, and lack of transparency (Campbell., 2020). When put in the positional of following rules and principles, one would hope that these rules and principles sit well within our range of ethical and moral reasoning. By expanding on ethical morals, we understand that it plays a quintessential part in qualifying as an authentic leader and that an authentic leader's actions can promote and protect the wellbeing of others by making the ethically strong moral choice (Newstead et al., 2019.; Rowlands et al., 2020a). When a leader works towards making more ethically moral decisions, they are deemed to be an authentic leader, as it reflects directly onto the leader's own personal values and beliefs. This bolsters the followers' ability in forming strong connectivity to the words and actions of said leader, enabling the leader to directly influence those internal and external to the space in which they work (Leroy et al., 2015.; Rowlands et al., 2020b). Providing appropriate education of authentic leadership behaviors into potential leadership facilities has been theorized to encourage entrepreneurial development and emergence. This occurs by balancing ones' personal intrinsic framework, with the collective interests of their enterprise is decisive to the cognitive balance processing behind entrepreneurial behavior (Cardon et al., 2012; Mourshed et al., 2017). By having ethical morals when decision-making, allows for the authentic leader to resist temptations, studies have shown that those with a poor sense of morals, is much more likely to succumb to making the wrong decision due to temptation alone. However, if the leader is able to make the correct ethical choice, their followers are also much less likely to succumb to temptation (Cianci et al., 2014; Campbell et al., 2020).

Balanced Processing

Utilizing balanced processing for decision making will result in the most ethically correct solution. For any leaders, being able to keep a calm mind and open-mind towards processing thoughts and weighing up the options are an essential part to being a good leader, by being able to utilize this trained behavior will prove to be a great asset for the leader and those around them (Powell, 2019; Rowlands et al., 2020b). Balanced processing allows for the leader to be able to derive solutions dependent on their environment that has the greatest benefit for all those that may be directly or indirectly affected by the decision, however, if an individual is to demonstrate authenticity is not necessarily a leader (Crawford et al., 2019.; Rowlands et al., 2020a). As Tasmania is preparing for a surge of entrepreneurial emergence as a recovery from the COVID-19 pandemic, carefully considering the surrounding environments and priorities of the communities by leaders utilizing a balanced processing approach will become a big part in forming Tasmania's identity in areas such as tourism (Rowlands et al., 2020a).

Informal influence

Self-growth, self-promotion, and self-love can be promoted through the informal influence a leader may have on their followers. The way that authentic leadership influences an individual's levels of performing and learning leadership competencies go hand-in-hand. As authentic leadership focuses predominantly on self-awareness, strong ethical morals, sincerity, balanced processing, relational transparency between leaders and followers and fostering positive self-development (Crawford et al., 2018). These behavioral

traits sit very close to those of being a competent leader of gaining further; knowledge, values, capabilities, and behaviors (Seemiller, 2013). With the anticipated uprising of entrepreneurs, a good foundation in behavior is proving to be a make or break quality in Tasmania's future entrepreneurial emergence movement.

Future Research Directions

By addressing issues of increasing numbers of leaders behaving in ways that only generate personal gain, we can outline and demonstrate how authentic leadership competencies create and enable better entrepreneurial emergence. With consistent good practices of genuine authentic leadership behaviors, individuals will be able to consolidate on the businesses foundations and raise awareness, forming higher expectations of businesses across Tasmania.

This Chapter expands the entrepreneurial emergence literature through demonstrating the potential of authentic leadership behaviors' in fostering leadership competencies. We propose a concentration on Tasmanian entrepreneurialism due to the diversity of representation as well as its lack of consideration and support by local media.

Our proposed Chapter suggests that when authentic leadership behaviors is concinnated with leadership competencies, far superior outcomes will be achieved from emerging entrepreneurs. Insinuating that this Chapter has the vigor to generate contemporary theories and concepts which amalgamate authentic leadership behaviors, ethics, morals and self-awareness with competencies.

CONCLUSION

This Chapter illustrates the movement in which Tasmania is projecting regarding entrepreneurial emergence and how authentic leadership competencies have a direct positive correlation with fostering good behavior and traits. Our critical review outlined the role of authentic leadership and how it encourages ethical entrepreneurial practices in Tasmania. After our initial exploration into the growing field of entrepreneurship, we presented the current situation of Tasmania, demonstrating its current lack of strong and guided leadership. To remedy this, we introduced the authentic leadership theory. Following this we discussed the theoretical relationship between entrepreneurial emergence in Tasmania and authentic leadership behaviors, in doing so we highlighted that our chapter provides an opening for further research into the untapped potential between authentic leadership and leadership competencies for a more elaborate growth for entrepreneurial emergence in Tasmania.

REFERENCES

Adler, N. J., & Bartholomew, S. (1992). Managing globally competent people. *The Academy of Management Executive*, *6*(3), 52–65.

Amir, E., Kallunki, J. P., & Nilsson, H. (2014). Criminal convictions and risk taking. *Australian Journal of Management*, *39*(4), 497–523. doi:10.1177/0312896213513276

Ammons-Stephens, S., Cole, H. J., Jenkins-Gibbs, K., Riehle, C. F., & Weare Jr, W. H. (2009). *Developing core leadership competencies for the library profession*. Academic Press.

Aquilina, S. (2019, January 12). Great regional city challenge encourages northern Tasmanians to make change. *The Examiner*. Retrieved January 21, 2020, from Accessed 2020, January 21. https://www.examiner.com.au/story/6424641/community-given-chance-to-implement-change/

Australian Government. (2020). *Self-employment – new business assistance with NEIS.* Australian Government, Department of Education, Skills and Employment. Retrieved March 27, 2020, from https://www.employment.gov.au/self-employment-new-business-assistance-neis

Avery, G. C., & Bergsteiner, H. (2011). Sustainable leadership practices for enhancing business resilience and performance. *Strategy and Leadership*, *39*(3), 5–15. doi:10.1108/10878571111128766

Avolio, B., Gardner, W., Walumbwa, F., Luthans, F., & May, D. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *The Leadership Quarterly*, *15*(6), 801–823. doi:10.1016/j.leaqua.2004.09.003

Baker, E. (2019, October 11). Tourism Tasmania says it has made 'internal changes' since 2016 culture report labelled it a 'boys club'. *ABC News*. Retrieved from https://www.abc.net.au/news/2019-10-11/tourism-tasmania-defends-record-after-culture-report/11595532

Barney, J. B., & Hesterly, W. S. (2010). *Strategic management and competitive advantage: Concepts and cases*. Prentice Hall.

Benabou, R., & Tirole, J. (2003). Intrinsic and Extrinsic Motivation. *The Review of Economic Studies*, *70*(3), 489–520. doi:10.1111/1467-937X.00253

Bennis, W. (1984). The four competencies of leadership. *Training and Development Journal*, *38*(8), 14–19.

Benton, A. (2019). The Pepsico transformational leadership program. *Pepsico*. Retrieved March 28, 2020, from https://www.ceoaction.com/actions/the-pepsico-transformational-leadership-program-tlp/

Bird, R., Momenté, F., & Reggiani, F. (2012). The market acceptance of corporate social responsibility: A comparison across six countries/regions. *Australian Journal of Management*, *37*(2), 153–168. doi:10.1177/0312896211416136

Bolden, R., & Gosling, J. (2006). Leadership competencies: Time to change the tune? *Leadership*, *2*(2), 147–163. doi:10.1177/1742715006062932

Bonnstetter, B. J. (2000). The DNA of global leadership competencies. *Thunderbird International Business Review*, *42*(2), 131–144. doi:10.1002/1520-6874(200003/04)42:2<131::AID-TIE1>3.0.CO;2-2

Boscia, S. (2018). Launceston Chamber of Commerce's 2018 awards launch in June. *The Examiner*. https://www.examiner.com.au/story/5403872/launceston-chamber-of-commerces-2018-awards-launch-in-june/

Boyatzis, R. E. (1982). *The competent manager: A model for effective performance*. John Wiley & Sons.

Brake, T. (1997). *The global leader. Critical factors for creating the world class organisation*. Irwin Professional.

Brake, T., Walker, D. M., & Walker, T. (1995). *Doing business internationally. The guide to cross-cultural success*. Irwin Professional.

Butz, N. T., Hanson, S., Schultz, P. L., & Warzynski, M. M. (2018). Beyond the Big Five: Does grit influence the entrepreneurial intent of university students in the US? *Journal of Global Entrepreneurship Research*, *8*(1), 1–16. doi:10.118640497-018-0100-z

Campbell, T., Knox, M., Rowlands, J., Cui, A., & De Jesus, L. (in press). Leadership in FinTech: Authentic leaders as enablers of innovation and competitiveness in financial technology firms. In Fostering Innovation and Competitiveness with FinTech, RegTech, and SupTech. Hershey, PA: IGI Global.

Chan, K. Y., Moon-ho, R. H., Chernyshenko, O. S., Bedford, O., Uy, M. A., Gomulya, D., ... Phan, W. M. J. (2012). Entrepreneurship, professionalism, leadership: A framework and measure for understanding boundaryless careers. *Journal of Vocational Behavior*, *81*(1), 73–88. doi:10.1016/j.jvb.2012.05.001

Chan, K. Y., Moon-ho, R. H., Chernyshenko, O. S., Bedford, O., Uy, M. A., Gomulya, D., ... Phan, W. M. J. (2012). Entrepreneurship, professionalism, leadership: A framework and measure for understanding boundaryless careers. *Journal of Vocational Behavior*, *81*(1), 73–88. doi:10.1016/j.jvb.2012.05.001

Commonwealth of Australia. (2017). *Smart Cities Plan: Launceston City Deal*. Launceston: Commonwealth of Australia.

Conger, J. A., & Ready, D. A. (2004). Rethinking leadership competencies. *Leader to Leader*, *2004*(32), 41–47. doi:10.1002/ltl.75

Covington, M. V., & Mueller, K. J. (2001). Intrinsic versus extrinsic motivation: An approach/avoidance reformulation. *Educational Psychology Review*, *13*(2), 157–176. doi:10.1023/A:1009009219144

Crawford, J. (2019, January 12). A leadership revolution is required. *The Examiner*, Retrieved January 21, 2020, from Accessed 2020, January 21. https://www.examiner.com.au/story/5842872/tasmanian-leadership-revolution-required/

Crawford, J., Dawkins, S., Martin, A., & Lewis, G. (2018). Conceptualising authentic followers and developing a future research agenda. In *Authentic leadership and followership* (pp. 271–293). Palgrave Macmillan. doi:10.1007/978-3-319-65307-5_11

Crawford, J., Dawkins, S., Martin, A., & Lewis, G. (2020). Putting the leader back into authentic leadership: Reconceptualising and rethinking leaders. *Australian Journal of Management*, *45*(1), 114–133. doi:10.1177/0312896219836460

Crawford, J., Kelder, J., & Knox, M. (2020). What Does It Take to Be a Social Entrepreneur?: Authentic Leaders and Their Effect on Innovation. In Ç. Doğru (Ed.), *Leadership Styles, Innovation, and Social Entrepreneurship in the Era of Digitalization* (pp. 282–310). IGI Global. doi:10.4018/978-1-7998-1108-4.ch011

Crawford, J., Young, S., & Knox, M. (2020). Following Through the Good and the Bad? Building a Positive Change Culture with Authentic Followers. In S. Nawaz Khan (Ed.), Leadership and Followership in an Organizational Change Context. Hershey, PA: IGI Global.

Cullen-Knox, C., Eccleston, R., Haward, M., Lester, E., & Vince, J. (2017). Contemporary Challenges in Environmental Governance: Technology, governance and the social licence. *Environmental Policy and Governance*, *27*(1), 3–13. doi:10.1002/eet.1743

De Ville, H. G. (1986). Review of vocational qualifications in England and Wales: a report by the Working Group, April 1986. Manpower Services Commission and Dept. of Education and Science.

Denholm, M. (2019, October 11). Leaked report reveals 'unhealthy' workplace culture at tourism Tasmania. *The Australian*. Retrieved from https://www.theaustralian.com.au/travel/leaked-report-reveals-unhealthy-workplace-culture-at-tourism-tasmania/news-story/06e6fbdd33e5d06abaadccd21d2c0f86

Dolan, C. (2018, March 22). LGH loses emergency medicine training accreditation. *The Examiner*. Retrieved from https://www.examiner.com.au/story/5299459/lgh-loses-emergency-medicine-training-accreditation/

Dunley, S., & Abey, D. (2016, March 11). Federal Government cuts to create $1.1 billion black hole in health budget. *The Mercury*. Retrieved from https://www.themercury.com.au/news/politics/federal-government-cuts-to-create-11-billion-black-hole-in-health-budget/news-story/9b61aa1d262cf62dd2d3a9a43cf3e792

Dunn, A. L., & Odom, S. F. (2019). The motivation and intent toward leadership and entrepreneurship of undergraduate students enrolled in academic leadership programs. *Journal of Leadership Education*, *18*(4). Advance online publication. doi:10.12806/V18/I4/R10

Engle, R. L., Schlaegel, C., & Delanoe, S. (2011). The role of social influence, culture, and gender on entrepreneurial intent. *Journal of Small Business and Entrepreneurship*, *24*(4), 471–492. doi:10.1080/08276331.2011.10593549

Enterprize. (2019). Tasmanian startups, prepared for global success. *Enterprize*.

Eversole, R. (2013). Social enterprises as local development actors: Insights from Tasmania. *Local Economy*, *28*(6), 567–579. doi:10.1177/0269094213496753

Fantin, E. (2017, August 9). Royal Hobart Hospital loses psychiatry training accreditation. *ABC News*. Retrieved from https://www.abc.net.au/news/2017-08-09/hobart-hospital-psychiatrist-training-accreditation-stripped/8789890

Ferguson, M. (2019). Powering up energy entrepreneurs. *Tasmanian Liberals*. Retrieved January 20, 2020, from https://www.tas.liberal.org.au/news/powering-energy-entrepreneurs

Ford, R., Williams, K., Bishop, I., & Webb, T. (2009). A value basis for the social acceptability of clearfelling in Tasmania, Australia. *Landscape and Urban Planning*, *90*(3-4), 196–206. doi:10.1016/j.landurbplan.2008.11.006

Geldhof, G. J., Weiner, M., Agans, J. P., Mueller, M. K., & Lerner, R. M. (2014). Understanding entrepreneurial intent in late adolescence: The role of intentional self-regulation and innovation. *Journal of Youth and Adolescence*, *43*(1), 81–91. doi:10.100710964-013-9930-8 PMID:23430563

Giles, S. (2016). The most important leadership competencies, according to leaders around the world. *Harvard Business Review*, 15.

Graham, J. (2020, March 26). Coronavirus crisis: Victorian Premier Daniel Andrews leads the charge for a Stage 3 lockdown. *Canberra Times*. Retrieved from https://www.canberratimes.com.au/story/6698303/vic-premier-andrews-finds-an-ally-in-charge-for-a-stage-3-lockdown

Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal*, *26*(2), 91–108. doi:10.1111/j.1471-1842.2009.00848.x PMID:19490148

Hanaysha, J. R., & Majid, M. (2018). Employee motivation and its role in improving the productivity and organizational commitment at higher education institutions. *Journal of Entrepreneurship and Business*, *6*(1), 17–28. doi:10.17687/JEB.0601.02

Jokinen, T. (2005). Global leadership competencies: A review and discussion. *Journal of European Industrial Training*, *29*(3), 199–216. doi:10.1108/03090590510591085

Knox, M., Crawford, J., & Kelder, J.-A. (2020). Developing authentic leadership and fostering social entrepreneurial innovation. In A. Ayandibu (Ed.), *Reshaping entrepreneurship education with strategy and innovation*. IGI Global.

Knox, M., Crawford, J., & Young, S. (2020). Ecotourism Emergence in Tasmania through Social Entrepreneurs and Authentic Leaders. In Global Entrepreneurial Trends in the Tourism and Hospitality Industry. Hershey, PA: IGI Global. doi:10.4018/978-1-7998-2603-3.ch005

Kotter, J. P., & Schlesinger, L. A. (1979). *Choosing strategies for change*. Harvard Business Review.

Lehman, K., Ronald Fillis, I., & Miles, M. (2014). The art of entrepreneurial market creation. *Journal of Research in Marketing and Entrepreneurship*, *16*(2), 163–182. doi:10.1108/JRME-09-2013-0024

Leroy, H., Anseel, F., Gardner, W. L., & Sels, L. (2015). Authentic leadership, authentic followership, basic need satisfaction, and work role performance: A cross-level study. *Journal of Management*, *41*(6), 1677–1697. doi:10.1177/0149206312457822

Luthans, F., & Avolio, B. J. (2003). Authentic leadership development. *Positive Organizational Scholarship, 241*, 258.

Management Charter Initiative (MCI). (1987). *National Occupational Standards in Management*. Management Charter Initiative.

Management Charter Initiative (MCI). (1997). *National Occupational Standards in Management*. Management Charter Initiative.

Marriner, D. (2017). Wave of the future: self-employed numbers on the rise. *Certica.* Retrieved March 27, 2020, from https://certica.com.au/wave-future-self-employed-numbers-on-the-rise/

Miller, L., Rankin, N., & Neathey, F. (2001). *Competency Frameworks in UK Organizations*. CIPD.

Mirabella, R., & Young, D. R. (2012). The development of education for social entrepreneurship and nonprofit management: Diverging or converging paths? *Nonprofit Management & Leadership*, *23*(1), 43–57. doi:10.1002/nml.21049

Morrison, A. J. (2000). Developing a global leadership model. *Human Resource Management*, *39*(2-3), 117–131. doi:10.1002/1099-050X(200022/23)39:2/3<117::AID-HRM3>3.0.CO;2-1

Mourshed, M., Krawitz, M., & Dorn, E. (2017). *How to improve student educational outcomes: New insights from data analytics.* McKinsey & Company.

Murphy, K. (2020, March 25). It's not working: Scott Morrison's late-night coronavirus messages only sow confusion. *The Guardian*. Retrieved from https://www.theguardian.com/australia-news/2020/mar/25/its-not-working-scott-morrisons-late-night-coronavirus-messages-to-the-nation-only-sow-confusion

Newstead, T., Dawkins, S., Macklin, R., & Martin, A. (2019). The virtues project: An approach to developing good leaders. *Journal of Business Ethics*. Advance online publication. doi:10.100710551-019-04163-2

Pepsico. (2019). The Pepsico transformational leadership program. *Pepsico*. Retrieved March 27, 2020, from https://www.ceoaction.com/actions/the-pepsico-transformational-leadership-program-tlp/

Platske, L. M. (2017, December 20). Why we need authentic leaders. *Upside Thinking*. Retrieved January 21, 2020, from Accessed 2020, January 21. https://upsidethinking.com/2017/12/20/need-authentic-leaders/

Powell, D. (2019). Women-only ride –sharing startup Shebah bags $3 million in biggest-ever equity crowdfunding raise. *Smart Company.* Retrieved March 22, 2020, from https://www.smartcompany.com.au/startupsmart/news/shebah-3-million-equity-crowdfunding/

Ramsay, J. E., Pang, J. S., Ho, M. H. R., & Chan, K. Y. (2017). Need for power predicts career intent in university students. *Journal of Career Assessment*, *25*(3), 389–404. doi:10.1177/1069072716639690

Rankin, N. (2002). Raising performance through people: The ninth competency survey. *Competency and Emotional Intelligence*, *3*, 2–21.

Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M., & Autio, E. (2000). *Global Entrepreneurship Monitor: 2000 Executive Report*. Kauffman Center for Entrepreneurial Leadership.

Rowlands, J., Knox, M., Campbell, T., Cui, A., & De Jesus, L. (2020a). Leadership in Tourism: Authentic leaders as facilitators of sustainable development in Tasmania tourism. In Role of Tourism in Acheving the Susutainable Development Goals. Hershey, PA: IGI Global.

Rowlands, J., Knox, M., Cui, A., Campbell, T., & De Jesus, L. (2020b). Will they, or won't they? Understanding Nascent Entreprenurship and Creating New Ventures. In Challenges to Nascent Entreprenurship and Creating New Ventures. Hershey, PA: IGI Global.

Roy Morgan. (2015). *Eco-holidays still all too rare for Australian travellers*. Roy Morgan Research.

Salamzadeh, A., & Kawamorita Kesim, H. (2015). *Startup companies: Life cycle and challenges*. In *4th International conference on employment, education and entrepreneurship (EEE*), Belgrade, Serbia.

Seemiller, C. (2013). *The student leadership competencies guidebook: Designing intentional leadership learning and development*. John Wiley & Sons.

Seemiller, C. (2013a). *The student leadership competencies dataset*. Unpublished raw data.

Seemiller, C. (2013b). *The student leadership competencies guidebook: Designing intentional leadership learning and development*. John Wiley & Sons.

Sparrow, P. R. (1997). Organizational competencies: Creating a strategic behavioural framework for selection and assessment. International Handbook of Selection and Assessment, 343-368.

Start Up Tasmania. (2019). About. *Start Up Tasmania.* Retrieved January 20, 2020, from https://startuptasmania.org.au/about/

Suutari, V. (2002). Global leader development: An emerging research agenda. *Career Development International*, *7*(4), 218–233. doi:10.1108/13620430210431307

Teo, T. S. H., Lim, V. K. G., & Lai, R. Y. C. (1999). Intrinsic and extrinsic motivation in Internet usage. *International Journal of Management Sciences*, *27*(1), 25–37. doi:10.1016/S0305-0483(98)00028-0

Tubbs, S. L., & Schulz, E. (2006). Exploring a taxonomy of global leadership competencies and meta-competencies. *The Journal of American Academy of Business, Cambridge*, *8*(2), 29–34.

Van Diemen Project. (2019). Incubators. *Van Diemen Project*. Retrieved January 20, 2020, from https://vandiemenproject.com.au/incubators/

Van Kleef, G. A., Homan, A. C., Beersma, B., Van Knippenberg, D., Van Knippenberg, B., & Damen, F. (2009). Searing sentiment or cold calculation? The effects of leader emotional displays on team performance depend on follower epistemic motivation. *Academy of Management Journal*, *52*(3), 562–580. doi:10.5465/amj.2009.41331253

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management*, *34*(1), 89–126. doi:10.1177/0149206307308913

Whitson, R., & Humphries, A. (2019, July 29). Royal Hobart Hospital staff warned to brace themselves for $50m cut to budget. *ABC News*. Retrieved from https://www.abc.net.au/news/2019-07-29/royal-hobart-hospital-budget-50m-cuts/11363310

Zwartz, H. (2017, November 20). Specialist shortage in Tasmania drives patients interstate to avoid 'unacceptable' wait times. *ABC News*. Retrieved from https://www.abc.net.au/news/2017-11-20/patients-falling-through-cracks-due-to-shortage-of-specialists/9167618

Chapter 6
Administrative Leadership Mindset and Philosophical Approaches:
Qualitative Method, Conceptual Framework, Consequentialism, and Capital

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ABSTRACT

Corrections is a multi-layered business containing all aspects of life for the employees, clients/inmates, and the general public. Therefore, the findings of the study are transferable to many types of administrators. The chapter uses a case study approach and qualitative research methods. The study findings focuses on corrections administrative leadership mindset, philosophical approaches, and practice policies.. The conceptual and theoretical approaches included effective corrections administrators are promoting the growth of social capital (e.g., social skills and relationships), human capital (employable skills), and cultural capital (e.g., community and public safety). Four state prison wardens/administrators participated in this study. Data was collected via Creswell's in-depth portrait of cases: three-part series of semi-structured interviews. Four themes emerged during data analysis. This chapter focuses on the fourth theme and the conceptual framework.

INTRODUCTION

A current challenge facing the criminal justice arena is that many corrections administrators are retiring and prompting a predicted fear of a correctional administer shortage. Additional concerns have been raised regarding the lack of research on how to replace equally effective corrections administrators (Harper, 2015; Harper, 2016; Smith, Stinchcomb, McCampell & Mancini, 2011; Stinchcomb, 2011). Further, all the administrative efforts are expected to be a force of positive impact. Despite attempts to reduce

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crime and promote public safety, citizens and community leaders, including corrections administrators, continue to face criticism, for their efforts (Caporizzo, 2011; Federal Interagency Reentry Council (FIRC), 2016; Swanson, Rohrer, & Crow, 2010). Corrections leaders are expected to work with and in a variety of contexts. Reentry programs are showing promise, when administered effectively (Erisman, 2015; Harper, 2015; Stinchcomb, 2011; Tolbert, 2012; Tolbert & Rasmussen, 2016). Reentry programs include but are not limited to training, education and mental health for criminal offenders being housed in prison. Successful corrections administrators are positively effecting recidivism, reducing collateral consequence, and promoting growth of human capital (e.g., employability), social capital (e.g., social skills and relationships), and cultural capital (e.g., community and public safety), (Hoge, Andrews, & Leschied, 1996; MacMillan, & McMorris, & Kruttschnitt, 2004; Moore, & Recker, 2013). Effective corrections administrators not only manage their facilities daily operations, they also provide effective reentry programming to provide criminal offenders strong chance of success once they return to their communities. Offenders being housed in the prison are also labeled inmates. This chapter discusses the qualitative case-study research method, the consequentialism conceptual framework, summarizes findings and their connection to each other.

BACKGROUND

The main goal of correctional reentry programs is to increase public safety and reduce the impact of collateral consequences by focusing on the whole person (Davis, Bozick, Steele, Saunders, & Mile, 2013; Erisman, 2015; FIRC, 2016; Second Chance Act, FY 2013, n.d). The scope of reentry programs for criminal offenders includes secondary and post-secondary education, vocational/technical training, mental health services, substance abuse recovery, as well as, approaches to further connect of individuals within their community (Caporizzo, 2011; Preparation prisoners for reentry, n.d.; Reid, 2012; Siegel, 2016). Reentry programs promote system-wide adjustments, which work to affect the operating procedures in areas such as community policing procedures, daily operations, in correctional facilities, courtrooms, and pre/post-release supervision (Caporizzo, 2011; FIRC, 2016; Office of Justice Programs (OJP), 1999; Swanson et al, 2010). Additionally, the criminal justice reentry programs focus on public safety by promoting the inmates'(offender in prison custody) workability, and mental stability. While many still consider incarceration rates high, criminal reentry education programs are demonstrating success in reducing recidivism (Davis et al, 2013; United States Department of Justice, 2013).

The success of any crime reduction strategy is measured by the recidivism rate which is frequency in which criminal offenders continue to engage in criminal activity. To recidivate is when a previous offender commits an additional crime that forces a return to the criminal justice system (Siegel, 2016). High recidivism rates are considered an additional threat to public safety. Each new criminal offense creates a new victim, which in turn, can overburden the criminal justice system producing additional strains on the available resources (Caporizzo, 2011; Davis & Bozick, n.d.; Department of Justice (DOJ), 2013; Malcom & Seibler, 2016). The Bureau of Justice (BOJ) Statistics (2016) investigated recidivism rates from 2005-2010, by following prisoners released in 30 states. More than 404,638 were released in 2005; 299,430 (56.7%) of the released prisoners were rearrested within the first year, 274,345 (67.8%) within three years, and 313,999 (76.6%) within five years (Durose et al., 2014). Kaeble & Glaze (2016) documented 700,000 of the 6,741,400 individuals supervised, by the United States adult correctional system were released, in 2015. Applying Durose et al. (2014) findings to the 2015 statistics, 396,900

former prisoners would be expected to be back in the criminal justice system within the first year, 474,600 within three years, and 536,200 within five years. Additionally, ninety-five percent, of the 700,000 state/federal prisoners, reenter society unprepared, amplifying the need for effective reentry programs (Bureau of Justice Assistance (BOJA), 2013; Davis & Bozick, n.d.).

CORRECTIONS LEADERS ARE REENTRY FOCUSED

Successful reentry education programs push the inmates toward becoming productive, autonomous, and contributing members of their community (Erisman, 2015; FIRC, 2016; Second Chance Act, FY 2013; USDE, n.d.). Criminal justice **reentry** education programs are designing methods to improve the relationship an inmate has with themselves, their families, their community, and their culture (Davis et al, 2013; FIRC, 2016; Lederman et al, 2000). Research supporting reentry program development has determined that the criminal justice system benefits from engaging in purposeful activities, such as high-school equivalency completion, vocational training, technical training, college courses, drug rehabilitation, and supplemental courses for self-improvement (Crabtree, Ohm, Wall, & Ray, 2016; Delisi & Conis, 2010; Davis et al, 2013; Erisman, 2015). As with all new programs and initiatives, effective leadership is critical, for success.

The successful leaders of reentry education programs are effectively shifting the direction of the offenders' attention away from criminal behavior, and towards becoming law-abiding citizens (Davis et al, 2013; Second Chance Act Public Law 110-199). Participants in criminal justice reentry education programs, while incarcerated or recently released, have 43% lower chance at re-entering the criminal justice system as compared to those not participating in a reentry program (Davis et al, 2013; Durose et al., 2014). Successful criminal reentry education programs involve federal and state correctional programs working, side-by-side, with organizational agencies (FIRC, 2016; Halkovic & Fine, 2013; Prison Fellowship, n.d.; USDE, 2016), and community outreach programs, such as coordinating access to post-release education and employment opportunities (FIRC, 2016; OJP,1999, Rosenthal, NaPier, Warth, & Weissman, 2015, Tolbert, 2012). The federal government officials have promoted research, collected data, and provided a reentry model for others to follow, in order to assist with such programming (Erisman, 2015; Davis et al, 2013; Tolbert, 2012). Such efforts provide curriculum expectations, and specific methods for implementation. The number of professional positions involved in reentry efforts is expanding (Davis et al, 2013; Erisman, 2015; Federal Interagency Reentry Council, 2016).

Issues, Controversies, and Problems

This research focused on the qualities of the highly successful corrections administrators. Harper (2015), completed a study that identified the traits of emotional intelligence and self-efficacy, to be very important qualities for successful leaders in the corrections industry. Additionally, Harper (2015) points out that correctional leadership is "virtually unexamined" (p. 1). There is a shortage of literature regarding the skillset for the effective executive positions in correctional settings (Harper, 2015). The industry is losing executives to retirement at a rapid pace (Harper, 2015; Stinchomb, 2011). The industry is concerned about its retention and replacement of successful leadership. There is an increasing concern for how to attract quality people, to the industry that will be effective, in the executive positions (Harper, 2015; Harper, 2016; Stinchomb, 2011; Tossi, 2012). Competency models have been created and are used

for assessments (Smith, Stinchcomb, McCampbell, & Mancini, 2011). Unfortunately, the qualities of the successful corrections administrators have been shielded from research (Harper, 2015; Stinchcomb, 2011). There is no shortage of conversation regarding the professional development of correctional administrators, but no one entity responsible for training and development. These facts compound the lack of focus on leadership and/or administrative qualities that promote success (Harper, 2015).

Purpose

Given the wide-ranging success of reentry programs across the United States, the purpose of this multiple case study is to determine the attributes and philosophical perspectives and operational methods of corrections administrators within successful reentry programs.

Research Question

What are the philosophical perspectives and operational methods of senior administrators at correctional institutions whose leadership results in low recidivism rates?

Significance of the Study

This study will respond to the void in the current research as discussed by Harper (2015) and Stinchcomb (2011). Additionally, this study worked to offer the successful strategies and/or mindsets that produce success in the field of corrections. Current research demonstrates reduced recidivism rates because of participating in reentry education programs with effective leadership. Current assessments of reentry education programs and staffing are limited to types of program, and education/training/certification requirement, but they do not address traits of the leaders. This study provides new insights regarding the shared traits of reentry leaders and the types of leadership methods they are practicing.

Consequentialism as the Conceptual Framework

Reentry education programs have positive effects on the inmates' social, human, and cultural capital (Bales & Mears, 2008; Davis et al, 2013; Department of Education, n.d.; Lindquist, Hardison, Rempel, Shannon, 2003). When successfully implemented, reentry programs can also have a positive effect on public safety, recidivism, and working to reduce the collateral consequences associated with incarceration (Caporizzo, 2011; Davis et al, 2013). Consequently, there are fewer dollars spent on incarceration, and more importantly, there are fewer victimizations taking place in society (Davis et al, 2013). Individuals that had become a burden to themselves, their families, and communities are now more positively contributing members of society (Delisi & Conis; Free Reentry that Works, n.d.; Lingston, 2011; Preparation Prisoner for Reentry, n.d). Correctional and civilian administration leadership is making a positive difference because they work in cooperation with one another via training and working release practices. The expectations promote an expansion of correctional and civilian employee expectations, regarding the corrections process (Davis & Bozick, n.d., Swanson, Rohner & Crow, 2010; Swanson et al, 2010). Corrections executives are consistently expected to produce positive outcomes and use a variety of practices to achieve their desired ends.

This study employed consequentialism as the conceptual framework. Consequentialism is an approach to ethics that bases morality of an action on the outcome (Mastin, 2008). Consequentialism is a form of normative ethics that determines right and wrong by subjectively interpreting behavior (Gowdy, 2013). Normative ethics considers it is a sign of weakness to "(1) observe the result of an action, (2) to then place it a name upon the end-product, and (3) to then believe that the end-product is a singularity that is self-defined by the name given to the action" (Gowdy, 2013, para 3). In other words, an action is not labeled right or wrong. Actions are determined right or wrong based on the results. For example, cutting someone with a knife is not always wrong. Instead, it should be scrutinized based on intent and outcome. A surgeon is praised for cutting someone with healing intentions and proper education. A criminal cutting someone with malicious intent is not proper action. Consequentialism functions opposite of contractarian thinking with labeled items and behaviors, then declares them to be good/moral or not. Consequentialism can also be identified as teleological ethics (Van Huyssteen, 2003). Teleology traces back to Aristotle, and focuses on the base Greek words, telos, meaning "end", and logos, meaning "end" (Johnson, 2005). According to Johnson (2005), Aristotle considers nature itself as an internal principle of change and as an "end". The focus of teleology is to investigate the end results of actions (Van Huyssteen, 2003). Therefore, Teleology should not be confused with the duty-based deontology that evaluates the character (duty) of an action (Van Huyssteen, 2003).

The teleological ideology focused on the final cause, design and purpose of an action and worked with two basic assumptions; final causes exist, and have a design or purpose (Mastin, 2008). There are many types of consequentialism, many of which apply to both the reentry education leaders, and to their followers, as well. There are many types of consequentialism, but only four types were chosen for this study.

Types of Consequentialism

Agent-based consequentialism can be either neutral or focused. Agent-neutral consequentialism does not consider a current situation for an individual. Individual goals are not considered when evaluating what action to be taken (Mastin, 2008). In other words, no matter a "person's status", a person is treated equally. Agent-neutral consequentialism would align with an older mindset of corrections, which would simply determine if inmates served their assigned sentence. Agent-focused consequentialism addresses the needs of the individual, while keeping general welfare in mind, the welfare of the individual is the focus, along with friends and family (Mastin, 2008). Nagel (1986), referred to agent-focused as agent-relative in discussion on principle-based decisions. Negal (1986) discussed the value of being able to exist alongside internal perspectives that cannot be either discarded or objectified. This focus coincides with the shift from the punishment to a correction's mindset. A correction mindset focuses more on how an inmate leaves the facility (Parfit (1984) and believes that any subjective decisions being made are in relation the decision maker, agent-relative. According to Parfit (1984), agent-neutral decisions can be made when there is a common goal. However, it is not agent-relative as it does not give every agent a common aim. Therefore, agent-neutral creates a transactional relationship, agent-neutral focuses on a common goal, and agent-focused is transformational. Each agent-based is more outcome-driven, while altruistic consequentialism focuses more on the motive of the participants.

Altruism, a form of consequentialism, prescribes that people take actions that have the best consequences for everyone in mind, while not being selfish (Bourdieu, 2014; Mastin, 2008). In other words, the self should not benefit. Altruism is based in Latin, meaning "alter" and "other" (Bourdieu, 2014; Mastin, 2008). Comte is a contributor to the understanding of altruism and his mantra was "Live for

others" (Mastin, 2008). Comte is a heavily published author on many subjects and was the father of positivism and sociology (Bourdieu, 2014; Macionis, 2014). Altruism is a form of consequentialism that demands good outcome for others, a selfless concern for the welfare of others. Altruism expects decisions to be made in order to benefit society. It is easily compared to utilitarianism.

Another form of consequentialism is utilitarianism, which focuses on the usefulness of action and the amount of happiness results from the usefulness (Rowan & Zinaich, 2003). Reentry programs have proven to be useful to society. Utilitarianism is one of the most powerful and persuasive approaches to normative ethics in the history of philosophy, as reported in Stanford Encyclopedia of Philosophy (Driver, 2014). Utilitarianism has not been free from criticism over the years but is exceptionally fitting for this research because Bentham's work combined with Beccaria (1738-1794) work led to the development of the United States criminal justice system via classic school theory or classic criminology (Siegel, 2016). Bentham (1781) published *To the Principles of Morals and Legislation*, discussing utility, the value of pleasure and pain, and how it can be measured. Utilitarianism shifted the debate further toward practicality to the usefulness of an action. Bentham (1781) focused on individual and aggregate utility. Rather, the largest amount usefulness for the largest number of people. The utilitarian theory assumes people are rational beings. Human welfare is the fundamental goal. Welfare is determined by the overall happiness of a person. Bentham was a hedonist and created the hedonic scale and the felicific scale.

Hedonism is another form of consequentialism and promotes pleasure as the most important search. According to Bentham "happiness is a hedonic notion, founded on the natural state of humankind, and the function of achieving pleasure and avoiding pain" (Rowan & Zinaich, 2003). Ancient hedonism was centered on desiring the "good life". Over time, the concept of hedonism was simply not defined by everyone in the same way. Perhaps the correctional executives are performing their duties simply because they enjoy it; they believe the goals are desirable and rational. There are three types of hedonism most commonly discussed: psychological hedonism, ethical or evaluative hedonism, reflective, and normative or rationalizing hedonism. Psychological hedonism promotes the opinion that a human always seeks pleasure and avoid pain. Of course, the trick is determining what someone may consider pleasurable. What does the individual perceive as the greatest pleasure, or protect him from undesirable pain? Additionally, it has been addressed in culture with a more deep-seated altruistic approach. This usually contends with religion and culture.

Ethical or evaluative hedonism is very important to criminal justice, because constructing the most efficient set of ends or goals as desirable (pleasure). The immediate benefit is found when a community member will determine following rules is more desirable than immediate gratification. There are several easy examples; a person may decide to stop at a stop sign knowing that being late somewhere will cause pain. Finally, reflective, normative, or rationalizing hedonism, promoting human rational capabilities but has no efficient sense of measurement for pleasure within any give act. In other words, not all acts provide the same sense of pleasure for each person making policy construction very difficult.

Bentham created a hedonic calculus to measure pain and pleasure based on purity, duration, intensity, successes (further pleasures), certainty, remoteness, and extent of the effect. Bentham created the felicific calculus, as well (Mitchel, 1918). "Felicific" has a Latin background and means, "causing or intended to cause happiness" (Merriam-Webster, n.d.). The felicific calculus had seven components to determine if something was a good decision; intensity of pleasure of pain, duration of any pleasure or pain, the certainty of the effect of pleasure or pain, how long it will take to experience the effect, the chances of the same good thing to be repeated, chances of the opposite effect, and the number of people affected. For instance, Bentham writes:

In in the social sciences we are suffering from a curious mental derangement. We have become aware that the orthodox doctrines of economics, politics, and law rest upon tacit assumptions that man's behavior is dominated by rational calculation. We have learned further that this is an assumption contrary to fact. But we find it hard to avoid the old mistake, not to speak of using new knowledge. (Mitchell, 1918, p 161-162)

Bentham researched criminal law, evidence, procedure, codification, international law, and constitutional law. His work also extended into economics, psychology, penology, pedagogy, ethics, religion, logic and metaphysics. Bentham's works apply the principles of utility (usefulness) to the classifications of the sciences, the crimes of judges, and the reformation of criminals (Mitchell, 1918). Bentham joined with Cesare Beccaria to influence the United States criminal justice system. They created classic criminology (Brown, Esbensen, & Geis, 2015; Siegel, 2016). Beccaria (1764) authored *On Crime and Punishment* detailing his enlightenment approach to crimes and types of punishments. Beccaria is considered a father of law and economics. He believes in incentives and behavioral economics. Both Bentham and Beccaria assumed that people were rational and would rationalize the amount of pain they were willing to risk compared to the pleasure of committing the crime. Beccaria discusses many types of crime and what type of disincentive to participate in criminal activity. The assumptions of classic school theory are that a person has free will and will use their free will to choose the behavior with the most favorable consequences (Brown et al, 2015; Newman & Marongiu, 2009; Siegel, 2016).

Methodology

A case study approach was the methodology chosen to investigate the philosophical and leadership qualities of corrections administrators and their successful reentry programs. According to Creswell (2013), a case study is "a good approach when a researcher inquirer has clearly identifiable cases with boundaries and seeks to provide an in-depth understanding of the cases or a comparison of multiple cases" (p.100). In this section, information for a case-study research process is presented including details and expectations of qualitative research, philosophical assumptions, epistemological approach, methodological approach, participants and sampling, data collection procedures, ethical considerations, concluding with the delimitations and limitations.

The Qualitative Approach to Research

The aim of this study is to explore the leadership philosophy perspectives and operational methods of four correctional administrators, state prison wardens. According to Yin (2009), the strength of the case study method is its ability to examine, in-depth, a "case" within its "real-life" context. A qualitative method is appropriate to study leadership philosophy perspectives and operational methods because of the in-depth nature and real-life exploration (Yin, 2009). The perspectives and strategies of correctional administrators are paramount to understanding their leadership philosophy. Conversations (interviews) regarding their career paths provided additional perspectives on the role of corrections administrator, rather intensively explored their how and why (Yin, 2009).

Qualitative research requires preliminary considerations (strategies of inquiry) and ethical considerations (Creswell, 2003). Creswell (2013) suggests using methodological congruence, providing the purpose, questions, and method, as an interconnected unit creating a cohesive whole. Creswell (2013) advises the use of prior theories, as a key element of rigorous qualitative investigations. The researcher should

consider the writing format, from scientific approaches to literary storytelling (Creswell, 2013). Lastly, the researcher must consider his or her own role in the research process. Researchers must address their personal history, including their view of history, traditions, and conceptions of self, ethics, and politics (Creswell, 2013). In addition, the researcher must bracket their experiences (Creswell, 2013). "Bracketing" is suspending our understandings in a reflective move to cultivate curiosity" (Creswell, 2013, p.83).

Philosophical Assumptions and Research Design

Philosophical assumptions are an important foundation for qualitative research, as they represent the lens the researcher (Creswell, 2013). Philosophical assumptions may be absorbed through training, exposure to literature, advice, community participation, and become incorporated into the researcher's work (Creswell, 2013). Philosophical assumptions inform choices and shapes how the researcher formulates the problem and research questions (Creswell, 2013). A social constructivist epistemology and a consequentialist theoretical perspective guided this study.

Epistemology: Social Constructivism

Social constructivism is the epistemology chosen to investigate the qualities of corrections administrators and their successful reentry programs. Social constructivism is a worldview that seeks to understand the world, by developing subjective meanings of experiences (Creswell, 2003; Creswell, 2013; s, 2015; Berger & Luckmann, 1967; Morgan, n.d.). Berger and Luckmann (1967) argue that reality is socially constructed, and that the sociology of knowledge must analyze the process. This implies that the existence of multiple realities is most likely. Creswell (2003) points out that meanings are varied and multiple. The researcher must look for the complexity of views. The researcher must focus on the participants' views (reality). Creswell recommends broad and general open-ended questions. It is imperative that researchers recognize the impact of their own background, how it shapes interpretations, and position themselves (Creswell, 2003). Researchers are inclined to inductively develop an interpretation of the participant's worldview (Salmons, 2015).

Methodological Approach: Multiple Case Study

A case study requires the researcher to explore a case in its natural setting, in depth, within a program, event, activity, process or person/s (Creswell, 2003). A case study may involve multiple sources of information, such as documents, archival records, interviews, direct observations, participants' observation, physical artifacts, and audiovisual material (Bogden & Biklen, 2007; Creswell, 2013; Salmons, 2015; Yin, 2009). According to Bogdan and Biklen (2007), a case study works like a funnel, because the study starts wide with the researcher searching for places and people that might be a good subject or source for data. The researcher searches for locations they want to study and cast a wide net trying to judge the feasibility of the data source for their purposes (Bogden & Biklen, 2007). The process of identifying participants is discussed in the upcoming discussion on sampling and data collection.

Aligning Purpose and Design

In-depth interviews were conducted to promote the production of knowledge. The interaction between the researcher and the participant generates empirical data about the social world, in this case the world of corrections was chosen, specifically state prisons. It is the researcher's responsibility to gently guide the conversation and produce depth and detail (Rubin & Rubin, 2005). The researcher is expected to encourage the participants to share perspectives, insights, feelings, behaviors, and experiences or phenomena that cannot be directly observed (Salmons, 2015). Salmons (2015) provides four factors involved in in-depth interviews:

- The researcher is responsible for the performing a respectful inquiry and accurate data collection, relevant to the research purpose and questions, in a scholarly context.
- The participant participates with the researcher in an honest fashion, offers insight, perceptions, understandings, experiences, and/or social or organizational dimension of the research subject.
- The research purpose and questions serve as a framework, for focus and boundaries to the interactions between the researcher and the participant.
- The research environment provides context for the research and can make a significant impact on the researcher's understanding of the participant.

It is important to focus on the purpose of the interview, the set agenda, and embrace the ethical boundaries of beneficence, justice, and respect for the participants (NIH Human Subjects Research Training. n.d; Creswell 2003; Salmons, 2015). Discipline and professionality are expected and demanded (NIH Human Subjects Research Training; Bogdan & Biklen, 2007).

Forthright, the scholastic researcher is required to create an environment that promotes trustworthiness and credibility, and functions without any ulterior motives (Salmons, 2015; Bogdan & Biklen). Therefore, this study abided by of all the expectations of human subject research, in order to promote respect and a genuine appreciation for the participants' time and willingness to share their professional history, leadership mindset, philosophical approaches, program development and future expectations.

Choosing Online Data Collection Methods

Salmons (2015) offers three most common reasons for using Information and Communication Technologies (ICT); medium, setting, and phenomenon. An inquiry could deal with any aspect of the lived experience, and ICT's allow a researcher access to the participants' online existence, via texts, blogs, and multimedia tools. ICT's are considered any computer-mediated communications between the researcher and participant used to navigate the lived experience. ICT's as a physical or social setting, milieu, online or in person on social media sites, web conference, virtual world, or game. ICT's are a good tool for analyzing activities or behaviors of the phenomena being studied. Salmons (2015) points out that ICT's may offer a more relaxed setting for an interview.

Participants and Sampling

Recruiting participants followed the general guidelines of qualitative research, as well as, some guidelines specific to online interview research (Salmons, 2015). Sampling is the systematic process of

determining who best fits the purpose of this study. The secondary data collection provided the information necessary to locate participants, as will be discussed in the data collection section. Qualitative researcher's use purposeful sampling and sampling decisions are made on a per study basis (Creswell, 2013; Salmons, 2015). Corrections administrators fit the empirical purpose and theoretical purpose of the study (Salmons, 2015). The researcher found participants that were willing to provide in-depth, robust information, and to participate in all levels of the study (Salmons, 2015). The participants were credible and very much enhanced the "truth-value" of the research study (Salmons, 2015; Lincoln & Guba, 1985). The secondary data collection identified successful corrections administrators of success correctional and reentry programs.

The participating corrections administrators met a certain set of criteria to create a homogeneous group of four participants. The criterion is two-fold. The participants must hold or have held corrections administrative positions and administered successful reentry programs. The participants must have earned credibility and validation within the corrections arena. The cases were further restricted to state prison wardens in the Midwestern US. Creswell (2013) advises not to include more than four or five cases, as this amount will provide the opportunity to identify themes and conduct cross-case analysis.

Once the participants for this study were identified via a solicitation and recruitment emails. Initial phone contact followed a script and were used for scheduling purposes, as well. Participants were interviewed in their work environments following the acquisition of the participants' signed informed consent forms. A specific set of 27 questions were asked each participant within three separate web-meetings.

Data Collection Procedures

There are a variety of data collection methods to be chosen from and Salmons (2015) separates them into primary and secondary data collection methods. Primary data collection method used in this study is Seidman's (Creswell, 2013) in-depth, three interview series. The secondary data collection process searched for artifacts that support the study. The primary data collection method was the online recorded interview, using freeconference.com. Email was used for follow-up communication, delivery of the transcripts, and the confirmation of the participants' transcript approval.

The Secondary data collection is mining for posts, sites, documents, images, media, and collected artifacts involving the participant. For this study, the secondary data collection was broader and focused on the successes of corrections facilities and was in the many government studies and other organizational open-source data. Creswell (2013) points out one of the inherent challenges of qualitative is case selection, as discussed. The secondary data collection provided verifiable information allowing for the strict narrowing in scope and the participant criteria, identifying a pool of potential participants. Once identified, correspondence lead to scheduled meeting times, and signed informed consent was obtained the series of three interviews with each participant ensued.

Interviews

Interviews were used as the primary data collection method. Semi-structure interviews were conducted via https://www.freeconference.com/ and recorded. No in person interviews were conducted due to the geographic location of the participants (Salmons, 2015). Using an ICT was very cost-effective, with reduced time and travel expenses. The online interview was chosen over a telephone interview, because visual communication provides more observability. The researcher can observe nonverbal communica-

tion. The semi-structured interview process consisted of open-ended questions used in order to obtain narrative answers and not restrict the participant's elaboration. Questions and follow-up questions were prepared prior to the interview.

Seidman (2013) advises using a three-interview series. The first interview focused on the participant's educational and training history, career paths, and drives. The second interview "concentrate[d] on the concrete details of the participant's present lived experiences in the topic of the study" (Seidman, 2013, p.21). The second interview addressed the programs and practices regarding education and reentry programs, effects on public safety, organizational structure, and leadership mindset. The third interview focused on the "intellectual and emotional connection" the participants' have with their careers (Seidman, 2013, p.22). The third interview focused on points of pride, commitment, and the characteristics necessary for their position as a corrections administrator. Following Seidman's (2013) advice I established conditions for reflection upon the participants' experiences and outlook by means of exploring the past events that led up to where they are now. The interview process included three 60-90-minute interviews, spaced within three days to one-week apart, following Seidman's (2013) recommendation.

Rapport

Salmons (2015) advised the interview must remain flexible and create an interview environment that is based on trust, mutual respect. Rapport is a developed comfort level centered on an understanding of each other's feelings or ideas (Seidman, 2013). Neutrality is of up most importance, according to Patton (2002) stating:

The person being interviewed can tell me anything without engendering either my favor for disfavor with regard the content of their response. I cannot be shocked; I cannot be embarrassed; I cannot be saddened. Nothing if the person tells me while make me think more or less of the person (p.365).

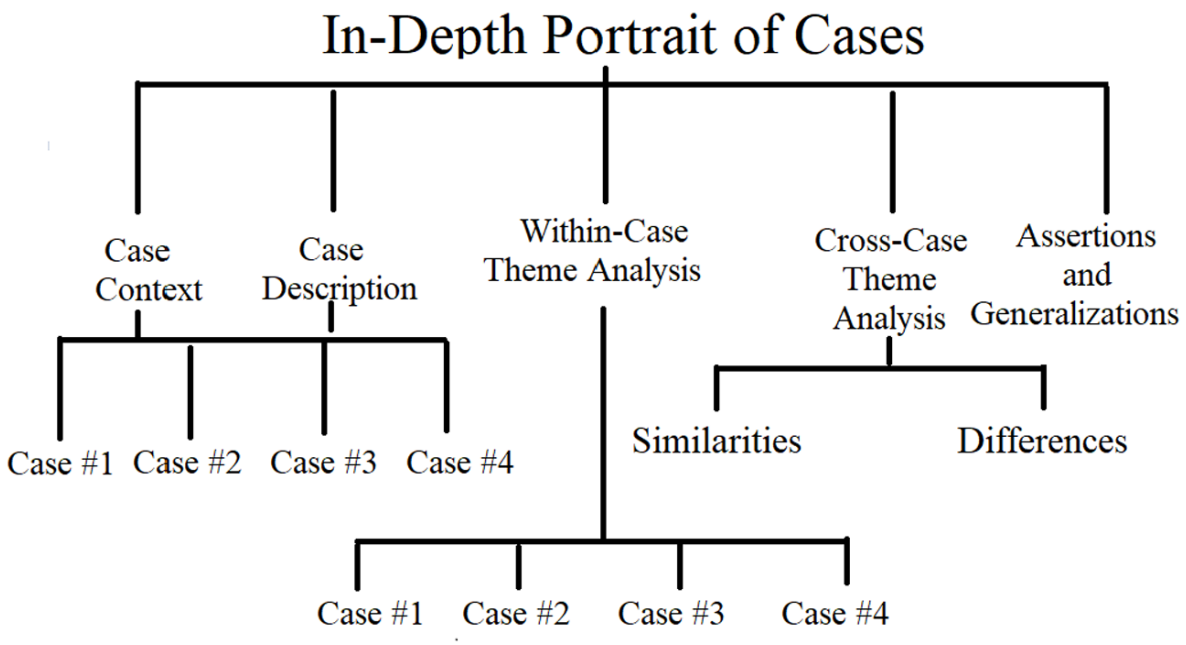
Interviewers are expected to guide the participant's story, not become part of the story. Interviewers are "expected to leave their 'selves' out of the interview process" (Gubrium & Holstein, 2003, p.31), and mine for data (Salmons, 2013). According to Hyman, et al. (1954), the interviewer must be aware that sharing personal experience may help establish rapport. Given that my educational and professional background in human services and criminal justice produced a high level of familiarity with their experiences, expectations, and common concepts/terminology, rapport was established rapidly. The purposeful interviews included established credibility, respect, active listening, logical thinking, attention, and good manners (Salmons, 2013; Seidman, 2013). Recordings of the interviews and transcripts were maintained in a password protect computer and safe.

Data Analysis Methods

Data analysis and interpretation had many components. Data analysis brings meaning and structure to the data (Anfara et al., 2002). The transcripts and other materials were coded, with an iterative coding method (Sage, n.d). Iterative coding is understood as a systematic, repetitive, and recursive process that involves a sequence of tasks carried out in the same manner each time and executed multiple times (Sage, n.d.). Meaning is provided to this repeatable. Coding is the process of putting information in categories (chunks) and looking for underlying meaning. The chunks were evaluated and labeled, as codes. The

coding process produced the "themes"; (1) Emphasis on safety (2) Education and training (3) Rehabilitate and habilitate inmates as a whole person (4) Commitment to the profession and advocacy. Bogdan and Biklen (2007) have a list of eight possible codes: setting and context codes, perspectives held by subjects, subject's process codes, activity codes, strategy codes, relationship and social structure codes, and preassigned coding schemes. The four participants were alike in processes, activity, strategy, relationship and social structures. Therefore, this study focused on an embedded analysis of the corrections administrator's experiences, outlooks, practices, mindset, and outcomes (Creswell, 2013). Creswell (2013, p.101) advises producing the context of the case, cross-case analysis, and creating assertions (interpretations) for the meaning of the case/s. This study used Creswell's (2013) in-depth portrait cases, which looks at case context, case description, within-case theme analysis, cross-case theme analysis, and assertions and transferability (p. 209). Figure 1 demonstrates Creswell's (2013) in-depth portrait cases.

Figure 1. Template for Coding a Case Study (Creswell, 2013, p. 209)



Ethical Considerations

Ethical considerations are vital to the research process. First, the researcher must earn a certificate for human subject's research. An Institutional Review Board must examine the research proposal for ethical concerns. Bogdan and Biklen (2007) advise that there are two issues that dominate traditional official guideline for ethics, in research with human subjects. First, informants understand the nature of the study, potential dangers, obligations of the study, and enter the study voluntarily. Second, the informants are not exposed to, "risks that are greater than the gains they might derive" (Bogdan & Biklen, 2007, p. 48).

It is the researcher's responsibility to address respect, beneficence, and justice (NIH Human Subjects Research Training, n.d.). Respect requires the participant be treated autonomously. The participant must be provided with an informed consent that includes voluntariness of participation, purpose or the study, foreseeable risk, potential benefits, extent of confidentiality, compensation, contact information, conditions of the study and the right to refuse. The researcher must consider the potential harms (NIH Human Subjects Research Training. n.d). Beneficence requires the researcher to analyze how the risks and potential benefits related to the goals and values. The researcher must act based on said analysis. The researcher must protect those with diminished autonomy, e.g., age, cognitive impairment, illness and treatments (NIH Human Subjects Research Training. n.d.). Justice requires the fairness of procedures and outcomes are used to select research participants. Additionally, justice requires a fair distribution of benefits and burdens to the population who participates in the research. Individual justice requires everyone benefit equally, no favoritism (NIH Human Subjects Research Training. n.d).

Qualitative Research Methodological Approach

Anfara, Brown, and Mangione (2002) offer details on the struggles of qualitative research and ways to address rigor. They add that there is not a lack of standards, but a lack of consensus about them. In other words, there is a lack of commitment to uphold past or present standards (Anfara et al, 2002). The products of the coding process were examined for their trustworthiness and authenticity and were evaluated by examining the study for credibility, transferability, dependability, and confirmability (Creswell, 2013). Triangulation was performed and discussed in the data collection process. Member checking was be done by asking the participant to check/examine the transcripts from the interviews for accuracy and quality. Each participant approved the transcripts.

Credibility was established by the participants' prolonged commitment to corrections and the production of successful programs. The triangulation of data sources, methods, and investigators intensifies the participants' input/output (Creswell, 2013). Thick description is provided in a following section, in order to make the information transferable between the researcher and the participants (Creswell, 2013). The auditing process confirmed the value and dependability of the data (Creswell, 2013).

Anfara et al, (2002) provide information from many authors regarding validation. Creswell emphasized the use of the word, "validation" to emphasize the verification process and previously used words of "trustworthiness" and "authenticity". Creswell (2013) advises prolonged time in the field, with persistent observation. It will provide better opportunity to build trust with the participants and enhanced the learning of the culture. As previously stated, the researcher for this case study has an established exposure to elements at hand enhancing the validation, trustworthiness, authenticity of this study. Triangulation is the process of gathering information from, "multiple and different sources, methods, investigators, and theories to provide corroborating evidence" (Creswell, 2013, p 251). Anfara et al (2002) advise multiple sources of data can create of a chain of evidence, pattern matching, and replication logic, in multiple case studies. Anfara et al, (2002), advises that the use of proper research protocol and member checking add to the validity and reliability of a research study. The presentation of validity and reliability of information presented within this case study were presented with the data collection procedures and analysis section.

Multiple sources of data collection can neutralize potential bias embedded in a single data source (Anfara et al, 2002). The rich, thick, discussion in upcoming sections allow the reader to transfer information (transferability) to other settings (Creswell, 2013). Finally, making all aspects of the research and analysis process available to public inspection, strengthens the dependability and reliability of the

research (Anfara et al, 2002). As described throughout this section, many qualitative research items must be addressed. The many authors cited remind the researcher of limited scope may safely extend and where it is prudent to restrict information or input. The delimitations produce a boundary.

Delimitations

This research project worked with boundaries, delimitations. The study was delimited to only four cases. The study restricted the ability to participate by profession, status, and ability. The study was further restricted to state prison wardens within the Midwestern United States that promote and produce successful programs.

Limitations

Interviews are limited because they are opinions and understandings of the participants up until that moment, and not beyond that moment. The study was limited to the amount of time the conversation takes place, in this case three one-hour interviews per participant. The information provided is "indirect" because it was filtered through the views of the interviewee (Creswell, 2003). The use of web-conference communication restricted the "observation" of the participants. The researcher is not observing the participants in their "natural setting", at the prison where they worked (Creswell). The researcher's presence may bias responses, the Hawthorne effect. The Hawthorne effect is when people adjust the behavior because they are being observed (Macionis, 2014). Therefore, the research processes discussed above were designed to promote the most comfortable experience for the participants. Lastly, Creswell (2003) points out that people are not equally articulate and perceptive. However, the participants for this study were exceptionally qualified success professionals within their field.

Research Setting and Participant Profiles

Given the wide-ranging success of reentry programs across the United States, the purpose of this case study is to determine the attributes and leadership philosophies of corrections administrators that manage effective, reentry programs. The qualitative research approach (Creswell, 2013) offers a platform to explore the experience and perspectives of four wardens working in four different state correctional settings across the Midwestern United States. Data collection utilized Seidman's (2013) in-depth three semi-structured interviews with each of the four participants (Creswell, 2013; Salmons 2015). The interviews were completed using the online communication tool, www.freeconference.com. The participants were able to call in or log into a conference call for the duration of their interviews. The participants were interviewed at their individual workplaces. The four participants' names and correctional settings are aliases. To further protect the identity of the participants, descriptive data has been generalized. All descriptive and personal data has been removed.

Correctional Settings

To complete this case study, four different prisons were selected. The correctional settings are in the Midwestern United States. These four correctional facilities offer a range of features including: varying levels of security and the gender of offenders served in these facilities. All four prisons are state prisons,

not county jails, federal prisons, or military prisons. Each of the corrections administrators are required to address three major factors: protect public safety by managing the outcome of the adjudication process, providing reentry programs, and developing relationships within the community (Erisman, 2015; Harper, 2015; Stinchcomb, 2011; Tolbert, 2012; Tolbert & Rasmussen, 2016). Within these four settings, over 90% of offenders will eventually be released back to their communities when their sentences are completed, or parole has been granted. With such a high percentage of the offenders returning to their communities it underlies the importance of educational programming, vocational opportunities, treatment for mental and/or substance abuse conditions to successfully reduce recidivism rates and manage the collateral consequences (Davis, Bozick, Steele, Saunders, & Mile, 2013; Erisman, 2015; FIRC, 2016; Second Chance Act, FY 2013;, n.d).

Each of the four participants in this study provide for varying levels of security, educational programs that focus on interpersonal growth, vocational training to help provide successful reentry into the community. The settings for this study uncovered the various structural/ organizational setup found in four separate correctional settings. The differences between the settings and participants in this study were displayed through the gender of offenders and security requirements for offenders. Setting One is a medium security facility for females. Setting Two works with males and includes medium and minimum-security placements. Setting Three is a male, maximum security setting. Finally, setting four medium security facility serving male inmates. Each setting revealed both unique and similar features. Additionally, the participants for this study will show some unique and similar elements which allows for rich comparisons and programming recommendations.

Participant Profiles

The participants for this study, four wardens within a state prison system were selected. The educational background of the participants varied; however, all four participants have held several different jobs within the prison system before becoming wardens. As previously mentioned, the four participants' names and correctional settings are aliases: Warden A, Warden B, Warden C and Warden D. Because of the potential vulnerability of these individuals, all descriptive data has been generalized and all descriptive and personal data has been removed. Table 1 offers further insight to the variety the four state prison wardens bring to the research.

Table 1. Descriptive Information for Participant's and Place of Employment

Name	Sex	Years of Experience	Security Level of Prison	Sex of Prison Inmates
Warden A	F	25+	Medium	F
Warden B	M	25+	Minimum/Medium	M
Warden C	F	25+	Maximum	M
Warden D	M	25+	Medium	M

Note: Each State Prison facility is located in the Midwestern US.

Findings and Conclusions

The purpose of this multiple case study s to gather subjective and objective data from correctional administrators in order to determine the shared philosophical approaches, operational methods, and leadership mindsets. The corrections administrators' efforts work to improve social, human, and cultural capital. These improvements will be discussed in relation to agent-based consequentialism, altruistic consequentialism, hedonism, and utilitarianism. Therefore, this study focused on an embedded analysis of the corrections administrator's experiences, outlooks, practices, mindset, and outcomes. The data were analyzed using an iterative coding process.

The findings for this study were obtained via case study methods in response to the predominant research question: *"What are the philosophical perspectives and operational methods of senior administrators at correctional institutions whose leadership results in low recidivism rates?"* Responses to the question resulted in the appearance of four major themes.

The four main themes are as follows:

(a) Emphasis on Safety,
(b) Education and Training for Staff and Offenders,
(c) Rehabilitation and Habilitation of the Inmate as a Whole Person and
(d) Commitment to the Profession and Advocacy for Others.

These four themes and related subthemes provide a framework for understanding the leadership philosophies, and other characteristics of corrections administrators and educators.

Summary of Themes

Theme 1: Emphasis on Safety

Theme 1, Emphasis on Safety, includes the subthemes of staff, offender, and public safety. The job of a correction administrator requires consistent attention to the safety of self and others. The subthemes focus on the nature of corrections and risk reduction. The participants discussed the importance of hiring for qualities and the need for creating a well-trained staff. Staff are physically trained to promote safety for themselves, coworkers, and the offenders. Offenders are incentivized to create safer environments. Both Staff and offender behaviors effect the general public while interacting with volunteers on the prison campus, citizens during work release programs and upon offender reentry release to the community. Each participant for this study emphasized the importance placed on safety. As Warden C pointed out, "You know we are dealing with violent people and sometimes you have to make snap decisions that can affect your staff and their safety." Each warden makes many decisions based on the promotion of overall safety. One of the operational methods is the emphasis on the hiring process. Each warden discussed qualities what they look for during the hiring process.

Theme 2: Education and Training

Theme 2, Education and Training includes the subthemes of staff, offender, and the general public. As leaders of their institutions, the correction administrator positions require onboard and continuing education for staff, provide educational opportunities for offenders, and inform the public of these programs via speeches, job fairs, and media outlets. The participants utilize programs provided by their department of corrections. In some cases, the participants had contributed to the development of those programs. The subthemes focus on the nature of corrections and the skill sets necessary for the ongoing success of staff and offenders. The four wardens discussed the importance of the onboarding process and creating a well-trained staff. Staff are expected to function with a mindset, good communication skills and leadership practices. Offenders are expected to participate in literacy education, high school equivalence, and in some cases post-secondary education. Each participant for this study emphasized the importance placed on the general public being informed. As Warden C pointed out that part of the wardens' job is to education the public. Each warden discussed various positions within their professional background and the training they have participated in and the importance of education and training of the staff.

Theme 3: Rehabilitate and Habilitate Inmates as a Whole Person

Theme 3, Rehabilitate and Habilitate Inmates as a Whole Person, includes the subthemes rehabilitation, in the areas, of physical and mental health, education and vocational trade/skills, and habilitation regarding the family and community connections. Both the rehabilitation and habilitation process focus on the "whole person". The leadership mindset and philosophical approach regarding reentry is that the main goal of reentry programs is to increase public well-being and reduce the impact of collateral consequences (e.g., housing and work restrictions) by focusing on the whole person (Second Chance Act, FY 2013; USDE, n.d; Erisman, 2015; FIRC, 2016; Davis et al, 2013; Tolbert, 2012). The subthemes focus on the events and programming that happens throughout the inmate's incarceration. The four participants in the study all discussed the importance of addressing the physical and mental needs of the offenders. Theme One addressed the impact of the wardens' efforts towards public safety including staff safety, offender safety, and public safety. As discussed in Theme Two, the educational efforts within the prison system, including the staff, offenders, and the general public are presented. Theme Three shares a separation of the wardens' rehabilitation expectations and the additional expectation of habilitation, (to make fit or capable). Finally, the habilitation process involves the of offenders' ability to interact with citizens during work release programs and upon offender reentry release to the community. Another part of the habilitation process is interaction with family. Each warden works with the offenders as a whole person, in order to help the offender reenter society. The initial part of the process is addressing physical and mental health

Theme 4: Commitment to the Profession and Advocacy for Others

Theme Four, Commitment and Advocacy, includes the subthemes of an earnest desire to help people, leadership mindset and expectations, and maturity. Another demonstration of the participant's philosophical approach, each participant elaborated on the need for having an open mind to change and the patience to be steadfast in reaching goals for staff and the offenders. Warden A, B, C, and D expressed their earnest desire and focus on helping people. The participants offer examples of a deliberate focus on patience,

leadership, and dedication to corrections, correcting. Warden A, B, C, and D elaborate on leadership mindset and experience, the effects of maturity on perspective. Each participant demonstrated a whole-hearted, earnest, desire to create positive environments and supporting staff, offenders and community.

Earnest desire to help people

Focus and dedication was frequently mentioned during the interviews. Warden A, B, C, and D demonstrate the subtheme of an "earnest desire to help people. Each warden was asked about their points of pride. The wardens' responses were not focused on themselves, but rather on how their efforts benefit others. Warden A stated:

[I] always felt in my soul that I have always wanted to help people. We believe we will help them, but they have helped me. We help each other. We can hope with them. We can keep faith with them…From "task-related" to "culture shaping".

Warden A further discussed the value of conversations and how talking to people can influence culture change. The exchange included Warden A sharing a positive experience while walking across the yard, along with sharing personal perspective:

[*Radio station] came out the other day and they said, "It just feels good in here. It feels like people can really talk in here." Okay, that made me feel good because in some prisons it probably doesn't feel like that. I think we have a culture where we try to have people across the level be respectful and be able to talk. So, I was walking out in the yard... And one of the woman came running up to me and asked if she could talk…She said, "I just wanted to thank you...You always, always talk to us." It's because there is no "us" or "them". We are all just people. Perhaps that is a sense of pride. I try not to see that fine line even though I know there is one. I try not to see it. I try not to see an "us" and "them" or whatever that may be. There you go. That is what I would say.*

Warden B shared thoughts regarding pride:

I think that I could put these are points of pride…I think I am a reasonable individual. When a person that has been committed to this profession since I started. I love my job I love the workflow. I pride myself in hopefully having made a difference in the lives of many people with both those working with me and those incarcerated. I have integrity…

Warden A and B discussed creating positive environments and the ability to help people.

Warden C has held the warden position in more than one facility. In a prior setting, Warden C was able to create a refreshed culture within the prior facility and how works to continue creating positive change. Warden C shared a professional accomplishment that effected positive change in the prison atmosphere and outlook for corrections. Warden C elaborated:

I think [location of another prison] and building a whole new institution. And especially an institution that looked so much different than the original institution. It is a beautiful, for lack of a better word, prison that really changes the concept of what the prison should be. Here? I am trying to push the

boundaries of how we can have a safe maximum-security prison but still be more humane, not that they weren't humane before. Doing more family-oriented things… You know changing the culture here to be… More open instead of being so hard and maximum security. You know about 15% of our clients need that environment. The rest of them do not. So, I've tried to focus on the 80%-85% that do not need that hardcore environments. It is better for those don't follow the rules, and open for the ones to do. And getting the next generation ready to come up…

Warden A and C shared the outlook for the structural atmosphere of corrections. Warden B shared about (their) outlook and making a difference. Warden D discusses success with employees. Warden D stated:

Well, I can narrow that down in a nutshell…I…my biggest pride is…seeing a lot of the staff that have worked for me get promoted… and a lot of the inmates that I happen to see on the streets, that I can't even remember their names will come up and thank me for something that I've done that I don't even remember doing. So just realizing that I've made a difference in people's lives is the biggest point of pride I have.

Warden D appreciated enjoying the outcome of efforts for both employees and offenders. Like Warden A, B, and C, the focus is on how efforts benefit others.

The participants elaborate on their focus and dedication. Warden A, B, C, and D demonstrated being earnest (intense and serious mindset) by discussing items that produced pride (reasonable or a justified self-respect). Warden A discussed creating an environment where everyone feels comfortable and able to communicate. Warden elaborated on having a reasonable mindset, having integrity, and helping others. Warden C focused on prior success creating culture change with corrections and working to accomplish refreshed mindsets in the current setting. Finally, Warden D demonstrated an appreciation for the positive outcomes in relation to efforts. Deliberate efforts for positive change are also demonstrated by discussing leadership mindset and expectations.

Leadership Mindset and Expectations

A strong, leadership mindset was demonstrated during the interviews and involved a vision toward the participants job expectations, the staff, and the offenders. Each warden was asked to elaborate on their leadership mindset in regard to philosophies and strategies for success in corrections administration. Warden A stressed the importance of grounded emotional intelligence and patience. Warden B discussed a leadership mindset in regard to governance and staff. Warden C placed an importance on listening skills and being open-minded, not necessarily agreeable. Warden D shared a broader and more outcome-based mindset.

Warden A stressed the importance of a grounded emotional intelligence and patience. Patience is necessary in the area of culture change. Culture change must be strategic and presented at a comfortable pace. Warden A is self-described as mission driven. Warden A discussed participating in multiple leadership practices and programs and stressed the importance of grounded emotional intelligence, gender responsive and trauma-informed care. Not only does Warden A propose high expectations for self, but staff as well, noting, "We are hiring staff that have [a] pretty grounded emotional intelligence".

According to Warden A, culture change is the greatest challenge as a corrections administrator stating:

Even with a fantastic executive team, it is best to know it is "going take time and [I] don't want to rush it…Want to take it slow and strategic moves to make sure they look right." They aren't going to be flawless. So culture change is the hardest thing because corrections has evolved in the last 25 years that I have been into it. When we get a new director…it evolves as society evolves. So it is fluid. So that would be the hardest thing…Corrections does not have to be a negative place…Talk to officers about a culture of hope.

Warden A speaks to the gradual shift of correctional goals and acknowledges personal years of experience. The gradual shift accommodates the inhibition of all the staff not always being, "on board with change." Warden A added that patience is important for the staff to embrace a shift in mindset. Warden B discussed a beneficial leadership mindset and what to look for in good leadership.

Warden A elaborated on leadership roles and seeking candidates with strong listening skills when looking for new leaders. Warden B also looks for leaders that are willing to learn and work autonomously. Warden B shared:

First thing I look for is if they listen. It is important to listen not only up the food chain and down the chain. Second of all, I think it is important that they be allowed to operate as leaders. I think the best way for us to become better leaders is to grow and the one thing I cannot stand is micromanagement. I hold people accountable. I have expectations for people… I have expectations for myself, but I'm the type of individual that will allow the leaders of the respective the departments to run them… Within the guidelines are what we're trying to accomplish in the institution may be a departmental mission.

Warden B provides opportunities for the staff to be creatively effective. In other words, Warden B does not force each corrections officer to follow identical styles of communication with offenders. Warden B shared perspective and expectations:

I'm there to make sure we're going in the direction that we want to do and want to go for a change is needed. I'm there to instruct them on what changes are going to occur and again that lets them it developed and implement to attack that and that is through me and others. ***…****So the biggest is willingness to work with others, the willingness to listen to others, the willingness to stand up for oneself… They gave me this position to try and help others out and they have confidence in what I could do…*

Warden B elaborated on leadership roles, listening skills, willingness to work with others, and willingness to learn. Warden B shared that the staff can have individual styles. Warden C discussed leadership style and functioning with a core set of beliefs.

Warden C- shared a point of view about leadership style and that it is not textbook style. Warden C function with core beliefs, open door policy, and a desire for a nice environment but not like a nice hotel. A warden should be respectful, empathetic, enforce rules and punish responsibly, and believe that most people can change. Warden C stated:

I like to describe myself as fair, willing to listen, very open, certainly inviting for people to come in. Like to encourage people to share their honest views. I don't like to surround myself with "yes" people. [I] surround myself with a balancing people. I think that would probably sum it up.

Warden C, like Warden A and Warden B, stresses effective communication. Warden D responded on a more personal level. Warden D self-reported the following description.

I am a flawed individual, working a flawed system, trying to make the best decisions I can… That I have a lot of beliefs and confidence in what I do and so… I'm willing to take risks that probably some other people aren't willing to take and fortunately for me it has turned out pretty well…My whole focus on prison life… I *treat the people the way I expected to be treated. I do not think they're less than I am…I keep telling people to our job is not what happens on the inside but on the outside.*

Warden D also shared how the focus should be on what happens outside the jail, as over 90% of people in the prison system are getting out. He works to create an environment that gives them the most tools to function in the real world.

The participants discussed leadership mindset and expectations. Warden A, B, C, and D each discussed the importance of effective practices within prison, the positive culture for staff and offenders. Warden A emphasized emotional intelligence and a patient approach to culture change. Warden B looks for future leaders that have good communication skills and a willingness to learn. Warden B shared instruction and guidance as part of the warden's role. Warden C added the desire to be around balanced people. Finally, Warden D shared a pragmatic viewpoint of leadership. Each warden functions with a base recognition that 90% of the offenders will return to the community. Effective leadership involves effective communication, outlook, and is develop with experience and maturity.

Maturity

The participants shared the background and their experiences starting as corrections officers and working their way to the top positions. The participants' career development and maturation has produced professional philosophical approaches, operational methods, and leadership mindsets discussed throughout the Themes. Warden A, B, C, and D all demonstrated maturity in the discussion of experience and outlooks. Warden A shared the value of learning from others. Warden B shared that gaining knowledge and confidence through various roles, building maturity. On the same token, Warden C's shift in perspective over time and held positions and the learned importance of prioritizing goals. Finally, Warden D shared perspective and influence. Wardens A, B, C, and D each demonstrated a helping perspective.

Warden A was asked how maturity effects administrating practices. Warden A discussed perspective in relation to the offenders that speaks to the positive culture shift. Warden A stated:

Always felt in my soul that I have always wanted to help people. We believe we will help them, but they have helped me. We help each other. We can hope with them. We can keep faith with them…From "task-related" to "culture shaping".

Warden A discussed the value of conversations and how talking to people can influence culture change. Warden A mentioned superiors with positive leadership philosophies challenged her mindset on how to lead or influence staff the choice making and not power and control.

Warden B discussed maturity and the effects on administrating practices. Warden B identifies maturity and the ability of being a good leader. Warden B was asked how maturity effects administrating practices and stated:

I would probably say significantly as far as I am concerned. I just think with maturity comes knowledge and with knowledge comes, I don't want to say power, but comes confidence, you know?...I think…you get maturity with leadership too of course because you go and you are in that role, you learn and become more mature. The way I see the question reading…I think… I think a person… [there] has to be maturity about a person in order to be a good leader. Does that make sense?

Warden B discussed how he has grown as a leader stating that at first, he was "just focused on being a good supervisor, good in that role, tunnel-vision. As you grow, you develop the ability to see everything." Maturity allows the leader to not just see the questions, but the ramifications that may come along with them. "It is a lot broader and I don't think we see that to begin with. I think new supervisors are pretty focused on what they are trying to accomplish." Warden B shared a motto, "Ya know what, as long as I am giving the effort and I am trying to do the best at what I can do for the right reasons, then I can't fault myself for it. That has basically been my motto." Warden B shared that he learned a lot from his [parent], [who] was an administrator in another arena.

Correspondingly, Warden C elaborated on perspectives adjust over the years. Experiences with a variety of positions and policies can provoke items to seek avoid. Warden C elaborated on experience and perspective:

Absolutely- I'm not the same person I was 30 years ago. We learn from experience and the things you see. What you've seen and you don't like in the things you've seen over the years that work. And you said yourself, if I ever get in that position and wanted this… I think over the years you learn to pick your battles. It is exhausting to fight every fight. You know there's a few things that I really fight for and the rest of the stuff… It is not that you don't care… It is just that it is not as big of a priority. I think you learn over the years what is a priority and what can become hot ticket items and what's not. You learn to delegate. You can't do it all… And then hope with maturity comes wisdom and you can share with the younger supervisors and leaders that [are] coming in to take over your place. We know how we'll leave the [prison setting] and [state] Department of Corrections in a better place, I hope, than when I came. You know I think is everybody's goal… but you also want to train people that come in and finish where we started so I think that maturity influences taking the people that are going to follow you and what your priorities are… And they changed from when you're 20 and almost 60.

Warden C expressed the value of maturity, prioritizing goals, working to assist new leaders, and retiring with the system a better place.

Warden D reflected on maturity and personal approach. Warden D discussed continuous efforts to create an effective system for the success of all involved. Warden D stated:

It is the one career that we're getting people probably at their lowest and we get an opportunity to try and make a difference in their life…. And it is not only the lives of the inmates that you're dealing with, and also the people are going to be living with when they get out… That people are going to be there next-door neighbors when they get out. The maturity part of all that is starting to realize that you really do have a great deal of influence over people if you try to use it in a positive way.

Warden D echoed the people are still human being and some mad huge mistakes, but it is important to make a difference in their life. It is important to find out how they "tick". It is important to remember the potential of them becoming neighbor when they return to the community.

Maturity involves valuing people, developing productive perspectives, and understanding one's influence over others. Warden A, B, C, and D demonstrated maturity in the discussion of experience and outlooks. Warden A shared the value of learning from others. Warden B shared that gaining knowledge and confidence through various roles, building maturity. On the same token, Warden C expressed a shift in perspective over time through a variety of positions and the learned importance of prioritizing goals. Finally, Warden D shared perspective and influence. Wardens A, B, C, and D each demonstrated a helping perspective.

Summary

Theme four, Commitment and Advocacy, included the subthemes of an earnest desire to help people, leadership mindset and expectations, and maturity. Each participant elaborated on the need for having an open mind to change and the patience to be steadfast in reaching goals for staff and the offenders. Warden A, B, C, and D expressed their earnest desire and focus on helping people while discussing the many topics included within the limitations of this research endeavor. The participants offered examples of deliberate a focus on patience, leadership, and dedication to corrections (commitment). Warden A, B, C, and D elaborated on leadership mindset and experience, the effects of maturity on perspective. Each participant demonstrated a wholehearted, earnest, desire to create a positive environments and support for staff, offenders, and community.

Summary of Themes in Connection to Conceptual Framework

Themes surfaced in response to the Conceptual Framework through data analysis. Consequentialism promotes the notion that actions are determined as right or wrong based on the results. The efforts of the wardens are driven by behaviors that will produce positive outcomes for all those within their span of control. This connects to the leadership philosophy of the participants, as revealed within the themes. The themes demonstrated a dedication to the corrections system which by name promotes the expectation to "correct" or "improve." There are many types of consequentialism, but this study emphasized four types: agent-based consequentialism, altruistism, hedonism, and utilitarianism (Bentham, 1781Mastin, 2008; Negal, 1986; Parfit, 1984; Rowan & Zinaich, 2003). The Purpose Statement for this research study also included the improvement of social capital, human capital, and cultural capital (Bourdieu, 2014; Falk, 2000; Macionis, 2014; Wright, 2014). Each theme also aligned with framework categories for this study and the types of capital. The following is a summary of their connections.

Agent-based Consequentialism

Agent-based consequentialism can be neutral or focused. Agent-based consequentialism was chosen because it works for the overall good by focusing on one person at a time or one program and time. Agent-neutral consequentialism does not consider a current situation for an individual (Mastin, 2008). Each of the themes agree with agent-based consequentialism. Theme 1 suggests that the participating

wardens were highly focused on the safety of their staff, the offenders, and the public. The participating wardens' focus on safety, no matter the status of an individual, aligns with agent-based consequentialism. There are a variety of safety measures, training, and incentives provided to all those involved in order to improve the overall safety for everyone. The warden's efforts in leadership practices align with agent-focused consequentialism was demonstrated by the specific attention towards the individual or groups' needs (e.g., safety training and incentives). The participating wardens' focus on safety, no matter the status of an individual aligns with agent-based consequentialism.

Along with safety, education and training is a prominent focus for the participants. Theme Two details the wardens' significant expectations for their own education, as well as managing the education and training of staff, offenders and the general public. In alignment with Theme 1, the wardens consider education as the main tool used in promoting safety. Theme 2 aligns with agent-based consequentialism as virtually all staff and offenders participate in education and training programs. Again, the focus on education benefit the overall goals while meeting the needs of each of those involved.

The wardens' focus on safety and education are part of a larger mission for improvement unpacked in Theme Three. Theme Three expressed the wardens' focus on rehabilitating the offenders by attending to the physical and mental health needs of every offender, beginning with the intake process. Additionally, Theme Three focused on education (high school equivalent and/or post-secondary), life skills, and vocational training. The participation in educational and vocational programs are determined on an individual basis. Furthermore, Theme Three discussed habilitating by reconnecting the offender with family and community. The habilitation process includes all offenders and the community and demonstrated agent-based consequentialism.

The driving force behind the efforts towards safety, education, rehabilitation is discovered in Theme Four by wardens explaining that they see theirs job is to improve the conditions for everyone. The wardens worked to create a safe environment for all participants in the prison system. The wardens' leadership mindset and expectations demonstrate agent-based consequentialism as the individual status and needs are addressed, e.g. staff are specifically trained for their current position, and the wardens participate in specific leadership trainings to embellish their professional practices.

Altruistic Consequentialism

On another note, altruism expects decisions to be made in order to benefit society (Bourdieu, 2014; Mastin, 2008). Altruistic consequentialism demands good outcome for others and a selfless concern for the welfare of others (Bourdieu, 2014; Mastin, 2008). Theme One discussed warden's selfless commitment to protecting the safety of staff, offender, and public safety, at length. Their efforts produced a recidivism rate that is roughly half of the national percentages.

The warden's devotion was demonstrated while discussing the amount of personal training acquired to improve their leadership skills. The warden's work on the continuous training of staff, and promotion of education and training programs for the benefit of the offender, also demonstrated dedication to this construct. A focus on consistent progress and not settling for the status quo in the areas of education and skills demonstrates a selfless motivation.

Theme Three shared the rehabilitation efforts that have expanded over the years, including practice policies and law. The wardens discussed rehabilitative and habilitation efforts of each facility. The wardens all agreed on the need for the offenders to use their time wisely, not just "doing their time." This also demonstrates a selfless approach to their position.

Each warden shared a wholehearted (altruistic) desire to help others as presented as in Theme 4. The wardens discussed their commitment to the advocacy of others, the shared leadership mindset. These expectations provided evidence of altruism. While they do take pleasure in helping, they work diligently and selflessly to improve the culture of the facilities, as well as the lives of the offenders. Working with families and communities is also part of the process.

Hedonism

Hedonism is another type of consequentialism chosen for this study. Hedonism is the view that actions are good or right when they promote happiness (Bentham, 1781). The participants demonstrated a genuine desire to help and reported a great deal of pleasure gained by participating within their profession. The wardens discussed the pleasure of seeing people succeed, whether it is an offender earning release or staff earning promotions. Each theme presented in this study revealed an alignment with hedonism.

Each warden shared how they do not want to be surrounded by "yes" people. The wardens expressed a pleasure in learning new ideas, approaches, and or strategies. Each theme exposed the efforts wardens while work to construct the most effective goals and strategies for their staff, offenders, and the general public. The participants expressed the diligent efforts to change the offenders' pleasure of rule/law-breaking and selfishness, towards a pleasure of rule following, producing a safer environment for the staff, offender, and general public.

The warden's focus on good behavior or rule following is a very rational approach by promoting, human rational capabilities, as demonstrated in Theme Two. The wardens promote and construct education programs and include life skills. The life skills programs enhance the offenders' ability to create problem prevention and problem solution. Improving the rational leadership capabilities of staff positively effects their problem-solving skills. Educating the general public promotes the rational understanding of what those in corrections are looking to accomplish. Again, the safety and education practices are a part of Theme 3 and demonstrate ethical hedonism within the descriptions of the wardens' intake practices and programs within the facilities.

Hedonism promotes the opinion that a human always seeks pleasure and avoids pain. Hedonism is very important to corrections because constructing the most efficient set of incentives with safety, provokes pleasure. The challenge for the participants, as prison wardens is that the offenders are within the prison system for rationalizing the pleasure of breaking the law. The wardens' intake practices and programs within the facilities. Therefore, the rehabilitative programs and habilitative efforts are designed to provoke the offenders to rationalize pleasure of rule or law-abiding mindsets. Theme 3 demonstrates a rational approach by discussing the wardens' focus on offenders as a whole person, which includes family and community connections. The wardens focus on the pleasure/benefit of the offenders. The wardens take pleasure in providing necessary items to heal the offenders' mind, body, employability, and connections to family and community.

Finally, Theme Four discusses the warden's leadership mindset and expectations, and maturity displays hedonism. The wardens discussed how someone should get into corrections because they really want to make a difference and should really enjoy what they do. The wardens' shared their desire to help others and the benefits of maturity. Each warden discussed having a passion for corrections and really liking what they do. Each warden takes pleasure in promoting the improvement of others social and employable skills.

Utilitarianism

The final form of consequentialism included in this study is utilitarianism, which focuses on the usefulness of action and the volume of happiness produced (Rowan & Zinaich, 2003). Utilitarianism shifted the debate further toward practicality to the usefulness of an action. Utilitarianism is a very important to this discussion. Bentham (1781) published *To the Principles of Morals and Legislation*, discussing utility, or practicality, the value of pleasure and pain, and how it can be measured. Bentham joined with Cesare Beccaria to influence the United States criminal justice system. They created classic criminology (Brown, Esbensen, & Geis, 2015; Siegel, 2016). Beccaria (1764) authored *On Crime and Punishment* detailing his enlightenment approach to crimes and types of punishments. Beccaria is considered a father of law and economics. Free will is assumed and rules/laws and punishment need to be posted for the population to be able to make conscious decisions in regard to rule/law following and the potential pain of punishment. The utilitarian theory assumes people are rational beings. Human welfare is the fundamental goal.

As discussed in Theme 1, the warden's promotion of staff, offender, and public safety agrees with utilitarianism. The staff focus on the welfare of the individual offenders and coworkers. Communication skills are very beneficial when promoting the safety and welfare of others. In turn, the whole facility benefits demonstrating the usefulness of the safety practices in agreement with utilitarianism.

The warden's promotion of staff, offender, and public education and training demonstrates utilitarianism. Staff education involves both safety and leadership training. Safety training benefits the overall goals of the wardens and the corrections experience. Safety tactics have been developed over time and are based on evidence, practical, and discussed in Theme Two. Educating the offenders benefits the offender by acquiring more employable and life skills. As previously mentioned, the programs are bolstering more rational decision making in regard to problem prevention and problem solution. In addition, educating the offenders benefits the whole of the facility, as the offenders must maintain good behavior in order to participate.

Theme Three moves past the rehabilitative efforts and supports utilitarianism by the additional focus on habilitation. The wardens shared that their efforts benefited those within the facility and the public. The practices are good for the public because fewer crimes are being committed when the programs are successful. The offenders are being release with less desire to get pleasure from unlawful behavior.

Adding to the discussion, Theme Four demonstrates utilitarianism. The wardens' earnest desire to help others, leadership mindsets, expectations were very practical and benefit not only the whole of the prison but society as well. The wardens' reflection on maturity involved valuing people, developing productive perspectives, and understanding one's influence over others demonstrating aggregate utilitarianism. Each area of consequentialism discussed in this section demonstrated the genuine and deliberate efforts of the participants. Because of all their efforts is the positive effects on social, human, and cultural capital.

Social Capital

According to Falk (2000), social capital is the cement of society's goodwill. It creates a cohesive society. Social capital results from effective communication and "provides social infrastructure support for our lives in the web of elastic networks related to home, work learning, leisure, and public life" (Falk, 2000). The development of social capital supports conventional behavior and influence a person's trajectory (Siegel, 2016). Each Theme provides elements connected to social. Social capital is the collection of a

person's experience, education, and exposure and the participants work to enhance the abilities of all within their purview to successfully socialize with each other.

The wardens' emphasis on staff, offender, and safety is an example of the warden's efforts to positively affect social capital, as discussed in Theme One. The wardens discussed the importance of safety practices and communication in relation to creating a safe environment for the staff and offenders, benefitting the general public. The wardens discussed that learning how to create a safe environment benefits everyone's social capital. Additionally, the staffs' efforts are expected to demonstrate expected behaviors for the offenders emulate. In others words the staff are expected to lead by example. The wardens also discussed the evidence-based practices that work to provide an infrastructure of support for the staff and offenders. The wardens' efforts expand to the general public, e.g. volunteers, work release, and reentry.

The warden's promotion of staff, offender, public education and training agrees with social capital by continuing to build infrastructure. The staff are effectively trained upon hire and continue training throughout their career. The intake process tests for literacy and the wardens work to meet those needs. The wardens' work to educate the public through public speaking media, job fairs, and open houses, as discussed in Theme 2.

The wardens work to expand the rehabilitative process with physical and mental health, education and vocational trade/skills. In addition, the wardens focus on the offenders' ability to be fit or capable, is a direct example of the intentions of the wardens to positive effect social capital and discussed in Theme 3. Finally, the offenders can interact with citizens during work release programs and upon offender reentry release to the community. The habilitation process includes interaction with family. The offenders are assisted in relearning how reconnect with family within the household.

The wardens are sincere, and their leadership mindset, expectations, and maturity demonstrates their drive is discussed in Theme 4. The wardens discuss the need for having an open mind to change and the patience to be steadfast in reaching goals for staff and the offenders. The participants offered examples of deliberate a focus on patience, leadership, and dedication to corrections (commitment). Each participant demonstrated a wholehearted desire to create a positive environment and support for staff, offenders, and community. The wardens promote effective communication and provide the infrastructure to support for networks related to work, learning, and public life.

Human Capital

Human capital is the collection of one's competencies, knowledge, habits, social and personality attributes, creativity, cognitive abilities, and the embodiment of the ability to perform labor (Wright, 2014). Human capital focuses the human as a commodity and resource that functions in transaction with the economic system (Wright, 2014). Each theme illustrates focus on improving employable skills for the offenders and staff, hoping to create a positive effect for the general public.

Theme One demonstrates human capital by focusing on safety. The wardens address incentivizing good behavior. The wardens work with staff to create the safest prison environment with effective practice policies. Learning to be a rule follower is an employable skill and will benefit the offender upon release. The wardens contribute to the human capital of the public, as well. The safe environment promotes a more positive mindset for offenders who participate with the general public, e.g. work release, job fairs, and release).

Working to increase the knowledge, cognitive abilities, and the ability to perform labor improves human capital and is discussed in Theme 2. Wardens work to meet the education needs of staff through

initial training and continuous training promoting the productive work environment. The offenders are provided education, vocation training, and life skills programs increasing the offenders' employable skills.

Promoting the rehabilitation and habilitation of the offenders positively effects human capital and is presented in Theme Three. Wardens work to increase the offender's human capital via the education previous discussed, they include employable skills as well, e.g. resume building and job interview role play. The collection of rehabilitation and habilitation practices the increase of the ability to fit in the labor market and capable to perform labor.

Theme 4 demonstrates human capital by discussing the wardens' earnest desire to help people, leadership mindset and expectations, and maturity. The wardens discussed the qualities to work in the corrections environment. The expectations of human capital were discussed while the wardens discussed the necessary leadership mindset and expectations that go along with what they look for when hiring new staff.

Cultural Capital

Cultural capital is the aggregate of each members' social and human capital. Cultural capital consists of formal structures that are purposefully manufactured in the four dominant institutions: education, religion, politics, and economics (Macionis, 2014). The controllers of the four institutions attempt to guide and control the will of the people functioning within the culture. Yet, in the end, it is valued by the willful actions of the participants (Bourdieu, 1986). For example, the governance may desire and promote a healthy population, but it is up to everyone to become physically, mentally, and nutritionally fit (Bourdieu, 1986). Correspondingly, it is up to everyone to participate in society in a positive way. Each theme illustrates a connection to cultural capital.

The wardens purposefully focus on staff safety practice policies for the positive gain of all participants within the facility, as discussed in Theme 1. The offenders are incentivized to participate in programs within the prison culture and eventually into the community. The wardens attempt to guide and control the will of the people functioning within their facilities for the benefit of the general public.

The staff participate in specific training in order to produce effective practices in the corrections environment, as discussed in Theme 2. The offenders participate in purposeful education, vocation training, and life skill programs. The general public participates in purposefully manufacture practices such as volunteer programs, public speaking, media, and job fairs.

Cultural capital is promoted further by the wardens' focus on offenders as a whole person, via rehabilitation and habilitation, as discussed in Theme Three. The efforts towards physical and mental health are purposely manufactured. The education practices for all involved are purposefully manufactured. The process of habilitation is to "make capable or fit" and directly correlates with cultural capital.

Theme 4 demonstrates cultural capital by investigating the wardens' fortitude, leadership mindset, expectations, and maturity. The wardens' efforts work to benefit the collective with their drive to increase in both social and human capital, as discussed above. The wardens discussed the desire to help and deliberate focus on patience, leadership, and dedication to corrections (commitment). The cultural capital is positively impacted by the leadership practices of the wardens. They demonstrated a wholehearted, earnest, desire to create positive environments by supporting staff, offenders and community.

Summary of the Study

This study addressed the mutual leadership qualities of corrections administrators, in the areas of agent-based consequentialism, altruistic consequentialism, hedonism, and utilitarianism, as they work to improve social, human, and cultural capital. The information generated through this study has the potential to be valuable to the many environments. Corrections is a multi-layered industry much like many others. Therefore, the findings and perspectives of the successful administrators will benefit those willing to explore them.

The findings function in response to the identified problem that there is a void in the current research regarding effective leadership qualities and an increasing rate of retirement for corrections in top administrative positions. This study was designed to add to the understanding of the leadership mindset, expectations, and corresponding qualities of the successful corrections administrators. The findings of this study work to develop well-informed hiring practices to replace retiring correctional administrators. Society is the beneficiary of this research because effective corrections administrators who work to produce more law-abiding citizens and increase overall public safety.

REFERENCES

Anfara, V. A. Jr, Brown, K. M., & Mangione, T. L. (2002). Qualitative analysis on stage: Making the research process more public. *Educational Researcher*, *31*(7), 28–38. doi:10.3102/0013189X031007028

Bales, W. D., & Mears, D. P. (2008). *In prison visitation. What works: A reentry clearinghouse*. Retrieved from https://whatworks.csgjusticecenter.org/evaluation/bales-mears-2008

Beck, A., & Mumola, C. (1999). Prisoners in 1998. Washington, DC: The U.S. Department of Justice Bureau of Justice Statistics.

Beck, L. W. (1990). *Foundations of metaphysics of morals* (2nd ed.). Macmillan.

Bentham, J. (1988). *The principles of moral and legislation*. Prometheus. (Original work published 1781)

Berger, P. L., & Luckmann, T. (1966). *The social construction of reality: A treatise in the sociology of knowledge*. Penguin Books.

Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Pearson Education.

Bourdieu, M. (2014). Agusta Comte. *Standford encyclopedia of philosophy*. Retrieved from https://plato.stanford.edu/entries/comte/#ComMil

Bourdieu, P. (1986). The Forms of Capitalism. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Greenwood.

Brown, S. E., Esbensen, F., & Geis, G. (2015). *Criminology: Explaining crime and its context*. Routledge. doi:10.4324/9780323357395

Bureau of Justice Assistance, U.S. Department of Justice, Office of Justice Programs. (2013). Second Chance Act Adult Mentoring and Transitional Services for Successful Reentry Program FY 2013 Competitive Grant Announcement. Office of Management and Budget (OMB) No.1121-0329.

Capoizzo, C. (2011, November 30). *Prisoner Reentry Programs: Ensuring a Safe and Successful Return to the Community.* Obama White House Archives. Retrieved from www.obahawhitehouse.archives.gov/blog/2011/11/30/prisonreentry

Creswell, J. W. (2003). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage Publishing.

Creswell, J. W. (2013). *Research design for qualitative, quantitative, and mixed methods approaches* (2nd ed.). Sage Publications.

Davis, L., & Bozick, B. (n.d.). *Higher education ad reentry. John Jay College of Criminal Justice Prison Reentry Institute*. The City University of New York. Retrieved from http://johnjaypri.org/wp-content/uploads/2016/09/P2CP-One-Pager-June-2016.pdf

Davis, L. M., Bozick, R., Steele, J. L., Saunders, J., & Miles, J. N. V. (2013). *Evaluating the effectiveness of correctional education: A meta-analysis of programs that provide education to incarcerated Adults. Bureau of Justice Assistance*. U.S. Department of Justice.

Delisi, M., & Conis, P. J. (2010). *American corrections: Theory, research, policy, and practice*. Jones and Bartlett.

Department of Justice. (2013, August 22). *Justice and education departments announce new research showing prison education reduces recidivism, saves money, and improves employment*. Office of Public Affairs.

Driver, J. (2014). The History of Utilitarianism. *Stanford Encyclopedia of Philosophy.* Retrieved from https://plato.stanford.edu/entries/utilitarianism-history/

Durose, M. R., Cooper, A. D., & Snyder, H. N. (2014, April). *Recidivism of prisoners released in 30 states in 2005: Patterns from 2005 to 2010*. Bureau of Justice Statistics Special Report. Retrieved from https://www.nij.gov/topics/corrections/recidivism/pages/welcome.aspx

Erisman, W. (2015, June). *Reentry education model implementation study: Promoting reentry success through continuity of educational opportunities*. USDE. Office of Career, Technology, and Adult Education.

Falicific. (n.d.). In *Merriam-Webster*. Retrieved from https://www.merriam-webster.com/dictionary/felicific

Federal Interagency Reentry Council. (2016, April 25). *National Reentry Week Fact Sheet*. Retrieved from https://csgjusticecenter.org/nrrc/publications/federal-interagency-reentry-council-fact-sheet/

Free Reentry that Works. (2013, July). Retrieved from Who is free? Retrieved from www.freereentry.org

Gowdy, L. (2013, November 25). *Consequential ethics*. Retrieved from http://www.ethicsmorals.com/consequentialistethics.html

Gubrium, J., & Holstein, J. (2003). *From the individual interview to the interview society*. Sage. doi:10.4135/9781412985437.n2

Halkovic, A. & Fine, M. (2013, November). *Higher education and reentry: The gifts they bring*. Prison Reentry Institute. John Jay College of Criminal Justice. New York, NY.

Halkovik, A., & Fine, M. (2013). *Reentry Research in the First Person: Higher education and Reentry: The gifts They Bring*. John Jay College of Criminal Justice.

Harper, D. S. (2015, September 30). Correctional executives' leadership self-efficacy and their perceptions of emotional intelligence. *American Journal of Criminal Justice*, *41*(4), 765–779. https://link.springer.com/content/pdf/10.1007%2Fs12103-015-9319-1.pdf. doi:10.100712103-015-9319-1

Harper, D. S. (2016). Assessing the professional competencies of correctional executives' and senior-level leaders. *Journal of Competency-Based Education*, *1*(2), 90–97.

HR- 1593-Second Chance Act (2007). 110th Congress. Retrieved from https://www.congress.gov/bill/110th-congress/house-bill/1593

Johnson, M. (2005). *Aristotle on teleology*. Oxford Aristotle Studies. Retrieved from https://www.oxfordscholarship.com/view/10.1093/0199285306.001.0001/acprof-9780199285303

Kaeble, D., & Glaze, L. E. (2016, December 29). *Correctional populations in the United States, 2015*. Bureau of Justice Statistics Office of Justice Programs. Retrieved from https://www.bjs.gov/index.cfm?ty=pbdetail&iid=5870

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage. doi:10.1016/0147-1767(85)90062-8

Lindquist, C., Hardison, J., Rempel, M., & Shannon, C. (2003). *The National Institute of Justice evaluation of Second Chance Act Adult Reentry Courts: Program characteristics and preliminary themes from year one*. Retrieved from http://www.courtinnovation.org/sites/default/files/documents/Final_year%201.pdf

Lingston, J. (2011, March 14). Study proves education can stop recidivism. *The Louisiana Weekly*, *85*(26), 3.

Macionis, J. (2014). *Sociology: The basics*. Pearson.

MacMillan, R., McMorris, B. J., & Kruttschnitt, C. (2004). Linked lives: Stability and change in material circumstances and trajectories of antisocial behavior in children. *Child Development*, *75*(1), 205–220. doi:10.1111/j.1467-8624.2004.00664.x PMID:15015685

Malcolm, J., & Seibler. (2017, March 7). Collateral consequences: Protecting public safety or encouraging recidivism. *Heritage Foundation Legal Memorandum.* Retrieved from https://www.heritage.org/sites/default/files/2017-03/LM-200.pdf

Mastin, L. (2008). Virtue Ethics. *The Basics of Philosophy.* Retrieved from https://www.philosophybasics.com/branch_virtue_ethics.html

Mitchel, W. (1918, June). Bentham's felicific calculus. *Political Science Quarterly*, *33*(2), 161–183. doi:10.2307/2141580

Moore, M., & Recker, N. (2013, November 15). Social capital, type of crime, and social control. Crime and Delinquency. *Sage Journals.*, *62*(6), 728–747.

Morgan, S. T. (n.d.). *Epistemology and ontology*. Retrieved from www.stmorgan.co.uk/epistemology-and-oncology.html

Nagel, T. (1986). *A view from nowhere*. Oxford University Press.

Newman, G.R., & Marongiu. (2009). *On crimes and punishments: Cesare Beccaria Translation, Annotation, and Introduction*. New Brunswick, NJ: Transactions Productions.

NIH Human Subjects Research Training. (n.d.). Retrieved from http://phrp.nihtraining.com/users/login.php

Office of Justice Programs. (1999, September). *Reentry Courts: Managing the transition from prison to community*. A Call for Concept Papers.

Parfit, D. (1984). *Reasons and persons*. Clarendon Press.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Sage.

Preparation prisoners for reentry. (n.d.). *Prisoner Reentry Support. Prisoner Fellowship*. Retrieved from www.prisonfellowship.org/about/reentry-support

Reid, S. T. (2012). *Crime and criminology* (19th ed.). Oxford University Press.

Rosenthal, A., Napier, E., Warth, P., & Weissman, M. (2015). *Boxed Out: Criminal History Screening and College Application Attrition*. Center for Community Alternatives and Education from the Inside Out. Retrieved from http://www.cflj.org/boxed-out-criminal-history-screening-and-college-application-attrition/

Rowan, J., & Zinaich, S. Jr. (2003). *Ethics for the professionals*. Wadsworth.

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing* (2nd ed.). Thousand Oaks, CA: *Sage*.

Salmons, J. (2015). Qualitative online interviews: Strategies, Design, and skills. (2nd ed). Sage.

Scott, K. J. (2016). Corrections and education: The relationship between education and recidivism. *Journal or Intercultural Disciplines.*, *15*, 147–169.

Siegel, L. (2016). *Criminology: Theories, patterns, and typologies*. Cengage.

Smith, C. J., Hoge, R., Andrews, D. A., & Leschied, A. (1996). An investigation of risk and protective factors in a sample of youthful offenders. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *37*, 419–424.

Smith, C. J., Stinchcomb, J. B., McCampbell, & Mancini, C. (2011, June). *Identifying core competencies and required knowledge, skills, and abilities (KSA) for jails leaders: Methods and outcomes*. National Criminal Justice Reference Serviced.

Stinchcomb, J., Smith, C.J., McCampbell, S.W., & Mancini, C. (2011, June 6). *Identifying core competencies and required knowledge, skills, and abilities (ksa's) for jail leaders: Methods and outcomes*. Center for Innovative Public Policies.

Stinchcomb, J.B., McCampbell, & Mancini, C. (2011, June). *Identifying core competencies and required knowledge, skills, and abilities (KSA) for jails leaders: Methods and outcomes*. National Criminal Justice Reference Serviced.

Stinchcomb, J.B. (2011). The upcoming tsunami: Core leadership competencies. *American Jails, 25*(2), 17–24.

Swanson, C. G., Rohner, G., & Crow, M. S. (2010). Is criminal justice education ready for reentry? *Journal of Criminal Justice Education*, *21*(1), 60–76. doi:10.1080/10511250903496463

Swanson, C. G., Rohrer, G., & Crow, M. S. (2010, March). Is criminal justice education ready for reentry? *Journal of Criminal Justice Education*, *21*(1), 60–76. doi:10.1080/10511250903496463

Swanson, C. G., Rohrer, G., & Crow, M. S. (2010, March). Is criminal justice education ready for reentry? *Journal of Criminal Justice Education*, *21*(1), 60–76. doi:10.1080/10511250903496463

Tolbert, M. (2012). *A Reentry Education Model: Supporting education and career advancement for low-skill individuals in corrections. Office of Vocational and Adult Learning*. U.S. Department of Education.

Tolbert, M., & Rasmussen Foster, L. (2016, January). Reentry Education Framework: Guidelines for providing high-quality education for adults involved in the criminal justice system. U.S. Department of Education. Retrieved from https://nicic.gov/reentry-education-framework-guidelines-providing-high-quality-education-adults-involved-criminal

Tossi, M. (2012). *Employment outlook: 2010–2020 labor force projections to 2020: A more slowly growing workforce. Labor force. Projections*. Bureau of Labor Statistics.

U.S. Department of Education. (2016). *Beyond the box: A U.S Department of Education Resource Guide for Increasing Access to Higher Education for Justice-Involved Individuals*. U.S. Department of Employment Opportunity Commission. U.S. Department of Housing and Urban Development, and the U.S. Department of Equal Opportunity. Retrieved from https://www2.ed.gov/documents/beyond-the-box/fact-sheet.pdf

U.S. Department of Education. (2016, May 9). *Education Department pushes for alternatives to criminal history questions in college admissions*. Author.

U.S. Department of Education. (n.d.). *Correctional Education. Adult Education and Literacy*. Office I Career, Technical and Adult Education. Retrieved from www2.ed.gov/about/list/ovae/pi/AdultEd/correctional-ed

U.S. Department of Justice. (2013, April). *Research on Reentry and Employment*. Office of Justice Programs and National Institute of Justice. Retrieved from www.nij.gov/topic/corrections/reentry/pages/employment.aspx

Van Huyssteen, J. (2003). *Encyclopedia of science and religion*. Macmillan.

Yin, R. K. (2009). *Case study research: Design and method* (4th ed.). Sage.

Chapter 7
Higher Ed Through Grad Consulting:
Developing Leadership Skills by Negotiating and Delivering Paid Client Assignments

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ABSTRACT

This chapter describes how graduate students identify client needs, negotiate paid executive consulting assignments, and deliver insightful solutions with the support of senior experts. It's the responsibility of grad consultants to scope, sell, and deliver cutting edge projects. Sponsoring clients can be located anywhere as long as the client possesses a problem or need worth solving. Mentorship ensures high performance and timely delivery by grad consultants, who work as independent contributors in the context of an international management consulting firm. Client executives can benefit from solving pressing business challenges by working directly with the next generation of international professionals. In return, grad consultants are offered a unique opportunity to develop leadership and consulting skills by being fully in charge of a real paying client project from start to finish. This is a call for action to overcome criticism towards traditional business schools, and their insufficient ability to develop practical competencies needed in industry and society at large.

As a master's student in the 1990s, one of the authors had the opportunity to work as a graduate consultant in Northern Europe. Senior graduate students were required to identify client needs, negotiate paid consulting assignments with company executives, and lead the delivery of insightful solutions under the supervision of seasoned faculty experts. For instance, the author was engaged in scoping, selling, and

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delivering a strategic partnership study across three different countries to a senior executive in charge of IBM's Global Mobile Innovation Center in Helsinki, Finland. Inspired by this experience, the author worked later for several years as the expert in charge of this award-winning educational consulting program operated by a consulting firm affiliated with the triple-accredited Hanken School of Economics (www.academicbusinessconsulting.fi). It was most enjoyable and insightful to mentor young professionals who delivered consulting projects to family businesses, multinational corporations, institutions, and government offices alike. It's a highly motivating and powerful educational experience for all parties when creative youth tackle executive challenges independently with the support of seasoned experts.

For years, grad school students at business schools have had a variety of options for exploring and launching careers in consulting. On the risk/reward spectrum, these include joining a student consulting club, competing in a case competition, doing an unpaid project for a client company as part of a course, or becoming a summer intern at a consulting firm (Kowarski, 2019). These traditional choices have their place and have worked generally well, but are lacking in giving students the chance to more directly experience the challenge of selling a project and taking it from start to finish with a client. With few exceptions, business schools have been conservative yet supportive of these status quo approaches, but have left it to students themselves, consulting course faculty, and consulting firms to initiate and run these programs in our experience often with limited involvement.

More recently, curriculum adjustments across recognized business schools (cf. Datar, Garvin & Culle, 2010), strive to include and address job functions like business development, data analytics, and digital marketing to set graduates apart in a competitive consulting market (Study International, 2018). However, the shift is gradual and done foremost retroactively as the criticism for the practical relevance of business education has grown over the past years. Business education is not alone, however, as colleges more broadly are being criticized for rapidly diminishing returns due to rising costs and limited learning taking place in higher education. For instance, Blumenstyk (2015) reports on serious challenges faced by higher education, calling for disruption and highlighting several emerging academic models, which are set to reduce cost, increase efficiency, and increase flexibility, while delivering more career-oriented degrees. A few years earlier, Arum and Roksa (2011) examined thousands of undergraduates and raised concerns for marginal improvement in a range of skills -- including critical thinking, complex reasoning, and communication. Consequently, many graduate students lack these essential skills for any business leader or consultant when entering business school, and according to LeMaire, Fisher & Watson (2017), the vast majority also lack relevant and substantial work experience with entry-level consulting roles in mind. This is unfortunate because consulting remains one of the most attractive careers for students and new graduates, but it's also competitive and difficult to break into. For instance, Weiss-Meyer (2014) reports on data collected by Harvard and Crimson between 2010-2014, which proposes a relatively steady 10% of the graduating class entering the workforce as consultants post-graduation. Five years later the same number for Harvard was as high as 18%, according to Natanson and Xiao (2019). However, competition remain fierce among newly minted business graduates for entry-level consulting jobs (WetFeet, 2008), and, as proposed by Kowarski (2019), to build a career in management consulting is not easy and depends on what degree, experience, and qualifications you possess.

Consequently, the bridge between higher education and consulting could be much stronger and wider if schools get more involved in opening up paths and purposely pursuing ways for their students and new grads to get into consulting. For instance, Adams and Zanzi (2004) concluded their longitudinal study on how well academic offerings serve the consulting industry by stating that there is a need to engage the consulting industry more in curriculum development and in providing field project and internship

experiences. That said, field-based consulting work for credit is nothing new in business education, and explorative learning has grown in popularity in the past years (Beard & Wilson, 2013). For instance, Culver, Pilafidis and Sathe (1998) created a highly demanding and challenging field-based experience for students, exposing them to intense real-world learning by combing theory with practice. And according to Schaupp and Vitullo (2019), there is currently a rich offering across business schools in terms of first-hand experience from real-world client and business problem solving, as also evidenced in Totterman (2019). In terms of uniqueness, most graduate business school programs have instituted explorative learning into their curriculum (Marquardt, 2011). So, to offer a more unique learning opportunity, a school may combine international studies with close client proximity, which develops global and cultural competence, critical thinking skills, business acumen and soft skills (Schaupp and Vitullo, 2019).

However, the majority of consulting initiatives primarily mimic an actual analyst consulting engagement, where the scoping and negotiation is already completed by supervisors, rather than putting the graduate student in charge of preparing and delivering a real-world consulting assignment (Culver et. al. 1998). While in principle it's good, a truly valuable learning is missed since grad consultants are not involved and taking the lead from pre-conception to finish. Too often students join discussions with a pre-determined client and work on a problem scoping agreed upon without their input. As stated by Le Maire et. al. (2017), it's not the same thing to simulate consulting engagements as it is to develop consulting skills on the job. It is elementary to offer a consulting experience that is as real as possible given the circumstances. Supporting this argument, Heriot, Cook, Jones, and Simpson (2008), decided to take action learning out from the classroom to make the case for real-world learning, which necessitates interaction between the student team and the business owner facing a current problem. Unfortunately, very few programs offer graduates an opportunity to work for a real consulting firm, require them to identify and scope real-paying client assignments, and eventually, to lead the project and the supporting team. Also, assignments don't typically involve close student-client interaction while being mentored by a designated consulting expert rather than research-oriented faculty. The co-authors believe in the potential for grad consulting and see it as largely untapped as defined here and think it's time to address the unmet needs and gaps that exist.

As a result, in the Fall of 2019, the co-authors launched the Grad Consulting program, which offers executives a unique opportunity to solve pressing business challenges by contracting the next generation of international young professionals. The program is enabled by LEADX3M LLC (www.leadx3m.com), a Boston based business innovation consultancy, whose community of senior faculty and experts facilitate and support graduates in leading and delivering impactful solutions to client projects sourced foremost by students themselves. In return, grad consultants receive cutting edge real-life experience of leading consulting projects, while typically being compensated and recognized for their effort. Even new grads who are fortunate to join consulting firms often don't have this chance until they work their way up in the firm to higher levels of seniority. For instance, Robinson, Sherwood, and DePaolo (2010) describe how they progressively teach business strategy by turning over the leadership of the classroom and the consulting company to students. This type of self-organizing leadership allows students to conduct functional operations of the company and to work as consultants while enabling class-wide learning to take place. This is very different from newly graduated consultants, who, according to Bright Network (www.brightnetwork.co.uk) from the United Kingdom, typically start as analysts supporting wider teams with data collection. Once proven successful, they progress to an Associate, followed by a Senior Consultant role for the selected few who are regarded as capable of leading client projects. This is very similar to career paths offered by large consulting firms like Accenture (www.accenture.com/

gb-en/careers/graduates), where the consulting graduate program commences from an Analyst position. However, the program focus is on assisting the larger team with background material to conceive, design and execute business solutions in specific industries, while building an understanding of business issues and industry-specific technologies.

ALTERNATIVES FOR STUDENTS

Datar et. al. (2010) report on many underlying reasons for a changing market place for business education, pointing out several curricula related flaws and proposing pedagogy and course design-related innovation. As stated by Le Maire et. al. (2017), the underlying issue is that graduates are inexperienced when enrolling and most business programs are not able to prepare them to hit the ground running when entering the workforce. Their recipe to address flaws in management education includes project-based education, consulting and practicum, and work-based learning and internships. In terms of practicing consulting skills, business schools have traditionally offered access to consulting clubs, case competitions, courses with consulting projects, internships, and capstone like graduate consulting learning opportunities (Kowarski, 2019).

Consulting Clubs: At most business schools, in the first semester, students are invited to join a lot of different interest groups and clubs, consulting typically being one of them. These clubs are a good way to get some initial exposure to management consulting and what it is, and especially to form connections with other students interested in this field. It's unlikely that consulting clubs offer students any real experience with a consulting project or case. They're more likely to be informational, sharing details on what firms tend to hire from the school, different types of management consulting, and offer practice with case interviews. Since these clubs are student-run, a lot of their value depends on who is running them and how well leadership transitions and knowledge is retained and refreshed from year to year.

Case Competitions: Many business schools offer grad students a chance to participate in business case competitions with other schools or programs. Consulting-minded students are particularly interested in these opportunities because they involve interesting problem-solving challenges and a chance to work on teams and potentially win recognition and rewards. Since being on a case team is limited to only a few participants, this option is a great way for top candidates to build their consulting skills, but unfortunately doesn't let that many play and give it a try. Case competitions are fun and sometimes lead to entrepreneurial opportunities but they are very brief, always to some extent conceptual, and only scratch the surface of what consulting can be like.

Courses with a Consulting Project: In the past few years, business schools have invested in offering "action-learning" programs, which involve courses that include different types of real-world project requirements. For instance, analyzing and proposing solutions to an executive-level business challenge, or developing a business proposal for an entrepreneurial project. These projects are closer to what working in consulting is like. There is a real external client that wants help with something and needs some research and analysis and recommendations from outside its organization. According to Schaupp and Vitullo (2019), the faculty advisor or course professor finds the client and project to work on, gains their approval, and assembles the student team). The work is often done pro bono with no cost to the client and no project-specific income for the students, advisor or school. This type of grad consulting arrangement is not new and has some risks such as reputation risk to the school, if a client is unhappy with the result or if a student inadvertently or knowingly discloses confidential information. But with good precautions

and oversight, these risks are mitigated and shouldn't be a barrier. What is more, research conducted by Richter and Schmidt (2008) suggests that university-level management consulting courses contribute effectively in preparing graduates for consulting roles.

For instance, Hult International Business School (www.hult.edu), formerly known as Arthur D. Little School of Management, is a true pioneer in action learning, a pedagogy also adopted by some of the most prestigious schools in the world, including Harvard Business School and Stanford University. True to this method, the professor primarily facilitates team working on real-life projects, which aim at nurturing and enhancing business acumen among participants (Totterman, 2013). Students gain some valuable hands-on experience and course credits while the client gets some free consulting. It's a very good way for a relatively large number of interested students to get exposure and experience with consulting before they graduate. An issue with this approach is that the mix of students on a given team may not be ideal for them or the client given their prior experience, skills and interests (LeMaire, 2017). Similar to most consulting firms, students don't always get to pick their projects but are assigned to ones they may not like. The constraints, like the course timing and school demands are also at play, so these projects are typically narrower in scope, less sensitive, and lower in complexity than paid projects in a real consulting firm setting.

Consulting Internships: For leading and high-ranked business schools, grad students can apply to get paid summer internships at consulting firms. Some of the largest strategy and accounting firm consultancies have long-standing relationships with target business schools where they have established on-campus recruiting programs for internships and full-time positions. These partnerships are with the schools' career centers and are more about the mechanics and logistics of interview schedules and rooms, than any actual consulting, skill-building, or school to job coaching or mentoring. Consulting firms like this approach to recruiting because they can hire smart, enthusiastic grad students for not much money and test them out. At the end of the summer, firms can make early offers to their top interns to try to recruit them to join full time after graduation. On the downside, these programs have very defined and selective criteria and deadlines, so if you try to get in off-cycle, good luck. Also, only a small handful of students get these plum internships, so it can be very frustrating for others who want to try being consultants but don't make the cut. For those who make it, as suggested by Ryan and Harvell (2005), the internship gives great practical experience, and an opportunity for the employer to evaluate for permanent employment.

THE CALL FOR GRAD CONSULTING

What's often missing from the mix of alternatives is an approach that gives graduate students a way to try consulting or build their existing consulting skills with more choice, control, and importantly professional development advancement with income potential. For instance, Culver et. al. (1998) suggest that students should learn to identify consulting opportunities and then work with consulting as an independent study supervised by a faculty member. They offer a groundbreaking opportunity for students to learn from practice and challenging projects, but despite their good intentions, their pedagogical model had some major flaws, which are addressed here. For example, instead of graduates, faculty were in charge of contacting and scoping prospective companies. In other words, leads were obtained from the faculty's own connections, executives in the institution's network, and eventually after some years through testimonials from past projects. Even worse, the faculty was in charge of defining projects together with clients to meet the project eligibility requirements in terms of timeframe and resource requirements.

After that, faculty formed graduate consulting teams, which in essence meant that students came to an already catered table in terms of finding a client, a problem worth solving, and forming a team with the right capabilities on board. Great learning opportunities were wasted, when the client and faculty had already agreed on project objectives deliverables, budget, items for non-disclosure, project schedule, and who from the organization need to be involved in the project with information gathering and decision making in mind.

According to Le Maire et. al. (2017), typically business graduate consulting projects should require three things of students: that they form their own teams, find clients (and projects), and take responsibility for managing their projects with deliverables in mind. However, the co-authors' experience is that teams, clients, and assignment scope are surprisingly often pre-determined, rather than defined by graduate consultants themselves. This is precisely the case in the examples of Culver et. al. (1998) and Schaupp and Vitullo, 2019). Very surprisingly, this is also the case with Le Maire et. al. (2017:139) program: "*Each student is assigned to a consulting team based on the requirements of the individual consulting projects as well as the specific skill sets of each student."* This common behavior can probably be explained by different types of convenience factors and risks associated with letting graduates take responsibility for framing and delivering the explorative learning experience. Hence, there are no certainties that they can successfully identify, scope and agree on a suitable project, or form a team to deliver feasible results within a tight timeframe.

In the proposed consulting model, graduate students are given the chance to own the client relationship and the assignment from pre-conception to final delivery and reflection (LEADX3M, 2020). The upside is viewed as far greater than the downside, as long as risks are counted for in advance and uncertainties are managed with an affordable loss approach throughout the project. There is immense learning in being required to source, sell, scope and deliver one's own consulting engagements, while getting training and project support from an experienced consulting expert. For instance, Biggs (2003) highlights the importance of activity as part of learning, because engagement in itself is bound to increase opportunities for discovery, and more importantly, learning is reinforced by linking different sub-activities to drive overarching learning objectives. Grad consultants get to learn and practice entrepreneurial leadership, business development, and a wide range of consulting skills outside the classroom, before or soon after they graduate. Rather than getting a client and project that someone picks for them as is the case in most other alternatives, they can pursue their own clients and types of projects. And instead of being mere project contributors, they are fully in charge as leaders and responsible for doing the bulk of the work and satisfying their clients. They are immediately immersed in the depths. To survive and succeed, they must keep breathing and swimming like they are their country's star athlete, who is nevertheless surrounded by expert coaches, lifeguards and a lifeboat to help as needs emerge. As stated by Biech (2007), Consulting is one of the best ways to get hands-on experience seeing what it's really like to work inside particular companies and industries and also to get exposed to a wide variety of these over time.

ADVANTAGES AND PRACTICAL APPLICATION

Although management consulting continues to be a higher than average growth industry, and top talent is always in demand, it is structurally mature and already undergoing significant changes. For example, the so-called "big three" strategy firms of McKinsey, BCG, and Bain are increasingly offering operational and software-related solutions like Accenture and others, which historically were considered to

be down the value chain. A great read on this shift is offered by Abbosh, Nunes, and Downes (2019), who describes how Accenture and other companies are transforming in a disrupted world. There is a need for new models and approaches to be tested and adopted in response to new global opportunities and threats, accelerating technological and scientific advancements, new organizational models, and changing regulatory/political/social environments. The authors believe that companies that are willing and able to tap into a broader, educated, and more diverse talent pool will have an edge in addressing the challenges they face.

The traditional consulting model is to hire newly minted MBAs from top schools and groom and train new hires in their proprietary methodologies. Junior-level analysts are the workhorses of case teams, taking instruction and assignments from their superiors and frequently kept in the background with limited direct client contact. While this may not always be the case, it is a common approach and seen by the co-authors as suboptimal since it holds back the new hires from gaining visibility, leadership, and client relationship development and clients don't get the full benefit of benefitting from the fresh ideas and different opinions of all case team members.

Grad consulting offers companies a low-cost, relatively low-risk way to get "outside-in" analysis and recommendations compared to traditional consulting. For a fraction of the typical several hundred thousand dollar engagement, companies can hire grad consultants along with experience expert consultant advisors for rapid assessment, with a 5-week sampler starting in the low five figures. The assignment can then be broadened and extended indefinitely as a consulting assignment that may or may not transform into employment for the grad consultant. In opposition to Culver et. al. (1998), the proposed program commences from selecting the lead grad consultant, not the client or a particular assignment. Each assignment has a lead from the outset, who is in charge of scoping and identifying a sponsoring executive (CEO or similar) and propose required resources, including additional people to tackle the client challenge within the given timeframe, under the direct supervision of the paying client and mentorship of the expert. The grad consultant is directly in touch with the client throughout the project, and the expert will only interfere to offer support on revisions, ensure progress, and offer support as deemed helpful (LEADX3M, 2020).

The objective is to offer a great learning opportunity when it comes to scoping, negotiating, and forming teams for particular client assignments, which is seen as essential so that graduates learn to become better consultants and also owners of the consulting projects. This is more in line with Schaupp and Vitullo (2019), who offer a comprehensive step-by-step integrated approach. Accordingly, carefully selected graduates are assigned to teams who engage in client discussions to identify the problem and determine the scope of the engagement. However, they also assign teams and clients have been identified and briefed before engaging graduates. Once a project is agreed upon, in their model, student teams lead the engagement based on the agreed problem, scope and requirements like timeline for completion and final deliverables to the client. As stated by Danford (2006), the graduate's self-direction indicates independence from a strictly defined research methodology and pedagogical approach, and instead, the process is strongly driven by seeking solutions to the client problem scoping.

In terms of experts, their role is to coach and advise grad consultants who lead paid client assignments. For instance, Beard and Wilson (2013) dedicate an entire chapter to discuss the importance of coaching and facilitation in experiential learning. Compared to similar roles in other programs (e.g. Schaupp and Vitullo, 2019), the objective of experts here is to coach and mentor the grad consultant, who in turn learns the theory and practice of management consulting and project management. Experts are not responsible to identify clients, even if they play an advisory role in scoping and the initial meetings, starting from

defining broad terms and parameters of the engagement, followed by addressing the specifics of the engagement and detailed problem definitions. Experts meet with grad consultants several times during the week as needed throughout the project.

Learning takes place primarily on the job, and is by no means packaged into specific sessions except the initial training day designed to get grad consultants moving. As with Le Maire et. al. (2017), core topics include consulting skills, project management, risk management, financial analysis, analytics and modeling, lean methodologies, and project reviews. To succeed as a consultant, graduates must ensure skills evolve rapidly as the process unfolds from preparation to different phases of execution. The actual consulting process follows a fairly similar iterative process as seen in other consulting initiatives (e.g. Biech, 2007 and Rasiel & Friga, 2001). For instance, Rasiel and Friga describe the Problem-Solving Process made famous by McKinsey, where a business need is solved by efficient analysis, management, and presentation of outcomes to drive implementation. The objective is threefold: bringing value by solving client challenges quickly and effectively, ensure a demanding yet successful learning opportunity for the grad consultant, and provide an inspiring mentoring opportunity for involved experts. As a sugar coating, the graduate, expert, and the consulting firm all receive fair compensation for their efforts.

THE BOSTON INITIATIVE

At Hult International Business School, the majority of students are international and the chance to work for a company based in a country that's different from their home country is particularly appealing. Global-minded and experienced graduates are in high demand and bring a diversity of experience and perspectives to employers. Compared to traditional paths into consulting, the grad consulting model offers both international students and companies greater accessibility and opportunity to find valuable matches. Consequently, LEADX3M partnered in the Fall of 2019 with the Career Development Team at Hult International Business School to prepare graduating students and alumni for careers in management consulting. According to Lauren Piontkoski (2020), Head of Career Development in North America:

"LEADX3M's Grad Consulting resonates particularly well with our efforts to accelerate careers and create international opportunities for specialty masters, MBA, and Executive MBA students and alumni".

LEADX3M LLC is a Boston based international business innovation consultancy that creates value for clients with a personalized touch by unleashing creative leadership to drive higher performance with a smile. The company is deeply anchored in the latest academic knowledge and practical insight when it comes to advising its international business and institutional clients. Each client assignment is structured to follow the signatory business design process, which includes iterative yet distinct steps: understanding, designing, refining, finalizing, and consulting the client. LEADX3M and its experts deliver primarily strategy program-related insights for executives, business design processes for innovation managers, and talent development services for HR-managers in industry, higher education, and executive education. The expert community is a carefully selected group of business executives, business advisors, and professors who advise and mentor leaders, and inspire and facilitate organizational change. Each client assignment has a lead expert, and is provided additional administrative support and support as needed from an expert project advisory group.

The same process structure is in place for grad consulting with the student positioned as the lead, mentored by the senior expert who drives and measures quality for top-performance and impact. Consequently, grad consultants work as a small management consulting practice where each client assignment and graduate is backed up by an expert and advisory. This ensures that graduates gain first-hand experience from leading successful real assignments, and client companies and institutions can work productively with the next generation of international professionals. In terms of grad consultants, they are particularly helpful in leading market studies to test ideas, identify competitors and innovate business models. They are also qualified to lead research projects to support strategy and business renewal, which speeds change in a highly effective manner. Grad consultants can assist innovation managers by delivering insights on emerging technologies and digital transformation to drive creativity, and HR-Managers with employer branding, talent valuation, and assist in building high-performance organizations. It is a unique opportunity to investigate and solve corporate or institutional challenges as the lead contact for executive and business owners. The program is designed to empower young professionals in particular (typically with less than 5 years of relevant post-graduate work experience).

Message to applying students from LEADX3M (2020):

"The Grad Consultant program is particularly designed to offer business engagement opportunities for postgraduate students and recent masters graduates. The program is designed to offer something for everyone. Foremost to train you in analytical and problem-solving skills, and conduct research to solve real-client needs. You will also develop leadership skills and collect evidence of capabilities in running complex projects.

The expectation is that you can scope, sell and manage the project with input from experts, the client, and other stakeholders. Our process is designed to support different Grad Consultant profiles and project types. We are interested in motivated learners and seasoned consultants alike.

In our application interview we will discuss project scoping and fee structures based on your previous experience and type and scope of possible projects. In addition to the experience and possibility to develop your leadership capabilities, there is an opportunity to earn compensation as a mentored Grad Consultant. Consequently, we keep administrative and experts costs reasonable. That said, the potential compensation as an independent contractor is foremost dependent on your client project's total value, complexity, and your experience.

Please note, as a company LEADX3M is committed also to invest part of its expertise and other resources in competence clusters, verticals, and volunteering. 10% of our total pool of projects are expected to be low-bono or pro-bono assignments with significant societal impact. Therefore, we encourage also Grad Consultants who want to work with non-profits and emerging markets to apply. We consider each application individually, match them with our expert community, and bring together a portfolio of consulting projects. As Always, Together. We Can!"

What makes this unique, is the potential of global reach and the reality of establishing and leading a self-enabled international consulting project, mentored by a selected expert and advisory team. Imagine the opportunity to learn and experience the following by leading a compensated client project:

- Scope, sell and manage the project and process with direct input from experts, the client, and other stakeholders.
- Real-world analytical and problem-solving skills
- Conduct research to solve client needs
- Develop leadership skills
- Collect evidence of capabilities in running complex projects

As stated by one of the grad consultants: *"This is consulting assignment training and skills development at its best."* Instead of being assigned to projects and teams, grad consultants identify client needs, negotiate paid consulting assignments with company executives, and deliver insightful solutions with the support of senior experts. And they don't have to wait for several years in more junior or entry-level consulting roles to be allowed to lead the scoping, sales, and delivery of cutting edge assignments for a client with an executive-level problem or need worth solving. The program offers grad consultants a great opportunity to develop leadership and consulting skills by working on a real client project. Successful completion of the program generates a strong company contact, recommendation letter, referencing opportunity, and a certificate from LEADX3M.

Preparing the Journey

After careful planning, an initial survey was sent out in December 2019 to graduate students at Hult's Boston campus. It resulted in over 100 respondents (roughly 12% of the total graduate student population). The vast interest was expressed across disciplines, roughly half were MBAs and half completing their specialty masters in business, marketing, or finance. The mix of interested students was wide, both in terms of breadth - many different nationalities, and in terms of experience. The program is designed with all experience levels in mind, assuming that primarily those with limited consulting experience would apply. That said, it was a surprise that students with more than five years of work experience represented about 30% of respondents, those with 3-5 years were another 30%, and those with less than three years represented 40%. The underlying reasons for why Hult graduates were interested in the grad consulting opportunity ranged widely. Generally, those with limited work experience see this as a way to gain practical experience in a consulting setting, those with previous work experience are looking for ways to both adopt gained competences and collect experience in the consulting field, and those with previous consulting experience want the challenge of a new vertical or domain in consulting along with selling their own projects.

A sample of anonymous responses on reason to apply to the grad consulting program (Graduates, 2020):

"Because I would like to understand how the consulting world works and in addition, pursue a path in a consulting related field."

"I have worked for different companies in different industries and always had the opportunity to work with consulting companies but never worked for a consulting company. I am mainly driven by the exposure to new types of projects."

"I have experience in Management Consulting. I worked in big companies where I was responsible for delivery, with fill contact with leads, and a secondary role in develop sales. I see the Grad Consulting an opportunity to develop my sales skills, stating with my large network."

All attendees to the information session in January 2020 were encouraged to formally apply and provide more information about their interest in consulting, project and potential client ideas, work experience, relevant strengths and skills, aspirations, and expectations for learning and compensation. The first reach out resulted in 26 formal applications and still counting. Each applicant was interviewed in-person over a few weeks to get to know them better and understand their unique strengths and goals. All interested applicants were then invited to join an interactive online training day led by the co-authors and several experts. The training was structured with each grad consultants experience and priority in mind, rotating through five virtual breakout rooms that focused on:

- Lead generation and networking
- Selling consulting and closing deals
- Planning a successful project
- Collecting insights and iteration
- Delivering strategic value / reselling opportunities

The grad consultants then began to identify a variety of potential clients and projects that they would like to pursue. Some were more proactive than others in starting conversations with prospects about their issues and challenges to try to identify opportunities for new projects. Others needed more guidance in the early stages of networking and lead generation. For most of the students, developing sales skills is something they would like to gain from this experience, so responding to their questions and providing support and coaching in this area is a key activity for experts. As stated by one of the six experts in preparing the grad consultants:"*It's incredibly motivating to prepare smart and motivated grad consultants, and especially, to see them realize their potential in locating, selling, and leading the delivery of consulting solutions."* The opportunity for success is evident as long as the grad consultant ensures progress, quality, and delivery to agreed milestones in terms of planning and reaching out to a broad pool of prospective clients and other key stakeholders.

The reality is that graduates often underestimate the potential of their personal and business networks with client scoping in mind, which can be fairly easily corrected. The bigger issue is that they also underestimate the magnitude, workload, and immediate impact when it comes to closing a deal. Let's face it, sales in general is hard work, and selling intangibles like consulting is even harder. Indicative to the awareness of this among interested graduate students (N=100), close to 50% felt confident they could identify a need and sell a fee-based client project in a particular part of the world. At the same time, 98% of all respondents felt very interested or interested in the opportunity to shape their careers through grad consulting. The in-person interviews brought further evidence to the underlying challenge, as only 4 interviewees (N=26) defined their sales negotiation skills as above average, at the same time as 15 defined their market research, project leadership, and language skills better than average. This is why it becomes essential for grad consultants to plan carefully how they will utilize their time, how to progress between steps, and to be realistic in terms of input versus output. Some would prefer to work individually on the project, but end up partnering with other grad consultants to share the pressure of selling and delivering towards a complex assignment. Working alone puts the individual capabilities

in the spotlight, while sharing the load with others may result in a more comprehensive output from a client perspective.

Regardless of the approach, once a project kicks off it always has a designated expert who mentors the lead grad consultant and the potential team as needed for successful delivery. Mentoring includes guidance on realism, commitment, and impact on project-related outcomes. To utilize experts effectively, bi-weekly check-ins commence after the initial training session. These are carried out by someone from the project management team, while the designated expert is assigned once project scoping is closer to the contracting phase. A rolling approach is applied in terms of the planning timeline with some indicative deadlines for when the project starts during fall, winter, spring, and summer. This allows efficiencies of scale as grad consultants can be prepared in a compact selective group rather than one by one. The program is designed with a funnel-like dropout rate where half of the original applicants are expected to attend training and commit to drive the sales funnel, and another half of these will land on a contracted project (Hult Boston spring 2020: 108 interested, 26 applicants, 14 in training, estimated 6 projects before July 2020, but COVID-19 pan-epidemic in Spring 2020 is likely to affect the final number. The co-authors were excited about the high level of interest seen from Hult students in spring 2020, and about the different sorts of client contacts they proposed. Rather than limiting their thinking, grad consultants were encouraged to build on their unique passions, experience, and skills, and to consider based on their networks who the potential clients were, what they actually need and will pay for. As shown in Table 1, the sales funnel has 5 distinct steps before the assignment is carried out (delivery & feedback).

Table 1. Sales funnel: search and scope (courtesy of LEADX3M)

	Planning	**Opportunity**	**Executive Sponsor**	**Solution Development**	**Confirmation**	**Delivery & Feedback**
Progress	**10%**	**30%**	**50%**	**70%**	**80%**	**100%**
DESCRIPTION	Plan, analyze and drive sales that exceed targets	Identify opportunities (need and offering) for targeted accounts, and define strategy and approach	Identify client champion, understand objectives, and develop presentable solutions	Proposal validated and refined & contract prepared	Customer signs contract & setup for delivery and payment	Program delivery
Who Does What	Grad Consultant with training and input from Business Development and Expert	Lead Generation Grad Consultant	Scoping Meeting Client, Grad Consultant & Expert	Client & Grad Consultant, Expert Closes (Offer)	Client, Grad Consultant, Expert, LEADX3M (Contracts)	Grad Consultants & Expert
		PIPELINE	**UPSIDE**	**COMMITTED**	**WON/LOST**	**EXECUTION**

The grad consultant is the driver of the process and is expected to operate relatively independently until the executive sponsor is identified. At that point, a designated expert is assigned who will join the customer meeting to support the grad consultant and ensure assignment scoping feasibility. Following this, an offer and agreement is prepared by the grad consultant and expert, which is approved by LEADX3M and then signed by the client. A grad consultant typically works on several clients in the sales funnel simultaneously to eventually commit to one project at a time. In terms of scoping and pricing, projects are typically sold in 5-week blocks, where 5-weeks is minimum with an unlimited addition of blocks as agreed with client and project team. The shortest projects last one month and longest can run for a semester or longer, depending on the type of identified client needs. Any surplus from compensated projects is split roughly in three ways between the grad consultant, expert, and the consulting company.

LEADX3M and experts are also committed to offering 10% of all projects as pro- or low-bono, while the remaining bring in a reasonable base to cover administrative and expert costs. Projects are priced competitively and the compensation designed foremost to cover immediate facilitation costs. Table 2 below provides an overview of sample projects.

Table 2. Examples of typical graduate consulting projects

Client	Assignment	Deliverables
Finance (Asia)	Determine the feasibility of a department strategy.	Source feedback on the efficiency of the department and the performance of their actual strategy.
Talent Assessment (Europe)	Analysis of competition and regulatory environment to refine strategy and support expansion.	Market entry strategy based on a partnership structure.
Engineering (Lat Am)	Audit the efficiency of a business unit.	Make suggestions to improve efficiency based on identified development possibilities/ capabilities.
Healthcare (Europe)	Source information relevant to international expansion through a merger or acquisition.	Deliver a comprehensive report including market intelligence and a list of potential deals in a new market.
Energy & Resources (USA)	Increase market share through new approaches to distribution and partnering.	Market research and proposals on partnership-oriented business model re-engineering.

Grad Consultants can participate by working individually (leads) or in small teams (one lead and 1-3 contributors) on a particular client assignment. Leads are responsible for sourcing their clients and projects through their own networks, fellow alumni, and lead generation activities. All participating consultants are mentored by a designated LEADX3M expert and a central project management team. The projects are potentially unlimited but time-bound to deliver value in a short period (~5 weeks), and may cover market studies or research projects to support strategy and business renewal programs, projects related to emerging technologies and digital transformation to drive business development processes, or validating and collecting insights to develop high-performance talent services.

Delivering Outcomes

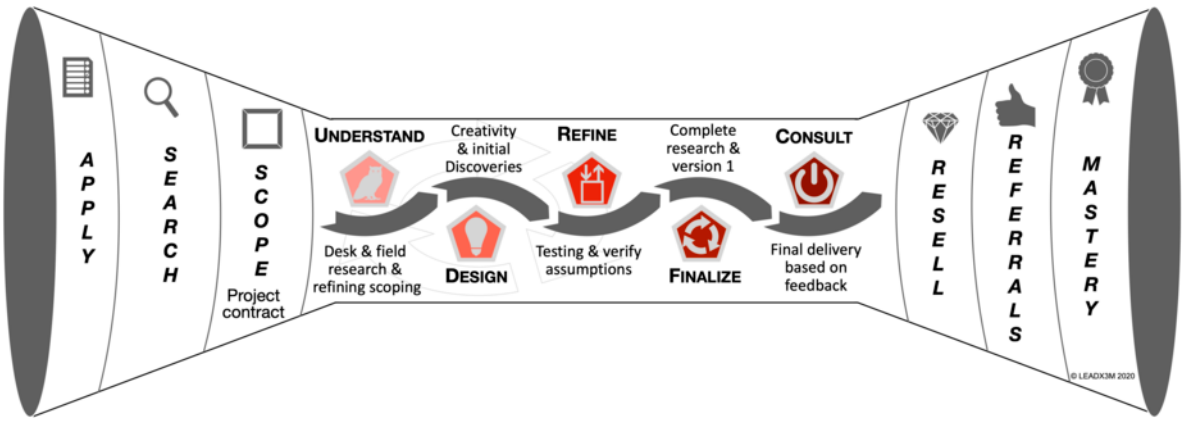
Client feedback suggests that the grad consulting program offers executives a unique opportunity to solve pressing challenges by working directly with the next generation of international professionals. As exemplified by an anonymous client reference on work completed by a grad consultant (Client, 2020):

"LEADX3M succeeded in getting right to the point in our complex business environment that included many commercialization paths. Not only could we increase our understanding of the total market size but could also get concrete introductions to the organizations and companies. Thank you for the excellent work!"

This testimony among others evidence that young professionals can indeed deliver cutting edge insights and solid creative solutions cost-effectively with direct support and direction from experts. In general, senior executives appreciate that the program is designed with busy schedules in mind, minimizing time commitment to roughly one hour per week for brief scoping, update, and feedback meetings with grad consultants and experts as needed. The designated expert mentoring adds to the credibility and makes executive sponsors generally more willing to promote access to confidential material and people in their organizations and value-chains.

The operational framework in **figure 1** is designed according to LEADX3M's Business Design Process. As shown, once the assignment is contracted, grad consultants utilize the framework as an iterative process, which starts from extensive desk research and assumption building. The scoping process has prepared grad consultants to grasp client reality. This is foremost an additional deep dive to ensure a comprehensive understanding of the problem area as assumptions are being defined, before delivering the project brief for client approval. In our experience, this deep dive often reveals important adjustments with the problem scoping in mind. Once the client has approved the brief, the grad consultant completes multiple shorter sprints to expand initial discoveries through a creative and highly iterative process of researching-framing-testing and redefining assumptions. This is where information is collected, ideas are being tested, and models and insights are being constructed. Gradually once problem scoping is certain, the process continues with refining findings, by continuous tests to further validate assumptions, processes and methods enabling innovation and procedural changes.

Figure 1. High-level process overview (courtesy of LEADX3M)



The client checkpoint signifies the assignment midpoint, which results in the completion of phase one research and leads to further narrowing of scope based on client feedback. This formal discussion typically considers already potential implementation and feasibility of initial outcomes. As a result, grad consultants continue to validate findings, seek additional proof, and they implement feedback before concluding key findings, takeaways / recommendations. The final client deliverable contains a project memo and presentation with potential strategic/tactical or talent development recommendations if requested by the client. Once the client is satisfied with immediate delivery, parties discuss key metrics,

future aspirations and opportunities to continue working together with another 5-week extension or a follow-on project.

From a grad consultant perspective, the process offers a comprehensive opportunity to frame a client assignment and independently work towards a defendable solution. The expert is close, without interfering unnecessarily. Thus, offering certain comfort, without taking away from the opportunity to explore and discover the client space. For instance, one anonymous Grad Consultant (2020) framed the experience in the following fashion:

"It was a great pleasure to work on our client assignment where we were tasked with understanding the XXXX market in the United States, with a particular focus on Massachusetts and New England. We designed our analysis in a way where we benchmarked states v states with a little reference given to other international territories. This allowed us to refine our analysis for the purposes of uncovering actionable insights in terms of what could be considered pilot/focus regions for carrying out the client assignment. Once we knew territories where the project could be carried out, we finalized the project by getting 4 prospect clients in the Massachusetts region to commit to piloting the XXXX platform and to establish the market's response to the platform. The client was happy and impressed with the level of detail and holistic view provided to them for the purposes of their own research.

Following this reasoning, the natural question is of course, how do we know that learning takes place when it comes to grad consulting, or more pointedly can we prove the power of learning? Beyond immediate positive client response, we must consider what is considered as desirable consulting qualifications to answer that question. For instance, Biech (2007) makes a distinction between consulting skills and characteristics, which is much in line with the underlying learning objectives applied here for the grad consulting program. Some of the skills Biech lists include prospecting and marketing, diagnosing client needs, pricing projects, understanding business data etc., and some of the characteristics include leadership, decision-making, self-confidence, enjoying working etc. As we can see, most of the other graduate oriented consulting programs are not focused on developing these skills. In terms of assessing them, its essentials to consider the complete set of skills and characteristics, and then measure these before, during, and after the grad consultant assignment. This way improvement and attention areas are recognized and addressed as development priorities. This approach also enables a clear definition of how necessary skills and experiences are gained, and how grad consultants can adapt to necessary characteristics that are not a natural part of their behavior.

In addition to learning objectives, positive customer outcomes and expert insights in terms of grad consultant personal growth, the value of knowledge and the proof of learning is perhaps best measured by the grad consultants themselves. In line with this, Decker, Durand, Ayadi, Whittington, and Kirkman (2014) offer an insightful read on the effects of student self-assessment of management and leadership competencies. Here, in the short term, it's important to assess the perceived personal growth in terms of how much they've learned and gained new knowledge while delivering results to clients. Equally important is their assessment of overall project performance in each of the phases, with emphasis on evident strengths and improvement areas for themselves along with other involved parties. More long term, career-related choices and progression may prove how useful the learning experience was for them, with the complexity of many influencing variables.

Explorative learning and working with real-life clients is an important step towards more autonomous learning. In case, the process is controlled too much, students continue to primarily develop their ability

to request and follow clear instructions to perform in line with set expectations. A next step is to ensure they have well developed associative skills, which allows them to become good at transforming meaning from one context to another, like concepts into action. This is a particular strength of, for instance, business school case studies, which can develop confidence in identifying underlying issues to drive decision-making. However, cases have several shortcomings that real-world consulting assignments can help address (cf. Erzurumlu & Rollag, 2013). What is often missing from case studies, is what Anderson (1995) defines as the *"Autonomous Stage"*, where a subject continues to practice a skill until it becomes more automatic, requires less attention, and interferes less with other tasks. In other words, grad consultants learn to deal with complexity while scoping problems, forming an understanding, and building solutions based on highly incomplete information. This requires that students truly step outside their comfort zones and take the lead of their explorative learning. In fact, Anderson (1995) argues that too much guidance takes away from the disruptive nature of learning and acquiring new skills, like leading consulting projects.

Learning such complex and fluid skills requires attentiveness to new information, which is processed with prior knowledge to arrive at applicable, testable, and verifiable outcomes. In that sense learning in general and in particular, learning consulting skills cannot be overly simplified to a process that develops only cognitive and associative skills, while leaving the practice of autonomous skills mostly untouched. As stated by Mellander (1993) to learn is to discover, which is why graduates must move beyond analyzing and seeking answers to more or less pre-defined problem settings. The co-authors advocate for an empty canvas at the outset and expect grad consultants to shape the customer context based on their ability to transform meaning into action, while learning to lead and develop expertise as self-motivated grad consultants.

CONCLUDING REMARKS

This chapter aimed to introduce a different approach for graduate students to gain sales, leadership, and consulting experience through compensated management consulting projects. The proposed approach offers grad consultants a unique opportunity to identify and solve important challenges for international business owners, corporate and institutional executives. During the program, grad consultants develop a complex set of skills while working on bringing a real-client project from nothingness into being. The co-authors are strong advocates for encouraging students to collect first-hand evidence of their practical consulting capabilities in a safe environment, at least relatively speaking. As described, the journey starts from paying attention, identifying a client's need, and then selling a compensated consulting project. This first phase is seldom practiced, as most graduate oriented consulting programs commence from a more or less defined client problem, which students seek to solve and deliver against. Successful completion of the consulting program allows grad consultants to develop and systematically collect evidence of their capabilities to identify, source, and deliver a demanding client project.

For higher education, embracing grad consulting creates a stronger bridge for students to their next career opportunities and the working world, without sacrificing learning objectives or assessment of learning. Business schools can improve their reputations by promoting career development and workforce skills, and by creating an integrated educational approach that teaches more than academics. Grad consulting can also be positioned as a direct extension and continuation of completing the degree requirements. And it fits perfectly with ambitions to increase explorative learning and competency-based

learning models. If grad schools want to remain relevant and prevent declining enrollment, they should remember that for students, the primary "job to be done" is to get essential, skills, knowledge and as much practical learning as possible to open up new and better career opportunities. Grad consulting is likely to fill a gap in the schools' value proposition portfolio, whether fully integrated into the school's operating model or through partnerships/alliances.

For companies, grad consulting promises outcomes that are different from traditional consulting. Affordability and value compared to traditional consulting is a significant benefit. Another key advantage is access and direct exposure to a broader variety and pool of fresh talent, especially the self-starter, entrepreneurial types who have the drive, enthusiasm, and the potential to be corporate leaders sooner than others. Another advantage is the creative potential of the grad student and expert consultant combination to tackle the project objective from new and experienced points of view. Traditional consulting firms would rather promote and use their own standard, "cookie-cutter" methodologies and tools than be willing to first understand client needs and then pick the best set of tools and customize the approach for each.

Finally, for students and recent graduates, the grad consulting program offers an exciting new opportunity that provides leadership and business development skills, along with relevant job experience and hands-on consulting work. At best they get compensated to learn from experts and build relationships with clients and potential future employers. As their initial projects lead to follow-on sales and referrals, the leadership, sales and strategic problem-solving skills they master will become valuable and transferrable career and life-related competencies. Consequently, there has never been a better time to seek business solutions from young professionals. As they tend to say, hire youngsters while they still know everything.

REFERENCES

Abbosh, O., Nunes, P., & Downes, L. (2019). *Pivot To The Future: Discovering Value and Creating Growth in a Disrupted World*. Public Affairs.

Adams, S. M., & Zanzi, A. (2004). Academic development for careers in management consulting. *Career Development International*, *9*(6/7), 559–577. doi:10.1108/13620430410559151

Anderson, J. R. (1995). *Learning and Memory: An Integrated Approach*. John Wiley & Sons.

Arum, R., & Roksa, J. (2011). *Academically Adrift: Limited Learning on College Campuses*. University of Chicago Press.

Beard, C., & Wilson, J. P. (2013). *Experiential Learning: A handbook for education, training, and coaching*. Kogan Page.

Biech, E. (2007). *The Business of Consulting: The Basics and Beyond* (2nd ed.). John Wiley & Sons.

Biggs, J. (2003). *Teaching For Learning Quality at University* (2nd ed.). Open University Press.

Blumenstyk, G. (2015). *American Higher Education in Crisis? What Everyone Needs to Know*. Oxford University Press.

Culver, R., Pilafidis, E., & Sathe, V. (1998). Fusing theory and practice: Honors consulting projects for Drucker MBA Students. *Journal of Education for Business*, *73*(5), 298–301. doi:10.1080/08832329809601648

Danford, G. L. (2006). Project based learning and international business education. *Journal of Teaching in International Business*, *18*(1), 7–25. doi:10.1300/J066v18n01_02

Datar, S. M., Garvin, D. A., & Cullen, P. (2010). *Rethinking the MBA: Business education at a crossroads*. Harvard Business Press.

Decker, P. J., Durand, R., Ayadi, F., Whittington, W., & Kirkman, D. (2014). Self-assessment of management competencies and intention to change. *Academy of Educational Leadership Journal*, *18*(4), 129–147.

Erzurumlu, S. S., & Rollag, K. (2013). Increasing student interest and engagement with business cases by turning them into consulting exercises. *Decision Sciences Journal of Innovative Education*, *11*(4), 359–381. doi:10.1111/dsji.12019

Heriot, K.C., Cook, R., Jones, R.C., & Simpson, L. (2008). *The use of student consulting projects as an active learning pedagogy: A case study in a production/operations management course*. Academic Press.

Kowarski, I. (2019). *Will an MBA Help You Become a Consultant?* Retrieved from: www.usnews.com/ education/best-graduate-schools/top-business-schools/articles/will-an-mba-help-you-become-a-management-consultant

LEADX3M. (2020). *Grad Consulting invitation, company message to applying students, Winter 2019*. Author.

LeMaire, R., Fisher, K., & Watson, E. F. III. (2017). Delivering an MBA management consulting experience. *Decision Sciences Journal of Innovative Education*, *15*(2), 138–160. doi:10.1111/dsji.12124

Marquardt, M. J. (2011). *Optimizing the Power of Action Learning: Real-Time Strategies for Developing Leaders, Building Teams and Transforming Organizations*. Nicholas Brealey Publishing.

Mellander, K. (1993). *The Power of Learning: Fostering Employee Growth*. McGraw-Hill.

Natanson, H., & Xiao, D. G. (2019). The graduating class of 2019 in numbers. *The Harvard Crimson.* Retrieved from: https://features.thecrimson.com/2019/senior-survey/after-harvard/

Rasiel, E., & Friga, P. N. (2001). *The McKinsey Mind: Understanding and Implementing the Problem Solving Tools and Management Techniques of the World's Top Strategic Consulting Firm*. McGraw-Hill.

Richter, A., & Schmidt, S. L. (2008). The effectiveness of university-level management courses. *Journal of Management Education*, *31*(1), 84–99. doi:10.1177/1052562907300809

Ryan, D., & Harvell, B. (2005). Internship: Testing ground for new recruits. *Consulting-Specifying Engineer*, *38*(4), 87–88.

Schaupp, L. C., & Vitullo, E. A. (2019). Implementing experiential action learning in the MBA: Use of an international consulting experience. *International Journal of Educational Management*, *34*(3), 505–517. doi:10.1108/IJEM-04-2019-0154

Study International Staff. (2018). *What businesses want from graduates in 2018*. Retrieved from www.studyinternational.com/news/what-businesses-want-from-graduates-in-2018

Totterman, H. (2013). A business school on a world mission. *New England Journal of Higher Education*. https://nebhe.org/journal/a-business-school-on-a-world-mission/

Totterman, H. (2019). Tackling executive challenges through graduate crowdsourcing. In N. Pfeffermann (Ed.), *New Leadership in Strategy and Communication: Shifting Perspective on Innovation, Leadership, and System Design*. Springer.

Weiss-Meyer, A. L. (2014). Case study: Consulting after college. *The Harvard Crimson*. Retrieved from: https://www.thecrimson.com/article/2014/11/6/consulting-after-harvard-fm/

WetFeet. (2008). *Industries and careers for MBAs. In Wetfeet Insider Guide*. Universum.

ADDITIONAL READING

Andler, N. (2011). *Tools for Project Management, Workshops, and Consulting* (2nd ed.). Publicis.

Dyer, J., Gregersen, H., & Christensen, C. M. (2019). *The Innovators DNA: Mastering The Five Skills of Disruptive Innovators*. Harvard Business School Press.

Keeley, L., Pikkel, R., Quinn, B., & Walters, H. (2013). *Ten Types of Innovation: The Discipline of Building Breakthroughs*. Wiley.

Maurya, A. (2012). *Running Lean: Iterate From Plan A to a Plan That Works*. O'Reilly.

Neck, H. M., Greene, P. G., & Brush, C. G. (2014). *Teaching Entrepreneurship: A Practice-Based Approach*. Edvard Elgar Publishing, Inc.

Reynolds, M., & Vince, R. (2007). *The Handbook of Experiential Learning & Management Education*. Oxford University Press.

Wurdinger, S. D. (2005). *Using Experiential Learning in the Classroom: Practical Ideas for All Educators*. ScarecrowEducation.

KEY TERMS AND DEFINITIONS

Action Learning: A process where a team or a group of individuals work on solving a real problem by taking action. Learning takes place on the level of the individual, team, and the assembly level.

Business Development Process: An iterative process that starts from a deep dive into the problem area through desk and field research, followed by several quick sprints to define assumptions, followed by testing and verifying these before completing research and document discoveries for final client delivery.

Experiential Learning: The process of learning through discovery and reflection on the doing. The term is used in many contexts and covers a broad range of settings and pedagogical approaches. In this chapter, explorative learning refers foremost to the process of grad consulting.

Expert: A senior consultant who facilitates and supports graduates in leading and delivering impactful solutions to client projects sourced foremost by students themselves.

Grad Consultant: A current or recently graduated student, who is eager to identify client needs, negotiate paid executive level consulting assignments, and deliver insightful solutions with the support of senior consulting experts.

Job to Be Done: An approach often used in innovation, marketing and entrepreneurship to identify jobs that customers are trying to get done. A graduate student may invest in higher education to help accelerate their fledgling careers, while an executive may hire them to solve a pressing business challenge worth solving.

Sales Funnel: A five-step process leading from initial sales planning to scoping with an executive sponsor a problem worth solving before the assignment is contracted and carried out (delivery and feedback).

Section 3

Chapter 8
Competency Mapping for Technical Educational Institutes in India

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ABSTRACT

Achieving and maintaining organizational excellence in a technical educational institution largely depends on the competencies of faculty members. Consequently, the management of faculty competencies are very important for any technical educational institution. Work skills lead to significant organizational growth which provides a competitive advantage to technical educational institutions. A critical factor related to the long-term success of an institution is its ability to assess the efficiency of the faculty and use that knowledge to achieve tangible results. For the overall development of students and the organization, knowledge of faculty members about mapping systems and process upgradation is important. This chapter discusses in depth the mapping of competences in the technical educational institute at different levels and analyzes the deficiencies in required skills to improve the level of competency. The research was carried out by taking a study on a government engineering institute based at Haryana, India as a model technical educational institute.

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INTRODUCTION

Competencies, or individual characteristics, first explored and analysed by McClelland in the early 1970s were recognized as major predictors of employee performance and achievement, just as important as the academic aptitude and information quality of a person as demonstrated by test scores or results (Lunev, Petrova, & Zaripova, 2013). Competency refers to an individual's underlying behavioural characteristics which are causally related to the cited criterion of successful and/or superior performance in a job or situation(Tripathi & Ranjan, 2010). It briefly describes the motives, traits, self-concept, values, knowledge or skills that a superior performer brings to the engineering educational institute. (Goldberg & Cole, 2002)research article on 'Testing for Competence Rather than Intelligence' introduced the skills revolution in industrial psychology. Based on the analysis of the previous research, he concluded that conventional assessments of academic aptitude and knowledge content as well as school grades and qualifications did not predict success in either job or life (Chouhan & Srivastava, 2014).

Competency Mapping is a method of defining core competencies and the roles and functions within an organization/institution and then using them for job assessment, training and development, performance management, succession planning, etc. (Kansal & Singhal, 2018). Knowledge replenishment is a major challenge facing today's engineering education system, and competence-based teaching practices have created a paradigm shift to meet and surpass those challenges (Kansal, Singhal, & Kumar, 2014). Despite the increasing awareness level, however, competence development and mapping in India remains an unexplored process in most technical educational institutes (Leavitt, Wisdom, & Leavitt, 2017). The issue is much more complex than just about finding the right faculty for the right course, and most engineering institutes have been struggling to design the right structure for their organisation (Fernández Cruz, Egido Gálvez, & Carballo Santaolalla, 2016).

Each kind of competency has its own purpose, and helps organizations to develop the skills sets for the faculty members that will ultimately help to drive the institute strategy and achieve institutional vision (Bajis, Chaar, Penm, & Moles, 2016). Skills and knowledge are usually denoted as surface competencies that are visible (Kansal & Singhal, 2017). These are relatively easy to develop and it is cost effective to train faculty members to secure these abilities. The competencies of an individual can be represented by way of defining surface competencies, which can be most easily developed. The professionalism, proactiveness, skills and knowledge of an individual can be updated by way of various training & development programmes (Kiran, Madarvalli, & Chandulal, n.d.). However the core personality of an individual e.g. creativity, initiative, information competency etc. is very difficult to develop. This is pictorially shown in Figure 1.

To summarize, a competency is described in terms of key behaviours that enables recognition of that competency at the work place. These behaviours are demonstrated by excellent performers on-the-job much more consistently than average or poor performers (R.Yuvaraj, 2011).

Competency management involves the creation of clear job profiles and includes four types of competencies. Core principles or values are higher-level competencies that are often defined by the vice chancellor or Director in government engineering institution, and are used universally to evaluate and coach every employee in the institution. These principles are culture setting and help shape the institute brand, as well (Ch, Khobreh, Nasiri, & Fathi, 2009). The examples of core values as discussed with the top management in an organisation are high integrity, moral values and development of teaching skills for gaining an edge on solving many problem areas. Basically this leads to defining the core competency

Figure 1.

consisting of a bundle of skills and creativities that collectively gives the organisation a competitive advantage (Kansal & Singhal, 2018).

Functional competencies include defined attributes, skills, behaviours and knowledge that organizations use to assess and develop leaders. They are typically applied to senior professors working in an engineering institution to mould them as the role models for their colleagues and sub-ordinates. Functional competencies are job-specific competencies that drive proven high-performance, quality results for a given position (Lunev et al., 2013). Typically developed through detailed assessments of high performers in certain jobs, organizations build these competencies for critical job functions – and sometimes for many jobs. These tend to require regular maintenance and updates as jobs and the business itself change (J. Anitha. & Associate, 2014).

NEED OF COMPETENCY MAPPING IN ENGINEERING EDUCATIONAL INSTITUTES

In an engineering educational institute, the thrust is on technical knowledge creation. The engineering institutes are involved in the creation of intellectual capital. A competency model can provide an important and useful tool for directing individual development. This determines the minimum total skills needed for performing a job beforehand. Competency mapping model helps manage and establish the competency framework that represents normal good practice of setting course, tracking and assessing competency, providing feedback and taking appropriate action (Mahadeven, Shivaprakash, & Bose, 2013).

The mapping of competencies is important to strengthen vision, mission and roadmap of the institution. Competency mapping sets performance success standards, resulting in a systematic approach to professional development, increased job satisfaction, and enhanced retention of employees. It improves the efficacy of educational and career development services by connecting them to the criteria for success(Mehta, Verma, & Seth, 2013). It offers a common framework and vocabulary for discussing how

key approaches can be applied and communicated. It offers a common understanding of the nature and specifications of a particular role. It offers common, organizational standards for career levels that allow employees to move across the boundaries of organization. It provides a clear framework for discussion about efficiency, growth, and career-related issues between management and faculty. It encourages a more detailed and realistic assessment of their abilities and identifies relevant professional development fields (Kaur & Kumar, 2013).

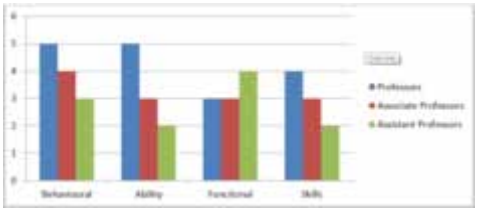
DESIGNING AND DEVELOPMENT OF COMPETENCY MODEL

Research efforts are mainly focused on the development of behavioural, ability function and skill based model for educational institution. The literature review gives insight into various roles the faculty plays in the educational environment, such as teacher, chief, instructor, writer, mentor, organizer and member of different societies (Tripathi & Ranjan, 2010). The competency model was developed by extensive deliberations within the institute. The professors working in various capacities were divided into three levels viz. senior professors, associate professors and assistant professors. The competencies per level were derived as per the following table –I and Figure -2.

Table1. Competencies per Level

Type of Competency	Level		
	Professors	Associate Professors	Assistant Professors
Behavioural	5	4	3
Ability	5	3	2
Functional	3	3	4
Skills	4	3	2

Figure2. Competencies per level



After formulation of competency per level matrix, the gap analysis was carried out for various competencies at two levels viz. senior professor level and associate professor level. The development priority was further evaluated based on the importance to a job for a particular skill and the existing gap. The existing skill level was rated as current competency level (CCL) and the required skill level was termed as Required Competency Level (RCL). The CCL and RCL were categorised into five levels

viz. level-1 for beginner, level-2 for learner, level-3 for competent, level-4 for professional and level-5 for master. The master is the highest level in any skill set, who could act as a coach as well as mentor. The gap was found by

Gap = RCL – CCL

Further the importance to job was analysed based on its contribution in realizing the vision of the engineering institution. Development priority of a particular skill set was calculated based on the gap and importance to job. The importance to job was also given in numeric terms with values ranging from 1 to 5 in ascending order from least to highest.

Development Index = Importance to job x gap

The whole idea of this exercise was to quantify the skill levels of the professors working in the engineering institution. The data was generated for three different levels of professor's viz. entry level assistant professors, middle level associate professors and senior level professors.

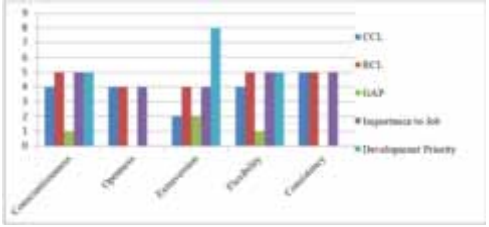
RESULTS AND DISCUSSIONS

The data was taken from all the senior professors and averaged out to an integer value to give the current competency level-CCL. The required competency level-RCL was determined after a brainstorming session with the senior professors and the Director of the institute. The gap analysis thus computed is given in Table 2 for behavioural competencies of the senior level professors.

Table 2. Gap analysis for the senior level Professors - Behavioural Competencies

Competency	CCL	RCL	Gap	Importance to Job	Development Priority
Conscientiousness	4	5	1	5	5
Openness	4	4	0	4	0
Extraversion	2	4	2	4	8
Flexibility	4	5	1	5	5
Consistency	5	5	0	5	0

Figure 3. Bar chart showing the senior level Professors - Behavioural Competencies



From the Figure 3, it is clear that the senior professors are well conversant with the openness and consistency and needs to enhance their skills in the remaining set of behavioural competencies (conscientiousness, flexibility and extraversion) in the order of priority as reflected in the development index. The extraversion took the priority amongst all as the thrust is on socialism and optimism.

The set of skills needed for a professor employed in the professional engineering institute and whose job profile extends to various management tasks involves a blend of initiatives, decision making, project development, problem solving and creativity.

Figure 4 reflects the ability competencies of senior level professors, it is evident from the above graph that the senior professors meets the RCL in the decision making but deficient in the initiative, project development, problem solving and creativity. The development priority was calculated based on the existing gaps and importance to job. The creativity skills took the lead in the order of priority and the training & development programs in creativity skills were arranged.

Table 3. Gap analysis for the senior level Professors - Ability competencies

Competency	CCL	RCL	GAP	Importance to Job	Development Priority
Initiative	3	5	2	3	6
Decision Making	4	4	0	4	0
Project Development	3	4	1	4	4
Problem Solving	4	5	1	4	4
Creativity	2	4	2	4	8

Figure 4. Bar chart showing the senior level Professors - Ability competencies

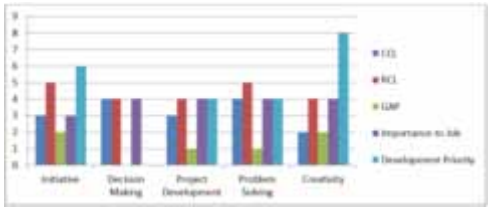


Table 4: Gap analysis for the senior level Professors - Functional competencies

Competency	CCL	RCL	GAP	Importance to Job	Development Priority
Core Technical	2	4	2	4	8
Analytical Ability	3	3	0	4	0
Project Management	4	5	1	5	5
Design	3	3	0	4	0
Mathematical Modelling	2	3	1	4	4

The functional competencies were deliberated but it took quite some time to generalize the skill sets required for the professors because each group of professors were working in their core technical area. The extensive discussions with the technology and product councils led to the listing of various skill sets related to the functional competencies.

Figure 5. Bar chart showing the senior level Professors - Functional competencies

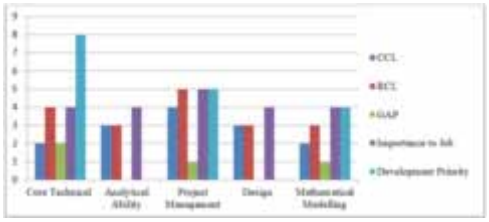


Table 5: Gap analysis for the senior level Professors - Skill competencies

Competency	CCL	RCL	GAP	Importance to Job	Development Priority
Functional Skill	3	4	1	4	4
Communication Skills	3	5	2	5	10
Soft Skill	3	4	1	4	4
IT Skill	3	4	1	5	5
Content Skill	4	4	0	5	0

Figure 6. Bar chart showing the senior level Professors - Skill competencies

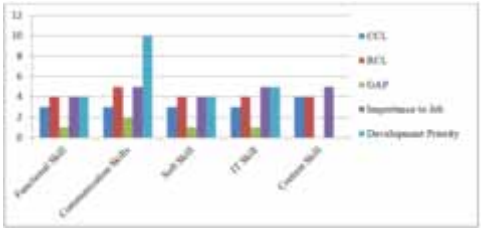


Table 6. Gap analysis for the middle level associate professors - Behavioural Competencies

Competency	CCL	RCL	Gap	Importance to Job	Development Priority
Conscientiousness	3	4	1	5	5
Openness	3	3	0	3	0
Extraversion	2	4	2	4	8
Flexibility	3	4	1	4	4
Consistency	3	3	0	3	0

From the bar chart it is clear that the gap in the core technical skills reflects that the senior faculty members are not keeping themselves updated with the technologies which are followed in the industries today and it is a matter of serious concern. Targeted trainings & development interventions are proposed to fill this gap. The project management in an educational institute is a challenging task because of the uncertainties involved. It is however proposed to fill the existing gaps in the mathematical modelling and Project management by training & development programmes.

The set of skills needed for a faculty member employed in the professional engineering institute involves a combination of functional abilities, communication skills, soft skills, IT skills, and content skill.

Figure-6 clearly reflects the skill competencies of professors; it is evident from the above bar chart that the senior level faculty members meet the RCL in the content skills but deficient in the functional skills, communication skills, soft skills and IT skills. The development priority was calculated based on the existing gaps and importance to job. The communication skill competency and the soft skill competency took the lead in the order of priority and the training & development programs in this area were arranged.

Figure 7. Bar chart showing the middle level associate professors - Behavioural Competencies

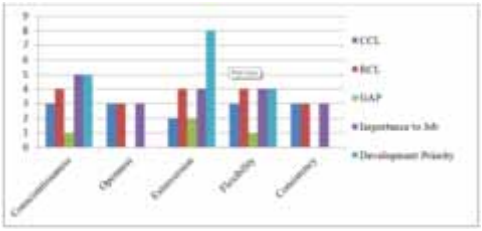
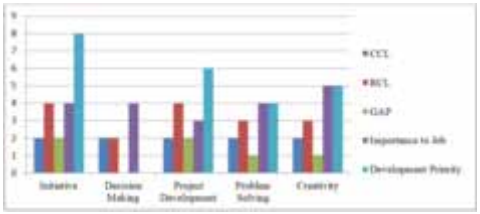


Table 7: Gap analysis for the middle level associate professors - Ability Competencies

Competency	CCL	RCL	GAP	Importance to Job	Development Priority
Initiative	2	4	2	4	8
Decision Making	2	2	0	4	0
Project Development	2	4	2	3	6
Problem Solving	2	3	1	4	4
Creativity	2	3	1	5	5

Figure 8. Bar chart showing the middle level associate professors - Ability Competencies



On similar lines, the development priority for various competency levels was calculated for middle level associate professors.

Table 8. Gap analysis for the middle level associate professors - Functional Competencies

Competency	CCL	RCL	GAP	Importance to Job	Development Priority
Core Technical	3	4	1	5	5
Analytical Ability	4	4	0	5	0
Project Management	3	4	1	4	4
Design	4	4	0	4	0
Mathematical Modelling	3	5	1	5	5

Figure 9. Bar chart showing the middle level associate professors - Functional Competencies

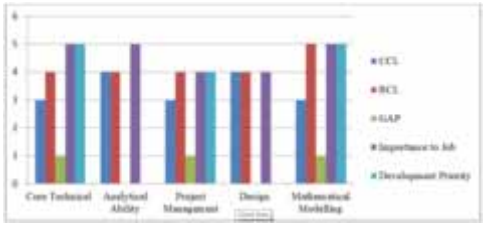


Table 9. Gap analysis for the middle level associate professors - Skill Competencies

Competency	CCL	RCL	GAP	Importance to Job	Development Priority
Functional Skill	1	2	1	3	3
Communication Skills	2	4	2	5	10
Soft Skill	1	3	2	4	8
IT Skill	4	4	0	5	0
Content Skill	2	3	1	3	3

Figure 10. Bar chart showing the middle level associate professors - Skill Competencies

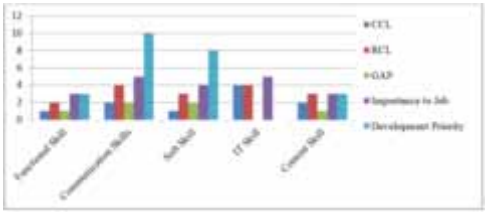


Figure-7 reflects that middle level associate professors are good in openness and consistency. However the faculty members lack the skills related to conscientiousness, extraversion and flexibility. Trainings were arranged to fill the existing gaps in the order of priority as per development index.

Plot-8 reflects the ability competencies of associate professors; it is evident from the above bar chart that the middle level faculty members meet the RCL in the decision making but deficient in the Initiative, Project development, problem solving and creativity competences. The development priority was calculated based on the existing gaps and importance to job. The initiative competency and the project development competency took the lead in the order of priority and the training & development programs in this area were arranged.

It is clear from the plot-9 that the middle level associate professors are updated in analytical skills and design skills. A gap was observed for the rated competency levels in the skills related to core technical areas, project management and mathematical modelling.

Figure-10 clearly reflects the skill competencies of associate professors; it is evident from the above graph that the middle level faculty members meet the RCL in the IT skills but deficient in the functional skills, communication skills, soft skills and content skill. The development priority was calculated based on the existing gaps and importance to job. The communication skill competency and the soft skill competency took the lead in the order of priority and the training & development programs in this area were arranged.

CONCLUSION

The findings of this investigation have implications for all the three levels of professors. The Competency mapping has not only boosted the institution's competitiveness but has also played a key role in the enhancement of faculty skills. The functional and skill competencies are a focus for the top management. The set of behavioural competencies required for a faculty member, who is dealing with the technical courses and whose job profile extends to various management tasks involves a blend of soft skills, communication skill, decision making skills, problem solving skills and analytical ability. Competency mapping has helped us in the training of faculty and the development of an information system for the faculty. The competencies required have become a vital input in carrying out the focussed training enabled in improvement of specific functional competencies. Competence analysis has also helped to construct a comprehensive performance management framework of high-performance criteria, compile and accurately review factual data against the set standards, hold comprehensive evaluation meetings and advise on particular areas of improvement. To summarize, we strongly feel that all technical educational institutes must carry out the exercise of mapping the competencies of their faculty members, which could be helpful for the growth of the faculty, students and all the stakeholders.

REFERENCES

Anitha, R. P. (2014). *Competency Mapping model: Drive for Educational institution*. Academic Press.

Bajis, D., Chaar, B., Penm, J., & Moles, R. (2016). Competency-based pharmacy education in the Eastern Mediterranean Region-A scoping review. *Currents in Pharmacy Teaching & Learning*, *8*(3), 401–428. Advance online publication. doi:10.1016/j.cptl.2016.02.003 PMID:30070251

Ch, F. A., Khobreh, M., Nasiri, S., & Fathi, M. (2009). Knowledge management support for quality management to achieve higher customer satisfaction. *Proceedings of 2009 IEEE International Conference on Electro/Information Technology, EIT 2009*, 78–83. 10.1109/EIT.2009.5189588

Chouhan, V. S., & Srivastava, S. (2014). *Understanding Competencies and Competency Modeling — A Literature Survey*. IOSR Journal of Business and Management., doi:10.9790/487X-16111422

Fernández Cruz, F. J., Egido Gálvez, I., & Carballo Santaolalla, R. (2016). Impact of quality management systems on teaching-learning processes. *Quality Assurance in Education*, *24*(3), 394–415. doi:10.1108/QAE-09-2013-0037

Goldberg, J. S., & Cole, B. R. (2002). Quality Management in Education: Building Excellence and Equity in Student Performance. *The Quality Management Journal*, *9*(4), 8–22. doi:10.1080/10686967.2002.11919033

Kansal, J., & Singhal, S. (2017). Application and validation of DMAIC six sigma tool for enhancing customer satisfaction in a government R & D organization. *International Journal of Qualitative Research*, *11*(4), 931–944. doi:10.18421/IJQR11.04-13

Kansal, J., & Singhal, S. (2018). Development of a competency model for enhancing the organisational effectiveness in a knowledge-based organisation. *International Journal of Indian Culture and Business Management*, *16*(3), 287. doi:10.1504/IJICBM.2018.090909

Kansal, J., Singhal, S., & Kumar, P. (2014). Integration of Quality and Knowledge Management in Indian R & D Organizations. Academic Press.

Kaur, J., & Kumar, V. (2013). Competency Mapping : A Gap Analysis. *International Journal of Education and Research*, *1*(1), 1–9.

Kiran, R. S., Madarvalli, P., & Chandulal, J. A. (n.d.). Competency based Training and Development for Engineering Students. *International Journal of Engineering Research and Applications*, *1*(2), 246–250.

Leavitt, L., Wisdom, S., & Leavitt, K. (2017). *Cultural Awareness and Competency Development in Higher Education.* IGI Global.

Lunev, A., Petrova, I., & Zaripova, V. (2013). Competency-based models of learning for engineers: A comparison. *European Journal of Engineering Education*, *38*(5), 543–555. doi:10.1080/03043797.2013.824410

Mahadeven, R., Shivaprakash, N. C., & Bose, S. K. (2013). Quality assessment of technical education in Indian Engineering Institutions. *IEEE Global Engineering Education Conference, EDUCON*, (1), 973–977. 10.1109/EduCon.2013.6530225

Mehta, N., Verma, P., & Seth, N. (2013). Total quality management implementation in engineering education in India: An interpretive structural modelling approach. *Total Quality Management & Business Excellence*, *25*(1–2), 124–140. doi:10.1080/14783363.2013.791113

Tripathi, P., & Ranjan, J. (2010). A Competency Mapping for Educational Institution: Expert System Approach. *Int J of Computer and Communication Technology*, *2*(1), 75–93.

Yuvaraj, R. (2011). Competency Mapping : A Drive For Indian Industries. *International Journal of Scientific and Engineering Research*. Advance online publication. doi:10.1017/CBO9781107415324.004

KEY TERMS AND DEFINITIONS

Competency Management: Competency management is the process of cataloguing, managing, and developing the skill sets of employees.

Competency Mapping: The mapping of competencies is needed to improve corporate strategy, culture, and vision. Competency modelling points out organizational success standards, culminating in a systematic approach to professional development, increased job satisfaction and enhanced retention of workers.

Competency Models: A competency model is a descriptive tool that identifies the competencies needed to operate in a specific role within a job, occupation, organization, or industry. Simply stated, a competency model is a behavioural job description that must be defined by each occupational function and each job.

Faculty Competency: It is expected that each member of the faculty and staff will have expertise, talents, ability, attitudes, and qualities that relate to a productive organisation.

Performance Management Systems: Performance management is the continuous process of improving performance by setting individual and team goals which are aligned to the strategic goals of the organisation, planning performance to achieve the goals, reviewing and assessing progress, and developing the knowledge, skills and abilities of people.

Chapter 9
IT-Enabled Competency-Based Performance Management System

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ABSTRACT

Competency-based performance management system (CBPMS) has become the key tool for every firm to be in a strategically sustained advantageous position. The objective is to identify relevant and important competencies for successful accomplishment of desired tasks. In this chapter a holistic approach is proposed to review the competency-based approach that is based on the framework of relevant work-related and behavioral competencies. CBPMS is explained in terms of sequential steps of framing the competencies which provide better performance advantages with their expected values and thereby measuring the levels of these work related and behavioral competencies present in the job incumbents with the help of IT interventions. Using this approach, an organization will be able to more effectively use their limited resources to reap more benefits from their investments in both people and technology.

WHAT ARE COMPETENCIES?

Often HR is asked about employee productivity. To ensure employee productivity, 'person organization fit' should be given with more prominence than 'person-job-fit', wherein the person's personality is matching the organization culture, in order to ensure employee engagement and employee commitment. Those days are gone of matching the job specifications with the qualifications and experience

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of the prospective candidate to select the 'person-job-fit'. Therefore, the predictable job related behaviours of the candidates are of key importance to anticipate his future performance which will bring in performance advantages with which the organization is in a competitive advantageous position which the others are unable to duplicate. These performance advantages cannot be capitalized on Knowledge (K) and Skill (S). The A-factor which makes the difference is Attitude (A). Often the combination of Knowledge (K), Skill (S) and Attitude (A) is termed as 'competency'. This conception of competency is all pervasive in nature, staring from top level management i.e., strategic competencies to individual level i.e, role competencies.

Though the words 'competency' and 'competence' are used interchangeably, but 'competency' is a person related concept refers to as the dimensions of behavior lying behind an effective performer. Whereas, 'competence' is a work related concept, refers to as areas of work in which the person is effective. Competencies are often considered as a combination of both.

The term *Competency* was first popularized by Boyatzis (1982). As he says:

"Competency is a capacity that exists in a person that leads to behavior that meets the job demands within parameters of organizational environment, and that in turn, brings about desired results".

In English Dictionary the word 'competence' is defined as a state of being suitable, sufficient or fit which is very pertinent in today's dynamic world of business, wherein, job related behaviour leads to effective performance and not an employee's individual behaviour which may not add value in terms of performance advantages.

Now, the question arises is how to proceed in this journey. An attempt may be made in preparing a list of job related competencies not essentially derived from job analysis but, from the perspective of the industry experts and thereby checking the relevance or importance of these set of competencies in the organization context to derive performance advantages which is the source of competitive advantage. This list once prepared, may be validatedand their benchmark values are set in consultation with the industry experts or professional consultants. Manual maintenance of this and thereby communicating the same to each departmental head for following the same is a tedious task. Hence, an IT enabled system is essential to execute the competencies for better performance advantages. The competencies related to each job role along with their benchmark values, which are essentially derived from job analysis and from the opinions of the industry experts, are fed into the IT enabled system. The system then compares the planned performance with actual performance and generates report on exceeding performance and lagging performance for a specific job role performed by the job incumbent. This gives the management of the organization a clear idea about whether the conceived competencies are relevant or not and if relevant, how to improve the performance of the job incumbent to the specific role.

Confusion Between 'Competent', 'Competence' and 'Competency'

The word 'competent' represents a condition of fulfillment of capability with the job requirement as recognized by the authentic community of practitioners.

As we have already mentioned that 'competency' is a combination of knowledge, skill and attitude, let us elaborate it further: the word 'competency' denotes underlying and observable characteristics such as motive, traits, self-concept, values, knowledge and skill that drives as well as predicts performance to pre-defined standards.

The word ‘competence’ is a work-related concept which represents functional skills required to perform a specific task as per the job standards.

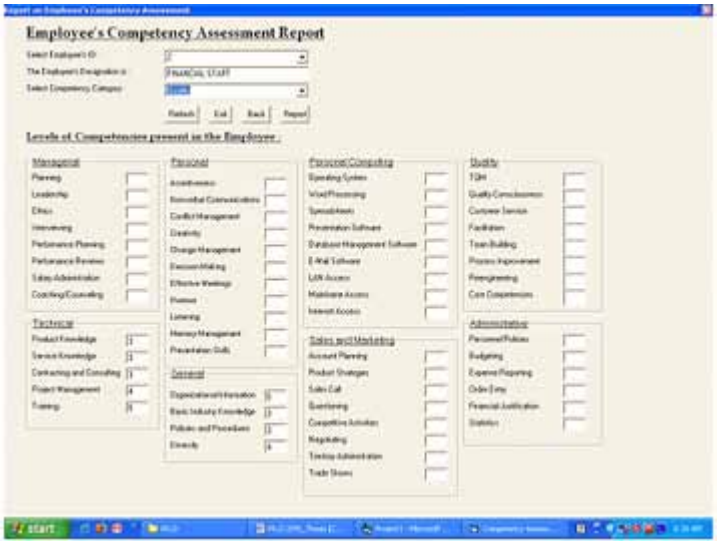
CLASSIFICATION OF COMPETENCIES

Competency classification depends upon the way the word ‘competencies’ is perceived by the management of the organization. Competencies are classified in several ways:

Central and Surface Competencies

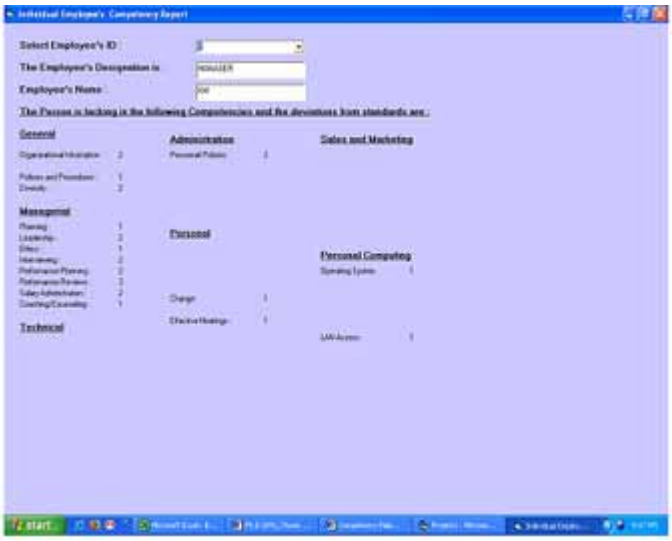
Earlier, academic aptitude and knowledge were considered as the primary predictors of superior job performance. David C. McClelland wrote a revolutionary article “Testing for Competence Rather Than for “Intelligence”” in American Psychologist journal in January 1973, wherein, he developed new methods to predict human performance for US Information Agency. Objective was to eliminate the potential biases of traditional intelligence and aptitude testing and thereby relying on competencies, which are job related characteristics, known as underlying, enduring personal characteristics or self-concepts, traits and motives. He insisted that the success of job performance can be predicted if the job related competencies are identified through Job Analysis and thereby recruiting and selecting potential candidates on the basis of job related competencies. McClelland had proposed the Iceberg Model which is one of the most popular competency models used to describe and predict effective job performance.

Figure 1. The Iceberg Model of the Competence (McClelland D C, 1998)



According to him Knowledge (K) and Skill (S) reside on the surface, hence they are visible and thereby easy to measure and develop. Whereas, the behavioral components are hidden, hence they are difficult to measure and develop, but, they certainly play predominant roles in predicting the effective job performance and this part actually defines the difference between superior performance and average performance.

Figure 2. The Iceberg Model: Central and Surface Competencies (Source: Spencer and Spencer 1993, 11)



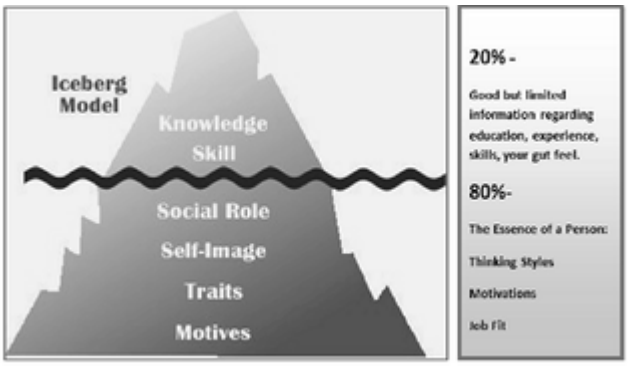
The article "Competence at Work", by Lyle M. Spencer, Jr., and Signe M. Spencer (1993), mentions that competence is not only what the employee is expected to possess but how does it affect his/her job performance. According to them 'personal characteristics' are hidden behaviours which constitute around ninety percent of the iceberg, whereas, knowledge and skills represent the visible part of the overall competencies which constitute the rest ten percent. According to them it is difficult to regulate and develop the personal characteristics as core motives and trait competencies reside deep within us i.e., at the base of the personality are more difficult to measure, understand and develop since it varies widely from person to person.

In between knowledge and skill and core motive and trait competencies there lies self concept.

Motives are the intentions or needs that direct an individual's behavior towards or away from a goal. It acts as a driving force. For example people who have the hunger for achievement, consistently set challenging goals for themselves and put their level best efforts in accomplishing them. They even seek for feedback to improve.

Traits are the combination of physical characteristics and persistent attributes of an individual which lead to consistent responses to stimulus/situations or information. For example, reaction time and good eyesight are physical trait competencies of a table tennis player.

Figure 3. Competency Classification



Self Concept mostly varies between 'I am an okay person' and 'I am a jerk'. If the individual starts believing in his abilities with positive thinking and gets a favourable condition, the application of his surface competencies get enhanced which makes him an effective performer. Attitudes and values such as self-confidence can be changed by training, psychotherapy or positive developmental exercises, along with more time and difficulty.

There are several ways competencies can be classified. Marshall has classified competencies as:

Threshold competencies are required by a job holder to perform a job effectively, i.e., as per the predefined requirements. These are also present in average performers. Whereas, differentiating competencies are those which differentiate superior performers from average performers. Such characteristics are not found in average performers. If we broaden the same concept at organizational level, the differentiating competencies become the 'core competencies' of the organization, which the organization is best at doing and others are unable to duplicate it at least for the time being. Core competency is the key to the firm's survival and are central to its strategy and the actual source of sustainable competitive advantage.

Gary Hamel at London Business School and C.K. Prahalad at Michigan proposed that the germinated seed for successful execution of a resource-based strategy is the core competency or a set of core competencies. Core competencies describe what an organization is uniquely capable of doing and hence it is certainly a source of competitive advantage and may even lead to sustained competitive advantage. Core competence does not diminish with use. Unlike physical assets, which do deteriorate over time, competencies are enhanced as they are applied and shared.

"Core competencies are the collective learning in the organization, especially how to co-ordinate diverse production skills and integrate multiple streams of technologies … it is also about the organization of work and the delivery of value." (Prahalad and Hamel, 1990)

Concept of competencies started its journey long back. From the 1960s onwards, however, there has been an increasing demand in the business world for better accountability and more effective means of measuring and managing performance. This has led to research into what makes people effective and what constitutes a competent worker. Consequently, several different models of 'competence' are in use, to meet different needs.

As the 21st century unfolds, and the age of knowledge solidifies its position as a key commodity on the world market, new Information Technology innovations and strategies within the field of competence management continue to challenge information system scientists and developers and urge them towards new technological frontiers to be pioneered. Present-day trends toward the downsizing and streamlining of organizations face ever-increasing challenge to management to optimize the competencies of their human resources, as well as their material and financial assets. But, the question is 'how can competent managers best facilitate this optimization?' IT-enabled competence management, as subject matter for this chapter is selected with the aspiration of providing complementary research information in the study, analysis, development and refinement of competence based information system employed in the field of competence management in some select Indian organizations. Through this research an attempt has been made to propose a model to ensure better performance advantages for the organization.

So, the obvious question is "What is the need of the hour?" "What are the relevant managerial competencies to be adopted by the organizations to survive?" The following box shows how the managerial competencies may be derived from different management schools of thoughts.

Box 1. *Theoretical contributions for the study of Managerial Competencies and the main activities of managers*

Theory	Main contribution	Main activities of managers
Scientific Management Theory (Taylor)	Rationalisation of work and efficiency	Systematic selection of workers; worker adequacy for tasks; training; incentives composition and offer; support workers, especially when planning the best way to perform a task.
Classical Theory (Fayol)	Integration of people and units, since it promoted extreme specialisation	Give orders; apply fair sanctions; elaborate plans to be performed by the subordinates; provide a fair salary; promote order and harmony between people and units.
Human Relations Theory (Mayo)	Consideration of the influence of informality	Mentor; empathetic attitude; promote teamwork; conflict management; attention to motivational factors; facilitate the development of employees.
Bureaucratic Theory (Weber)	Valorisation of internal processes and division of labour	Clearly define workers' responsibilities; select workers objectively based on merit and technical mastery; decide objectively, justify the arguments in writing; standardise tasks, assembling them in manuals.
Contingency and Systems Theories	Consideration of environmental unpredictability and organisational flexibility	Decide quickly; negotiate with political craftiness; innovate continuously; act creatively; manage changes and risks.

Source: Elaborated by the authors of **MANAGERIAL COMPETENCIES: AN ANALYSIS OF CLASSIFICATIONS IN EMPIRICAL STUDIES** based on Quinn, Thompson, Faermais et al. (2003).

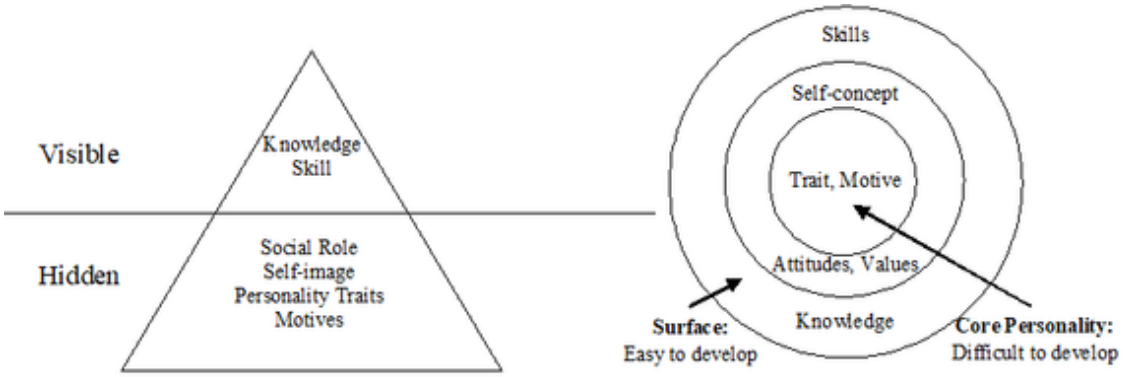
GAP ANALYSIS

The idea of gap analysis is so compelling and so simple that it's hard to imagine an implementation that is less than totally successful. Here's the concept:

(a) Define competency requirements in terms of skills and proficiencies required for high performance;
(b) Survey employees to determine their current comfort level (proficiencies);
(c) Compare (a) and (b) where overages represent strengths and shortfalls represent gaps.

If this kind of information were reasonably accurate, it would be invaluable for planning training and development activities, identifying candidates for projects or jobs, justifying training investments, supplying metrics for period-to-period tracking, and so on.

Figure 4. Competency Gap Analysis



Gap can exist in any of the levels. For example, if the role which an employee is going to play is not communicated properly there may be gap between "Perceived Role" and "Expected Role". If the employee is not committed enough a gap may arise between "Accepted Role" and "Perceived Role". Furthermore, if the employee is not motivated enough to fulfil the role there is a gap between "Fulfilled Role" and Accepted Role. Once these gaps are removed the employee performs as per specifications.

This is interesting to study exactly in where the competency gaps are lying. For this we need to set certain benchmarks of accepted roles. Once the roles are fulfilled by the job holders we can try to measure if there is any deviation between desired performance and actual performance. If there is any we can try to generate a report based on our analysis which will help the company to formulate further HR strategies for effective utilization of manpower.

WHAT MAKES A COMPETENCY IMPORTANT?

There are three basic ways for a competency to become important if we follow the resource based approach:

- The first is simply for it to be underpinned by one or more important resources. It is these important resources which score well on the sustainability and versatility metrics that are the source of competitive advantage. However, it is the co-ordination and management of those resources in a competency that can be recognised by customers as high performances in a particular competitive

dimension. Note that it is perfectly possible for important resources to lie unused and even unrecognized playing no part in a company's strategic competencies.

- It is feasible that a firm can coordinate and configure a large number of individual resources into an important (valuable and sustainable) competency. None of these resources appears important but together they can form an important competency. In this case the important resource is the coordination itself.
- Third, a competency can be important because rather than a particular resource being rare and valuable the combination of resources on which the competence draws is rare and valuable. No competitor possesses this range of resources.

Employee motivation and skills may be necessary to achieve stretch targets for customer and internal-business-process objectives. But they are unlikely to be sufficient. If employees are to be effective in today's competitive environment, they need excellent information – on customers, on internal processes, and of the financial consequences of their decisions.

Front-line employees need accurate and timely information about each customer's total relationship with the organization. This could likely include, as Metro Bank has done, in estimate derived form an activity based cost analysis, of the profitability of each customer. Front-line employees should also be informed about which segment an individual customer occupies so that they can judge how much effort should be expended not only to satisfy the customer on the existing relationship or transaction, but also on learning about and attempting to satisfy emerging needs from that customer.

HOW TO BENCHMARK THE COMPETENCIES?

The very first step may be adopted after the preparation of the list of competencies is to define each and every competency in covering all key result areas (KRAs) in a very lucid manner. The same is to be validated by the opinions of the industry experts or consultants. Once finalized, each competency definition may be divided into five level statements denoting the level-1 to level-5 performance of that competency. For example, we may consider 'strategic thinking' as a very important competency and is applicable to top managerial job role, the definition may be as follows:

The ability to analyze the organization's competitive position by considering market and industry trends, existing and potential customers, and strengths and weaknesses as compared to that of the competitors

Level 1: The ability to understand the strengths and weaknesses of the organization.
Level 2: The ability to identify the strengths and weaknesses of the organization.
Level 3: The ability to capitalize the strengths and address the weaknesses.
Level 4: The ability to understand the needs and preferences of the existing and potential customers and thereby ensuring better deliverables by capitalizing the strengths and addressing the weaknesses of the organization.
Level 5: The ability to evaluate the organization's competitive position by analyzing market and industry trends, existing and potential customers, and thereby utilizing the strengths and minimizing the weaknesses to ensure mileage over competitors

The above mentioned levels will help the job incumbent and his supervisor to understand the competency level the job incumbent belongs to and accordingly the improvement or development plan of action may be framed with requisite assistance from the management. Furthermore, since the conceived CBPMS is an IT enabled facilitating tools, hence the computer software requires the defined level statements with requisite benchmark values to be fed into the system for comparison of actual values with the benchmark values and thereby generating a performance gap report based on measured competencies.

COMPETENCY FRAMEWORK

The basic but very important application of competencies is the design of the competency framework. A competency framework is basically a collection of competencies under several broad heads and with Key Performance Indicators (KPIs) related to each competency. Instead of KPIs, the organizations may also consider performance level statements from Level 1 to Level 5 as described earlier. However, so far competency framework is concerned; the most effective one is the Roman Pavilion competency framework with an integrated look at competencies at organizational level as well as individual level. The competency framework defines the generic competencies covering all the key jobs in an organization.

To develop a competency framework, the following principles may be followed:

1. Involvement of the people who will be affected by the framework as they are the most important differentiators;
2. Keep people informed about what is happening and why.
3. Behaviour described competencies must be relevant to all those who will be affected by them and the competencies must be relevant to the organizational needs and intended applications.

To develop a competency framework, a dedicated team has to be appointed or formed from within who have the requisite expertise in developing the framework. The team has to have an in-depth understanding of the roles within the business. To do this, they may take a few different approaches:

- Use a pre-set list of common, standard competencies, and then customize them to the specific needs of the organization.
- Use outside consultants to develop the framework for the organization.
- Create a general organizational framework, and use it as the basis for other frameworks as needed.

Developing a competency framework can take considerable effort. To make sure the framework is actually used as needed, it's important to make it relevant to the people who'll be using it – so as to derive maximum benefit in terms of performance advantages better than the competitors. After thorough literature survey and a series of interactions with the industry practitioners, we have identified the following steps to develop the competency framework:

STEPS INVOLVED IN DEVELOPING THE FRAMEWORK

There are four main steps in the competency framework development process. Each step has key actions that will encourage people to accept and use the final product.

Step One: Prepare

Define the purpose – Before the job roles are analyzed, the purpose for creating the framework has to be very clear. For example, a framework for filling a job vacancy will be very specific, whereas a framework for evaluating performance will need to cover a wide range of role specific competencies.

Create a competency framework team – The team must include people from all areas of business that will use the framework. The team should focus on long term needs so as tokeep the framework updated and relevant as much as possible.

Step Two: Collect Information

The accuracy of the framework depends upon the data collected for specific job positions. The job roles are to be thoroughly analyzed so as the work involved in each one. The following techniques for the same may be adopted:

Observe – this techniques is useful for jobs that involve hands-on labor that can be physically observed.

Interview people – the competency framework team can talk to the performers who so ever is related to the job individually or they may also choose a sample of performers to interview, or conduct a group interview. In this process the supervisor may also be interviewed for the assessment of the job. This is based on the belief that a wide variety of people believe is needed for the role's success.

Create a questionnaire – A survey questionnaire may be designed and executed with a set of reliable and valid questions. There are standardized job analysis questionnaires available which can be executed rather than attempting to create one.

Analyze the work – the work may be analyzed keeping in mind the business plans, strategies, and objectives, organizational principles, job descriptions, regulatory or other compliance issues, predictions for the future of the organization or industry, customer and supplier requirements and other relevant factors. Once the information is gathered for each role, the role may be divided into some behavioral statements so as to show whether the role is specific or generic.

This level provides an excellent opportunity to involve people. Involvement may be through:

- They provide information about their job
- They provide views about the work of others
- They identify changes and describe how the changes affect the way they do their job

To ensure that the competency framework will be relevant for all kind of job roles it is important to collect information about all job roles of all levels of the organization.

For example, to create a generic competency framework a sample of jobs should be analyzed from each department or function and a sample of jobs should be analyzed across all the roles (e.g. Administration, operation, technical, management etc.)

When the team moves to Step Three, they need to organize the information into larger competencies.

Table 1. Job Roles versus Job Application Matrix

		Application	
		Specific	**Generic**
Job Roles	**Specific**	Eg. Recruitment for all Team Leaders Gather Data: ■ Specific to the application. ■ Within the identified jobs/roles. ■ From the relevant Business Unit(s).	Eg. All applications for all Team Leaders Gather Data: ■ Relevant to all applications. ■ Within the identified jobs/roles. ■ From the relevant Business Unit(s).
	Generic	Eg. Recruitment for all Jobs Gather Data: ■ Specific to the application. ■ Across all jobs/roles. ■ Across the whole organization.	Eg. . All applications for all Jobs Gather Data: ■ Relevant to all applications. ■ Across all jobs/roles. ■ Across the whole organization.

Table 2. Job Roles versus Job Functions Matrix

Functions **Roles**	**Marketing**	**Sales**	**Production**	**Distribution**	**Packaging**	**Personnel**	**Finance**
Senior Managers							
Middle Managers							
Junior Managers							
Team Leaders							
Administrative Staff Members							
Operational Staff Members							

Step Three: Build the Framework

This stage involves grouping all of the behaviors and skill sets into competencies. The following steps may be adopted:

Group the statements – Ask your team members to read through the behavior statements, and group them into piles. The goal is to have three or four piles at first – for instance, manual skills, decision-making and judgment skills, and interpersonal skills.

Create subgroups – Break down each of the larger piles into subcategories of related behaviors. Typically, there will be three or four sub groupings for each larger category. This provides the basic structure of the competency framework.

Refine the subgroups – For each of the larger categories, define the subgroups even further. Ask yourself why and how the behaviors relate, or don't relate, to one another, and revise your groupings as necessary.

Identify and name the competencies – Ask your team to identify a specific competency to represent each of the smaller subgroups of behaviors. Then they can also name the larger category.

Step Four: Implement

In order to implement the competency framework, it has to be linked to business objectives to prove relevance. Provisions are to be made to reward those competencies after the employees develop them through training and development and give effective performance. The competency framework and its benefits are to be properly communicated to the employees who are in need for it.

An example of Competency Category List is given below:

Table3. Competency Category List

General	Management /Leadership	Sales /Marketing	Technical	Personnel & Admin	Personal Computing	Personal	Quality
Organization Information	Planning & Delivery	Account Planning	Product Knowledge	Personnel Policies	Operating System	Assertiveness	TQM
Basic Industry Knowledge	Leadership	Product Strategies	Services Knowledge	Budgeting	Word Processing	Persuasive Communications	Quality Consciousness
Policies & Procedures	Forward Thinking	Questioning	Contracting & Consulting	Expense Reporting	Spreadsheets	Conflict Management	Customer Service Orientation
Diversity	Strategic Thinking	Competitive Activities	Project Management	Order Entry	Presentation Software	Creativity	Facilitation
	Entrepreneurial Orientation	Negotiating	Training	Financial Justification	Database Management Software	Change Management	Team Building
	Result Orientation	Territory Administration		Statistics	E-Mail	Decision Making	Process Improvement
	Ethics	Trade Shows			LAN Access	Effective Meetings	Reengineering
	Interviewing					Humour	Core Competencies/ Outsourcing
	Performance Planning					Listening	
	Performance Reviews					Memory	
	Coaching and Counselling					Presentation Skills	
	Effective Delegation					Time Management	
	Empowering Others					Writing	

Once the competency categories are considered, the benchmarks may be set in a one to five point scale (in terms of level statements as mentioned previously) for each competency in consultation with the job incumbent, his superior and the head of that particular function. On mutual agreement of these three participants, the benchmarks levels are validated by the industry experts or the outside consultants.

The employee categories may be considered as Manager, Personnel and Administration, Team Leader, Sales, Technical and Financial.

POSITIONAL COMPETENCY

In this context the concept of Positional Competency is worth explaining. It talks about five facets which impose impact on the effective performance of the position holder, i.e., the job incumbent. The facets are: individual's attitude, individual's knowledge, individual's skill, the reporting structure of that position, i.e., departmentation and the organization's need from that position in terms of roles and responsibilities.

Table4. CompetencyMatrix

Categories of Employees / **Categories of Competencies**	**Manager**	**Personnel and Admin**	**Team Leader**	**Sales Personnel**	**Technical Personnel**	**Financial Personnel**
General						
Managerial						
Sales and Marketing						
Technical						
Personnel and Admin						
Personal Computing						
Personal						
Quality						

Figure 5. Positional Competency and it's dimensions

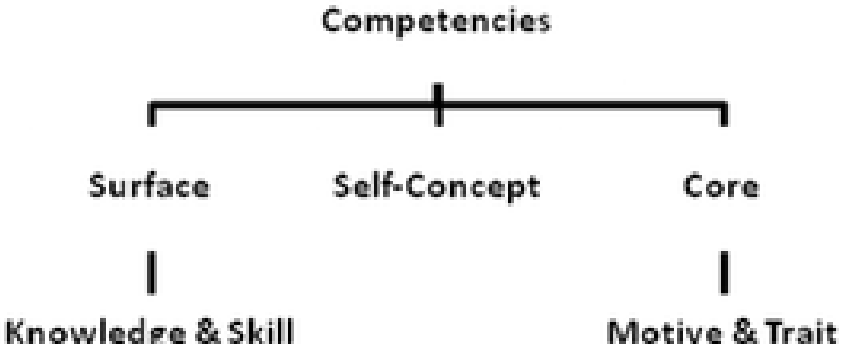


Table 5. Hierarchical Position and Positional Competency

Hierarchical Position	**Positional Competency**
Operating Core	Awareness
Middle Line	Operational
Techno-Structure	Developed
Strategic Apex	Expert

Organizational Positions and Positional Competencies

Positional competencies depend upon the level in which the position is considered. Hence, as the position increases, it demands enhanced level of the competencies to be present in the job holder. Given below the different positions and their corresponding positional competency levels:

Table 6. Level wise Positional Competency

Levels of competency - based on that developed by Pricewaterhouse Coopers (UK)	
Level 1 (Awareness)	Applies the competency in routine situations
Level 2 (Practitioner)	Applies the competency in demanding situation
Level 3 (Expert)	Applies the competency in challenging, unusual or highly sensitive situation
Level 4 (Guru)	Acts as a point of reference within the firm, people go out of their way to seek their advice

Following is an example of the different levels of positional competencies. Each level is named with a keyword so as to understand the expected level of achievement.

THE PCMM CONCEPT: AN EXAMPLE

Let us consider a very simple functional competency 'email'.

Initial ⟶ Managed ⟶ Defined ⟶ Predictable ⟶ Optimizing
None: Employee has no knowledge or skills in this area.
Personal: Employee uses personal knowledge and experience to perform.
Process: Employee can perform to process requirements.
Advanced: Employee possesses advanced competence levels.
Developing: Employee can improve processes and/or develop competencies in others.
Email:

1. I have no knowledge of e-mail.
2. I can create simple text messages and send them.
3. I can attach files to text e-mail and send them both.
4. I can use group names, broadcast and forwarding capabilities to target multiple addressees.
5. I can set up an e-mail mail box for single access to send and receive messages from various organizational systems.

Let us consider column II of Table 3 and see the validated benchmark values of the competencies coming under the category of Management/Leadership.

Table 7. Management/Leadership competencies with benchmark values

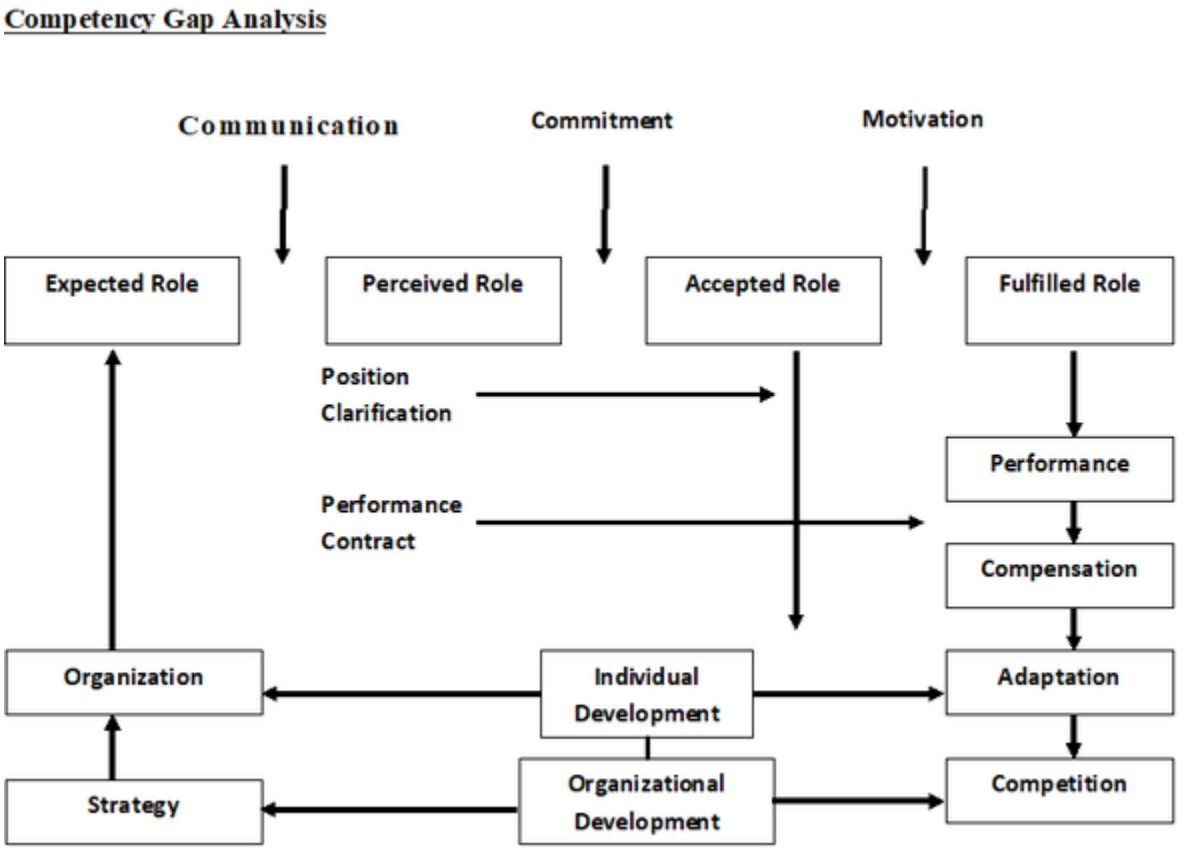
	Management/Leadership	Mgr
	Planning and Delivery: Anticipating work needs and critical tasks, allots priorities and responsibilities to achieve the overall corporate goals.	4
	Leadership: Intention to take the role as leader of a team or group, i.e., the desire to lead others' activities.	4
	Forward Thinking: The ability to anticipate implications and consequences of situations and take appropriate actions to be prepared for possible contingencies.	5
	Strategic Thinking: The ability to analyse the organization's competitive position by considering market and industry trends, existing and potential customers, and strengths and weaknesses as compared to that of the competitors.	4
	Entrepreneurial Orientation: The ability to look for and seize profitable business opportunities; willingness to take calculated risks to achieve critical business goals.	3
	Result Orientation: The ability to focus on the desired result of one's own or one's unit's work, setting challenging goals, focusing effort on the goals and meeting or exceeding them.	5
	Ethics: The ability to create an organizational environment keeping in mind the responsibilities that fosters ethical decision making by institutionalizing moral values.	5
	Interviewing: Proficiency to judge the candidature of a person from various perspectives by asking him questions.	4
	Performance Planning: Ability to plan for the future performance levels by anticipating the current position and setting achievable performance targets.	5
	Performance Reviews: Assessment of current performance based on the pre-defined standards.	5
	Coaching and Counselling: The ability to enhance others' commitment to their work by motivating them through setting challenging goals and guiding them how to take the responsibility for accomplishing the task.	4
	Effective Delegation: The ability to delegate responsibility and to work with others and coach them to develop their capabilities.	5
	Empowering Others: The ability to convey confidence in employees' ability to be successful, especially at challenging new tasks; delegating significant responsibility and authority; allowing employees' freedom to decide how they will accomplish their goals and resolve issues.	5

CONCEPT OF NETWORKS

Typically, neural networks are adjusted, or trained, so that a particular input leads to a specific target output.

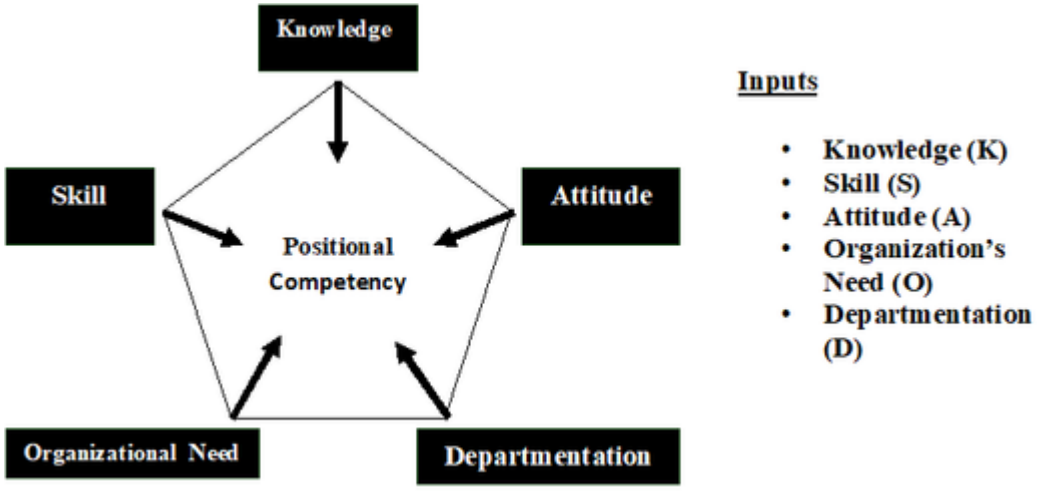
The network is adjusted, based on a comparison of the output and the target, until the network output matches the target.

Figure 6. Concept of Network



Boolean functions and production systems can be easily implemented by computer programs. Alternatively, they can be implemented directly as electronic circuits. The inputs to the circuitry can be sensory signals themselves. A popular type of circuit consists of networks of threshold elements or other elements that compute a nonlinear function of a weighted sum of their inputs. An example of such an element is the *Threshold Logic Unit* (TLU) shown in the figure below. It computes a weighted sum of its inputs, compares this sum to a threshold value, and outputs a 1 if the threshold is exceeded. Otherwise, it is 0.

Figure 7. Neural Network



BACK PROPAGATION NETWORK

The back Propagation Learning Algorithm is one of the most important developments in neural networks. This network has re-awakened the scientific and engineering community to the modelling and processing of numerous quantitative phenomena using neural networks. This learning algorithm is applied to multilayer feed forward networks consisting of processing elements with continuous differentiable activation functions. The networks which are associated with back propagation learning algorithm are also called Back Propagation Networks (BPNs). For a given set of training input/output pair, this algorithm provides a procedure for changing the weights in a BPN to classify the given input patterns correctly.

The back propagation algorithm is different from other networks in respect to the process by which the weights are calculated during the learning period of the network. The general difficulty with the multilayer perceptrons is calculating the weights of the hidden layers in an efficient way that would result in a very small or zero output error. When the hidden layers are increased the network training becomes more complex. To update weights, the error must be calculated. The error, which is the difference between the actual (calculated) and the desired (target) output, is easily measured at the output layer. It should be noted that at the hidden layers, there is not direct information of the error. Therefore, other techniques should be used to calculate an error at the hidden layer, which will cause minimization of the output layer which is the ultimate goal.

But, in our research we have got the actual (calculated) and desired (target) output, where we are going to consider a single hidden layer to find the error and to minimize the error.

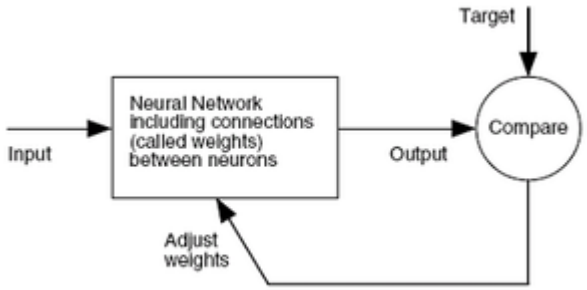
The training of the BPN is done in three stages:–

- the feed-forward of the input training pattern;
- the calculation and back-propagation of the error and
- updation of weights.

ARCHITECTURE

A back-propagation neural network is a multilayer, feed-forward neural network consisting of an input layer, a hidden layer and an output layer. The neurons present in the hidden and output layers have biases, which are the connections from the units whose activation is always 1. The bias terms also acts as weights. The following figure shows the architecture of BPN.

Figure 8. Back Propagation Network



Now, as discussed earlier, the inputs required to compute a competency are:-

- Knowledge
- Skill
- Attitude
- Organization's need
- Departmentation

But, the number of parameters will definitely vary for different competencies. In ANN, we need to consider every parameter in 0 to 1 point scale, so, we will consider the identified competencies and we will identify the required inputs for a person to be competent in that position. This concept is explained below:

Organizational Information is one competency which comes under the category of 'General Competencies', the determinanats of positional competencies are:

Knowledge (K) – 0.8; Skill (S) – 0.5; Attitude (A) – 0.7; Organization's need (O) – 0.7; Departmentation (D) – 0.6

So, we are considering these as input nodes. The input Vector looks like – [K, S, A, O, D]. Given below the list of the input values for all the competencies which is created in consultation with the industry experts.

Table 8. Sample Competency Model considering input parameters

General		Personnel	Team			
	Mgr	& Admin	Leader	Sales	Tech	Finance
Organizational Information: Knowledge about Organization's vision, mission and objectives.	4	3	4	3	3	4
Basic Industry Knowledge: Industry specific knowledge like, Industry Life Cycle, Competitors' position, market growth rate.	3	3	5	4	2	4
Policies &Procedures: Knowledge about organization's general statements or understandings which govern the various activities and which guide or channel thinking in decision making.	3	5	3	2	2	3
Diversity: Knowledge about the varied values, ethics and behavioural differences due to sub-cultures amongst the employees and ability to work with any employee without bias.	5	3	4	3	3	3

The employee categories are as Manager (M); Personnel and Administrative Staff Member (A); Team Leader (TL); Sales Personnel (S); Technical Personnel (T) and Financial Staff Member (F)

So, the output vector is [M, A, TL, S, T, F]. This is considered as the Actual Output. This is then matched with the Targeted Output. If there is a mismatch, the weights of the inputs are to be varied such that with weighted inputs we reach the targeted outputs.

NEURAL NETWORKING USING MATLAB 9.7

Artificial Neural Networks are the results of academic investigations that use mathematical formulations to model nervous system operations. The resulting techniques are being successfully applied in a variety of everyday applications.

Data Analysis and Discussion

Our primary objective is to check whether the standard or benchmark competencies that we have assumed are correct. To check that we have utilized MATLAB 9.7 interface considering five inputs, viz,

Table 9. General Competencies – Input/Output (Managers)

Output Competencies	Knowledge	Skill	Attitude	Orgn's Need	Departmentation	Target o/p
Organizational Information	0.8	0.5	0.7	0.7	0.6	0.8
Basic Industry Knowledge	0.8	0.6	0.7	0.7	0.6	0.6
Policies & Procedures	0.8	0.6	0.7	0.7	0.6	0.6
Diversity	0.7	0.6	0.8	0.9	0.8	1

knowledge, skill, attitude, departmentation and organizational need and the benchmark as the output. This benchmark output is then compared to the system generated output to see the error.

Since, the questionnaire was filled up by 10 employees in each group, i.e, Manager, Personnel and Admin Staff Members, Team Leaders, Sales Personnel, Technical Personnel and Financial Staff Mem-

Figure 9. Training Result; General Competency (Managers)

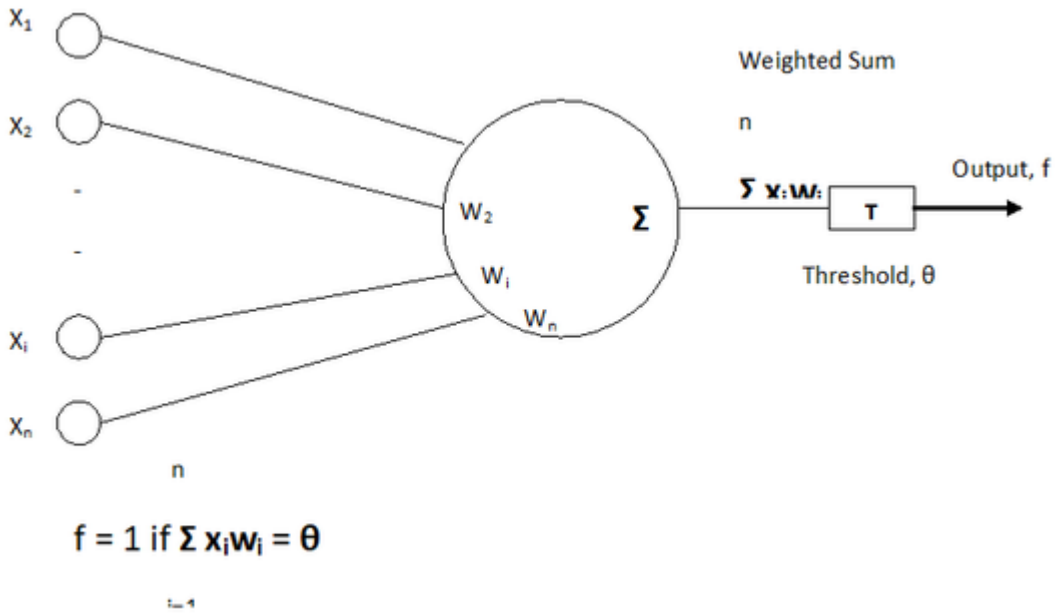
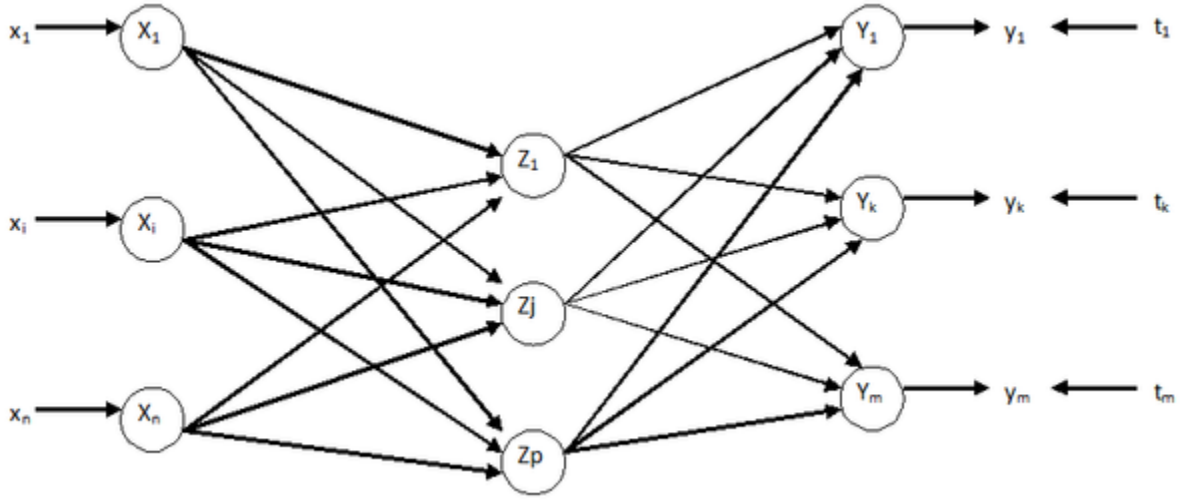


Figure 10. Coefficient of Correlation; General Competency (Managers)



bers, so, for each competency there are 10 records. Following are the competency analysis of General Competencies for Managers:

When this data set was run using MATLAB 9.7, it generated the following output:

The Output Function is Y=(0.99)T+(0.0037), where the Best Linear Fit is Y=T.This shows the Output Vs Target curves coincide which reveals the system generated output and the assumed outputs are more or less same, i.e., the assumed value was correct for General Competencies for Managers .

Table 11. Sample Competency Model considering input parameters

Exercises / Competencies	Group Exercises	In Tray	Role Plays	Case Studies
Communication	√√	√	√√	√
Teamwork	√√	√		√
Leadership	√	√√	√	√√
Customer focus	√	√		√
Influencing	√		√	
Problem solving	√	√√		√
Achieving results	√√	√√	√√	√

√√ - Competencies most frequently observed in exercises of this type.
√ - Competencies frequently observed in exercises of this type.

COMPETENCY MAPPING

Competency Mapping is a process of identifying key competencies for an organization and/or a job and incorporating those competencies throughout the various processes (i.e. job evaluation, training and development, recruitment and selection and other HR functions) of the organization. The previously discussed competency framework consists of a set of job related competencies under each competency category. Not, it is to be mapped whether the person placed in a specific job role possesses those job related competencies. Some major approaches of competency mapping are: Assessment Centre, Critical Incidents Technique, Interview Techniques, Questionnaires and Psychometric Tests etc.

Execution of any of the techniques or a combination of these techniques helps the managers to evaluate the performance of the employees on the basis of competency framework. The IT enabled Competency Based Performance Management System helps in evaluating the deviation between the benchmark level and the actual level and thereby generating a competency assessment report which helps the manager in taking decisions.

"Assessment Centre" is a mechanism to identify the potential for growth. It is a procedure where multiple assessors evaluate an employee's performance through multiple techniques. A list of typical competencies evaluated through assessment centre are: Communication; Teamwork; Leadership; Customer focus; Influencing; Problem solving; Achieving results etc.

COMPETENCY PROFILING

Competency profiling means ensuring 'person-job-fit'.

Profiling - Process

- **Position Profiling** - Scope, size and responsibility related information of a Position is needed for Competency Identification (KRAs).
- **Person Profiling** - Person is rated on identified competencies on a five point scale.

Competency Ratio is the Weighted value of person's level of competency/Weighted value of Competency required by Position. It indicates the degree of fit between the person and the position.

Person vs. Position Competency ratio

If the Ratio is significantly below 100 (below 80), it might be considered that the person should not be assigned to this position or a transfer may be considered.

If the Ratio is between 80 to 100, the person may be assigned to, or confirmed in the position and the person needs to be trained to catch up with the position requirements.

CHECK THE BENCHMARK VALUES USING MATLAB

Our primary objective is to check whether the standard or benchmark competencies that we have assumed are correct. To check that we have utilized MATLAB 9.7 interface considering five inputs, viz, knowledge, skill, attitude, departmentation and organizational need and the benchmark as the output. This benchmark output is then compared to the system generated output to see the error.

IT Enabled Competency Based Performance Management System

An IT enabled Competency Based Performance Management System may be prepared keeping in mind the pre-defined and now established sets of competencies with values in five point scale. The system shows whether a person is competent or where does he lack. Since, attempt has been made to cover almost all possible dimensions and most of the competencies, this system is applicable to any company/industry.

The software package has been developed using Visual Basic 16.0 in the Front-end and Microsoft Access 2016 in the Back-end.

Salient Assumptions:

1. The Personnel and Administration or Human Resource Management Department will have the permission to access the software package.
2. Managers from any other department seeking information about employee's competencies can have information either through Personnel and Administration department or through Human Resource Management Department or through System Administration.

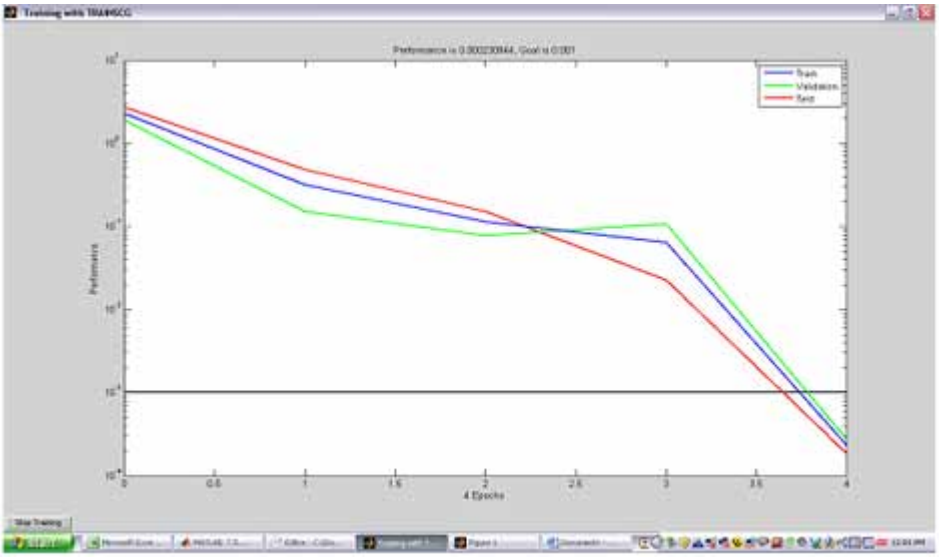
3. System Administrator is responsible for the maintenance of the software package.
4. The system will show results after comparing the actual level of competency with the standard level of competency.
5. The system will also generate a comprehensive report which will show not only the deficiency areas but also the levels of deficiencies so that this can be further used for Training Need Assessment.Some parts of the database are:

Following is the layout of the IT Enabled Competency Based Performance Management System software:

Table 12. Parts of Database

Table Name(s)	Field Names	Field Type
Competency	• General • Managerial • Sales and Marketing • Technical • Administration • Personal Computing • Personal • TQM	Text
General General_Mgr, General_Admin, General_TL, General_Tech, General_Sales, General_Finance	• Organizational Information • Basic Industry Knowledge • Policies and Procedures • Diversity	Numeric

Figure 11. Cover Form of Competency Assessment



In the Competency Assessment form both System Administrator and Personnel and Administrative department can log in to the system if they provide the appropriate Login ID and Password. This form takes the user through the journey of Competency Assessment of the employees as per Top Management's requirement.

If Personnel and Administrative Department want to log in to the system, it has to produce the necessary Login ID and Password. If this is performed successfully then the system generates a message box

Figure 12. Form containing Categories of Competencies

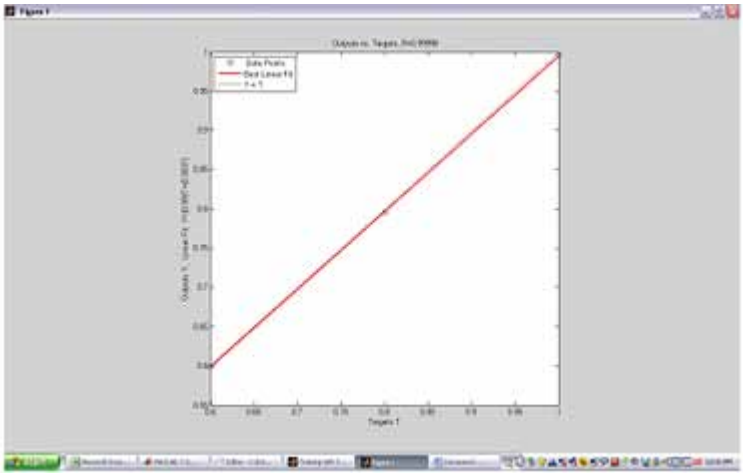
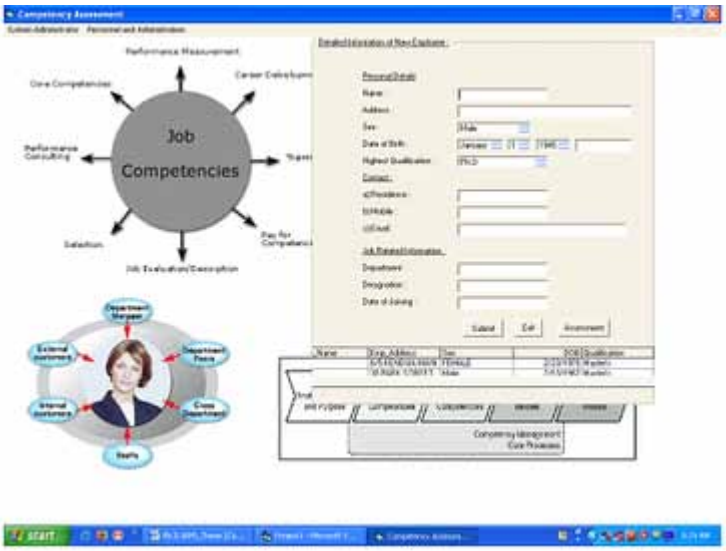


Figure 13. Competency Assessment Form



which asks the user "Whose Competency is to be assessed? New Employee/Existing Employee". If it is 'Existing Employee', directly employee's competency can be assessed because in the next form there is a provision to provide the Existing Employee's ID. Otherwise, if it is 'New Employee', the details of the New Employee are to be submitted first to the system then his/her competency can be assessed.

As the overall competencies are divided into eight broad categories, these are visible in this form. If any of the competency head is clicked, the further classifications are visible. If the user clicks on any sub-competency the definition is shown below.

From this form it is also possible for the user to see the report on competency assessment of existing employees.

This is the competency assessment form of the **General** Competencies. If the Employee ID is properly selected the Employee's Designation is reflected in the next text box and the sub-competencies are visible.

The list box shows that each competency is measured in a five-point scale. The message is generated in the following manner:

- If the benchmark level exceeds the actual level a message box appears and it shows that "The Person is less competent".
- If the actual level exceeds the benchmark level a message box appears and it shows that "The Person is more competent".
- If the benchmark level equals the actual level a message box appears and it shows that "The Person is competent".
- If the competency is not required, a message box appears and it shows that "This is not a required competency".

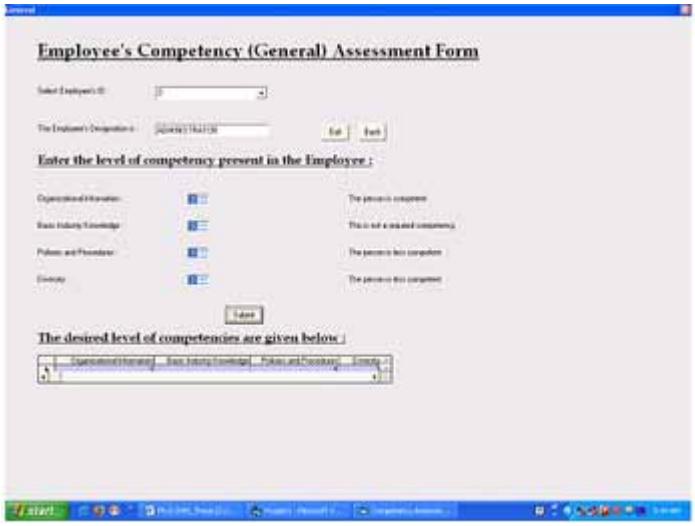
Once the assessment is over, the required levels of competencies are shown. Furthermore, the assessed competency levels can be saved in the database which are reflected the Report.

Figure 14. Competency Assessment report

This form shows a comprehensive report on Employee's Competency Assessment covering all the dimensions of competencies. The assessed competencies are reflected in this report.

But, if we want to focus on an individual's report, we will find that the employee is lacking in certain areas. As we have considered a **five** point scale, the deviation can at most be **four**. It may happen in certain cases where a particular competency is not required to be present in an employee, means in a specific designation. Now, the question arises that what level of deviation we should considered for training need assessment.

Figure 15. Individual Employee's Competency Report



This form also shows a report on where the Employee is lacking and the extent of deviations from standards. This report can be considered for Training Need Assessment.

What Are The Desired Outcomes of IT Enabled Competency Based Performance Management System?

The desired outcomes can be the following deliverables:

a. Competency Model – Generic Competency Model for the organization as a whole along with a specific competency model for specific position.
b. Position standards for each competency and for each job.
c. Measurement instruments/jobs to determine levels of competency.
d. Gaps identified between employee's competence and position standards.
e. Linking results with the enrolment database and with position curriculum.
f. Career development plan.

g. Training calendar.
h. Training need analysis by identifying the gaps observed and adding them to the course schedule.

Thus, this Competency Based Performance Management System is certainly a performance management tool which ensures better performance advantages that customers recognize.

Now in the digital era, one of the major challenges for the management is to convert the skills into competencies through competency analytics. A well accepted definition of competency is that it is the ability of a job holder to adequately perform a task. Historically, competency used to be assessed keeping in mind the job holder's experience with the particular job or task he or she was involved with for years. But, now, individual's competences are assessed by people corresponding to the hierarchical reporting structure established within the organization. Intervention of analytics enables the observation of accomplishments of job holder at the summative level at the completion of tasks, or at the formative workflow level during the completion of a task, or at time intervals set by the organization. These observations could be used as evidences toward competence analysis. Competence analytics allow for the translation and thereby transformation of observational evidences from a learning environment into expressions of competences, where evidences arrive continually and at random times and the types of evidences need not be structured.

REFERENCES

Boyatzis, R. (2007). Competencies in the 21st century. *Journal of Management Development*, *27*(1), 5–12. doi:10.1108/02621710810840730

Cooper, K. E. (2000). *Effective Competency Modeling and Reporting: A Step-by – step guide for improving individual and organizational performance*. AMACON.

Garimella, S. (2005). Positional competencies: A checklist for product and brand managers. *HRM Review,* 47–51.

Lin, C.-T., & Lee, G. C. S. (1996). *Neural Fuzzy Systems*. Prentice Hall.

O'Driscoll, Humphries, & Henrik H.Larsen. (1991). Managerial activities, competence and effectiveness: Manager and subordinate perceptions. *International Journal of Human Resource Management*, *2*(3).

Mukhopadhyay, K. (2011). A Competency Based Management System for Sustainable Development by Innovative Organizations: A Proposal of Method and Too. *Vision (Basel)*, *15*(2), 151–160.

Sanghi, S. (2016). *The Handbook of Competency Mapping: Understanding, Designing and Implementing Competency Models in Organizations*. SAGE. doi:10.4135/9789353280352

Sharma, R. R. (2002). *360 Degree Feedback, Competency Mapping and Assessment Centre*. McGraw Hill.

Chapter 10
Robot-Proof Work Capabilities

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ABSTRACT

Jobs are changing fast as many firms automate or augment work-tasks. Constant change is the new normal as technology relentlessly infiltrates all industries and businesses. This puts pressure on employees to upskill and stay relevant. While some jobs are relatively immune from disruption, these are in the minority. Most employees will need to continually build the necessary skills and capabilities that will help them safeguard their current careers or shift to entirely new careers or industries. This chapter describes an approach to answer the following question: What are the core work capabilities that students and employees should be learning now to future-proof their careers? The authors apply a prediction of automation and augmentation to work-tasks to model the change to the future workforce and analyse the remaining work skills and abilities required in the future. These future skills and abilities are further grouped to determine 32 future-work capabilities, including 13 digital and data literacies that can be targeted by employees, firms, and governments in L&D programs.

INTRODUCTION

The rapid growth of emerging technology is quickly changing the nature of work. As firms automate and augment work-tasks, employees need to continually upskill to remain relevant and stay employed. However, focusing on gaining technical or discipline-related skills alone is inadequate. Demand for specific technical skills changes too fast and the shelf-life for discipline-related competences is too short

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(Snell et al., 2016). The workforce needs to focus on enduring core capabilities that will emphasise those typically human attributes that no robot can replicate with any value.

Establishing core work capabilities is paramount. The automation of work will impact everyone, and those societies not prepared for rapid technological change could experience the same large structural unemployment that was seen during the Great Depression (Keynes, 1930; Piketty, 2014). Further, the continued hollowing out of "middle-skilled" jobs, driven by technological progress, leads to further inequality (OECD, 2011). This is of great concern, not just for individuals and families, but for the future political stability of democratic societies (Orwell, 1937; Engler and Weisstanner, 2020).

The gap between the supply of skilled employees and job vacancies has been prevalent for some time (Manyika et al., 2011). This mismatch is likely to continue (Hall and Schulhofer-Wohl, 2018) and worsen as jobs become more skill-intensive (Autor, 2019).

A better understanding of the future capability demands across industries will help governments to better direct investment to industry and skills development; educators to provide the right courses; students and employees to develop valuable skills; and employers to fill vacant job openings and stimulate the economy.

This study seeks to answer the following question: what are the core work capabilities that students and employees should be learning now to future-proof their careers? By definition, we do not consider technical skills; however, domain-specific or industry-specific skills can be determined. Our results provide a complete and compelling view of the future of work in an age when much of what we consider "work" today is completed by robots. The derived Future Capability Framework will enable governments, firms and employees to prepare for and navigate the Fourth Industrial Revolution.

Methods

Our approach is split into five main parts:

1) Simulate the impact of emerging technology on work-tasks over the next 15-years;
2) Identify the skills, knowledge, abilities, activities and personal behaviours (called 'attributes' throughout this chapter) that remain important in the future of work;
3) Derive future capabilities and literacies by manually grouping the future important work attributes into relevant human and work capabilities drawn from evidence-based research (Bowles, 2020; Bowles, Gosh & Thomas, 2020);
4) Determine a standardised levelling of capability for all occupations and extrapolate the future development need for individual occupations;
5) Apply the future capability framework to an organisation's workforce or country's census data to determine current and future state capability needs (see results section)

Predicting Automation and Augmentation of Work-Tasks

To determine those work attributes that are important in the future, we simulate the impact of emerging technology on the US workforce over the next 15 years. The US has the largest workforce of the developed economies, with the most up-to-date data and the most detailed occupational standards applied to the entire workforce. Data sources related to the current US workforce and industry groupings are taken

from the US Census and the Equal Employment Opportunity Commission, and detailed occupation information is taken from O*NET (www.onetonline.org) and the Faethm jobs database.

Faethm is an AI driven SaaS analytics platform that enables governments, companies and investors to model the impact of emerging technologies on the workforce. Faethm defines the impact of AI and robotic technologies through its triple-A framework of:

Automation – the adoption of technologies to replace a job or large components of a job, causing the need to redefine jobs and/or redeploy people.

Augmentation – the capability of technologies to supplement the efficiency of a job and, in doing so, enabling a worker to gain the capacity to do higher-value work.

Addition – the addition of more existing jobs or new jobs to the workforce to deliver on implementing emerging technologies.

US workforce automation and augmentation is determined through the application of the Faethm model (George, 2019). In short, the Faethm model applies a support vector machine (SVM) that learns from expert elicited labelling of jobs data with 199 jobs labelled as being automatable or not. The SVM learns what skills are associated with the job being automated, and any job analysed by the model is given a probability of automation. While, in itself, this is a useful indicator of the relationship of skills and automation, the SVM doesn't provide the full picture of how jobs will change over time.

In addition to the SVM, the Faethm model applies an analysis of work-tasks and technology-to-task impact over time. The SVM is combined with a neural-network based task model to identify which tasks will be impacted by a specific technology (out of 17 classes of AI and robotic technologies) and whether a task is likely to be automated or augmented. Technology adoption scenarios are also applied to each tech-task combination to provide a complete picture of when a task will be either automated or augmented by a technology.

To execute a prediction, all US census occupations were mapped to the Faethm occupation ontology. At the time of publication, the Faethm occupation ontology contains 5,608 distinct jobs; 24,400 discrete work-tasks; and required ability levels across 244 work attributes describing skills, knowledge, abilities, activities and personal behaviours (the Faethm occupation ontology is an extension of O*NET).

The output of the Faethm model is a 15-year view of the extent of automation (leading to job-losses) and augmentation (requiring the need to work with technology) of each task in each occupation for the whole US workforce. Using census data provides an assessment of the volume of change in a workforce by considering the distribution of jobs rather than looking singularly at individual jobs.

Calculating Significant Future Work Attributes

Following our assessment of the technological impact of work-tasks over 15 years, we then apply a t-test to reveal those work attributes that are associated with automatable tasks, those that are associated with augmentable tasks and those associated with tasks not impacted by technology. Therefore, the importance of each attribute in the future is derived by observing the extent of change of each job in the economy. For example, many tasks that an Accountant performs can be automated, reducing the need for some skills and requiring others. There will always be a need for an Accountant, but demand for this job will reduce, and the nature of their work will change.

The purpose of calculating a t-score is to identify attributes that are either vulnerable to automation, required for augmentation, or are immune to any technological disruptions. The workforce size (FTE numbers) of each job is scaled between 0 to 1 to ease comparability of the three impact types (automation, augmentation, unimpacted).

All occupations in the US workforce have 244 work attributes assigned with their average levels of expertise required (derived from O*NET). Significant future work attributes are identified by calculating t-scores based on the average attribute-level of the future population (after automation and augmentation) and comparing them with the average attribute-level of the starting population.

For our sample t-tests, the hypothesis for each attribute is stated as: attributes from one of the impact types has the same or similar expertise as the entire starting population, on average. To verify the hypothesis, for each sample, weighted average expertise per attribute per impact type has been calculated as well as weighted standard deviation and weighted standard error. Also, for each expertise-level the weighted population expertise average was used as the proposed population mean for the purpose of t-test calculations. The significance level that was used in this study to confirm/reject the hypothesis was 5%.

Deriving Capabilities and Literacies From Future Attributes

Those work attributes that have been found to have a high-negative correlation to automated tasks, and high-positive correlation to augmented or unimpacted tasks are then grouped into higher-level capabilities (see Appendix for a complete list of attributes and capability groupings). Grouping is completed manually, based on the similarity of the attributes, and is used to describe a set of distinct human and work capabilities drawn from evidence-based research (Bowles, 2020; Bowles, Gosh & Thomas, 2020). Further grouping is completed to define three major classes of capabilities: Core Future, Outcome and Leadership. We also identified sets of Data and Digital Literacies, driven by the extent of augmentation of work-tasks.

Determining a Standardised Leveling of Capability

Each capability and literacy was scaled across all job types within the Faethm occupation ontology. For example, digital literacy was scored from 0 to 100 with an IT professional having the highest score and a profession that doesn't currently require technology, such as a farm labourer, having the lowest. For each capability, scaling was calculated by first determining average ability levels of the set of attributes assigned to each capability and then normalising them.

For the digital and data literacies, we identified a digital or data "anchor" such as "programming" to act as a proxy of digital or data ability and applied it in combination with other current attributes. For example, for Digital Communication we could apply the average ability levels for both "communication" and "email".

Five levels of maturity capability were then assigned to standardise the capabilities across all occupations in the ontology: Novice (1-20); Advanced Novice (21-40); Competent (41-60); Proficient (61-80); and Expert (81-100). Finally, where necessary, manual adjustments were made to the scaling for each capability and literacy to ensure occupations were correctly scaled into the five maturity levels.

The impact of augmentation and automation on each occupation is applied as an indicator of the possible extent of required training to upskill an individual's capability. The assumption being that if a job can be either augmented or automated then the individual will need to upskill to either continue

performing in their current job or to find a new job. Future-state capability levels were calculated by considering the impact of augmentation and automation on each job over 15 years. The percentage impact was added to current-state capabilities to provide an indicator of training needs. Those jobs with higher technology impact would, therefore, have higher training needs.

RESULTS

Future-Work Attributes

Tables 1 to 3 show the top 10 positively correlated attributes for the unimpacted, augmented and automated groups, respectively. A full list of significant attributes and their descriptions are available in the Appendix.

Interestingly, those skills that are immune to technology include many people-management and leadership attributes. Those skills experiencing augmentation are often linked to creativity and problem-solving, suggesting that technology will enhance these attributes in the future. Not surprisingly, many of the automation correlated attributes are related to manual and routine work-tasks.

Faethm Capability Framework

Table 1. Top 10 attributes unimpacted by technology disruption

Rank	Attribute
1	Social Perceptiveness
2	Learning Strategies
3	Coordination
4	Social
5	Service Orientation
6	Instructing
7	Coaching and Developing Others
8	Management of Personnel Resources
9	Originality
10	Leadership

Each of the important future-work attributes (those with positive correlations to unimpacted and augmented work-tasks; and negative correlation to automated work-tasks) were grouped into relevant human and work capabilities. Capabilities can be split into three major types: Personal Qualities; Future Capabilities; and Specific Technical. In this study, we focus on those attributes directly important to future employability (Figure 1) as the 'Future Capabilities'.

At the pinnacle of the framework are capabilities describing the narrow technical knowledge and applied competencies required for a specific profession. At the centre are those capabilities crucial for

Table 2. Top 10 attributes associated with augmentation

Rank	Attribute
1	Achievement
2	Fluency of Ideas
3	Originality
4	Thinking Creatively
5	Problem Sensitivity
6	Psychology
7	Deductive Reasoning
8	Independence
9	Recognition
10	Working Conditions

Table 3. Top 10 attributes associated with automation (excludes 'automation' as a work attribute)

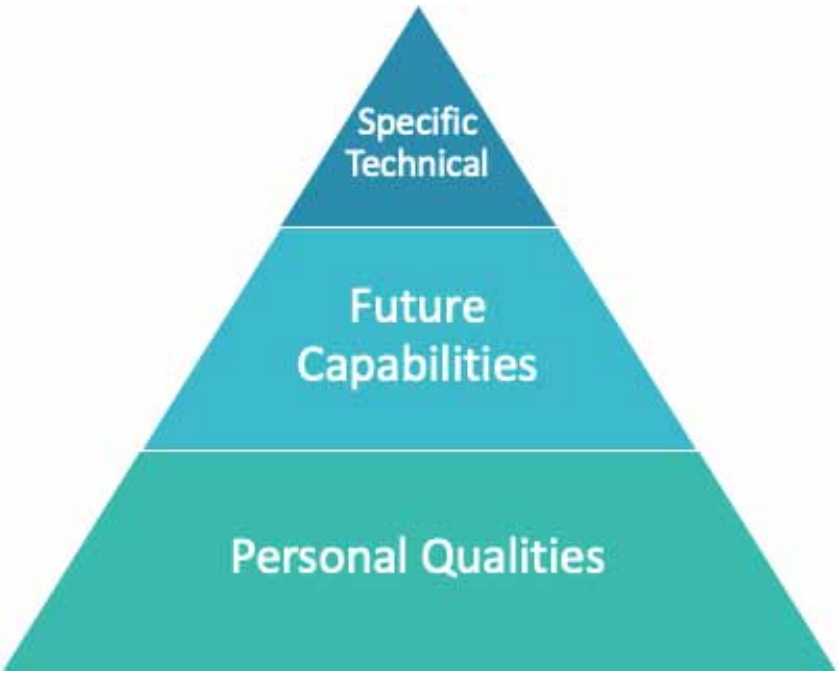
Rank	Attribute
1	Spend Time Making Repetitive Motions
2	Spend Time Using Your Hands to Handle, Control or Feel Objects, Tools or Controls
3	Conventional
4	Pace Determined by Speed of Equipment
5	Importance of Repeating Same Tasks
6	Manual Dexterity
7	Wrist-Finger Speed
8	Realistic
9	Control Precision
10	Rate Control

future employability. They include Core Future Capabilities, Outcome Capabilities, Leadership Capabilities, and Digital and Data Literacies. At the foundation of our framework, are the personal attributes and behaviours that answer the question "Who am I?" and influence how a person approaches tasks and how they acquire work-relevant knowledges and skills.

In this study we focus on future capabilities, which contain four major groups:

Core Future – the capabilities all workers will need for future employability.
Outcome – outcome capabilities enable the translation of an individual's capabilities into workforce outcomes.
Leadership – future leaders will need specific capabilities to lead a constantly changing workforce.
Digital and Data Literacies – the necessary new literacies individuals will need as work becomes more digital and data-driven.

Figure 1. Future Capability Framework



All capabilities and literacies are described in Table 4.

Application to the Australian Workforce

To showcase the framework's utility, the completed future capability framework is applied and tested on the Australian workforce to identify the level of capability across different industries. Australian census data was used to identify the total number of employees by industry, occupation and gender. Each census occupation is manually mapped to an occupation in the Faethm ontology to determine the current-state level of the 244 work attributes and the calculated capability scores.

It is useful to compare industries against a national average to assess current capability and whether there is a need for further retraining (the national average is determined by assessing the entire Australian workforce). The industry identified to have the lowest current-state capability compared with the national average was Agriculture (Figure 2). The majority of employees in the Agriculture industry are typically in occupations that require a low ability-level across the future-work attributes. In contrast, in the Healthcare and Social Assistance Industry (Figure 3), we find that the workers in this industry are well equipped with future capabilities and often score in the Advanced Novice and Competent levels (levels 2 and 3, respectively, out of 5).

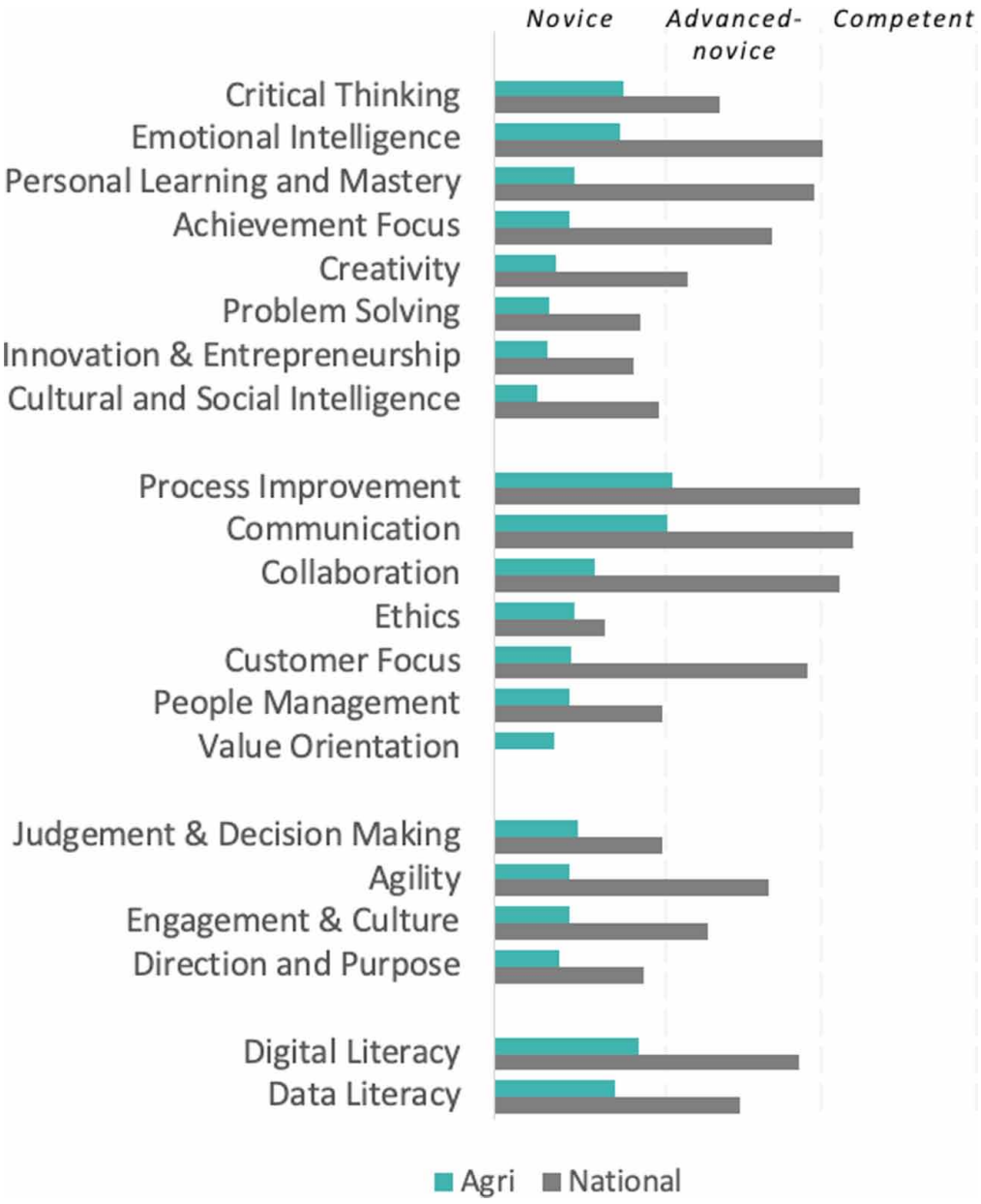
In contrast, retail employees are not equipped to transition to future-capability jobs (Figure 4). The retail workforce has low measures of future capabilities compared with the national average. As would be expected, retail workers score high in emotional intelligence, customer focus, engagement and culture; however, they lack many others.

Table 4. Full set of identified future capabilities

Core Future Capabilities: the capabilities all workers will need for future employability	
Achievement Focus	Willingness to take on responsibilities and challenges. Developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
Creativity	Developing, designing or creating new applications, ideas, relationships, systems or products, including artistic contributions. The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
Cultural and Social Intelligence	Being aware of others' reactions and understanding why they react as they do.
Emotional Intelligence	Being sensitive to others' needs and feelings and being understanding and helpful. Giving full attention to what other people are saying, taking time to understand the points being made.
Innovation & Entrepreneurship	Developing new solutions or ways of doing something to create value. Pursuing opportunities to challenge the status-quo by changing the minds and actions of others.
Personal Learning & Mastery	Accountability for the acquisition of knowledge or skills through study, experience or being taught, while displaying a concentrated effort to gain comprehensive knowledge or skill in that particular subject or activity.
Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
Outcome Capabilities: enable the translation of an individual's capabilities into workforce outcomes	
Collaboration	Provide service to others and work with co-workers in a friendly non-competitive environment. Developing constructive and cooperative working relationships with others.
Communication	The ability to communicate information and ideas so others will understand.
Customer Focus	Actively looking for ways to assist customers and clients.
Ethics	Being honest and ethical.
People Management	Motivating, developing and directing people as they work, identifying the best people for the job.
Process Improvement	Identifying measures or indicators of process performance and the actions needed to improve or correct performance.
Value Orientation	Take responsibility for outcomes and results of one's own and other's work that contribute to creating business value.
Leadership Capabilities: future leaders will need specific capabilities to lead a constantly changing workforce	
Engagement & Culture	Persuading others, providing guidance and bringing others together to unite in an espoused culture.
Direction & Purpose	Establishing long-range objectives and specifying the strategies and actions to achieve them.
Judgement & Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.
Agility	The ability to: generate or use different sets of rules or information sources; shift between two or more activities; be comfortable to let go of sunk-costs or the normal ways of doing things and pursue new directions.
Digital Literacies: the literacies that are required in the future workforce to enable employees to access information, communicate, solve problems, learn, innovate and work collaboratively with others.	
Digital Collaboration	The ability to collaborate effectively in digital teams by working in shared digital environments (e.g. Slack) and producing shared project material (e.g. Google docs).
Digital Communication	The ability to communicate effectively, using online media, such as video (e.g. Skype) and social media (e.g. LinkedIn); responsibly, in-line with employer's privacy policy and to identify and deal with false communications.
Foundational IT	The ability to apply basic IT skills and knowledge, including using spreadsheets, word-processing and presentation applications.
Learning	The ability to benefit from digital learning through identifying learning gaps, identifying appropriate learning resources and managing one's self-learning.
Participation	The ability to participate in social media to build and maintain a digital identify and positive relationships.
Cyber Security Awareness	Awareness of the personal and business-related security risks when using digital platforms.
Data Literacies: the ability to identify, locate, interpret and evaluate information. In particular, understanding concepts of statistics to fully utilise and action insights from data	
Research & Problem Solving	The ability to perform research and problem-solve by identifying, collecting and interpreting data using digital sources.
Programming	The ability to code for the purpose of extracting and analysing data.
Statistical & Predictive Models	The ability to understand concepts of statistical and predictive models to be able to correctly interpret results.
Machine Learning & AI	Awareness of the variety of machine learning tools available and their application to solve different problems.
Visualisation & Storytelling	The ability to translate and present data in an enticing and informative manner.
Operationalising Data	The ability to identify appropriate use cases to improve business/customer outcomes from data.
Data Ethics	The ability to use data and statistical models ethically.

On average, women are stronger in future capabilities than men (Figure 5). The type of occupations that Australian women tend to work in, such as Healthcare and Education, equip them with the capabili-

Figure 2. Average future capabilities of the Australian workforce: Agriculture versus national average



ties they will need to thrive in the future of work. In total, all Australians – male and female – need to focus on improving their "future of work" capabilities.

Professional Service workers are highly skilled and score high across all capabilities compared with the national average. However, the future impact of technology to their work will require further upskilling in Digital and Data Literacies. Figure 6 presents both the current-state and future Digital and Data Literacies needed for this industry (determined by the extent of automation and augmentation). Although Digital and Data Literacies are currently high, all workers will need to upskill to a proficient level.

Figure 3. Average future capabilities of the Australian workforce: Healthcare and Social Assistance Industry (HC&SA) versus national average

4. CONCLUSION

Emerging technology has the potential to improve economic output and boost the wealth of individuals and nations, but only if governments, educators and firms take action to ensure there is an equitable distribution of this prosperity. This is particularly important for developing nations, which lack core infrastructure that will enable them to successfully transition their workforce.

Figure 4. Average future capabilities of the Australian workforce: Retail versus national average

Work is the fabric of our society: *"Work is central to human activity and central to self-realization and social cohesion"* (MIT Taskforce, 2019). If jobs become scarce, or the quality of work declines, and it's not possible for the unemployed to transition to new, in demand, high-skilled occupations, societies will begin to falter, leading to social unrest and political turmoil. Investing in the right capabilities now will help prevent prolonged unemployment for many as technology begins to automate more and more occupations.

Figure 5. Average future capabilities of the Australian workforce: females versus males

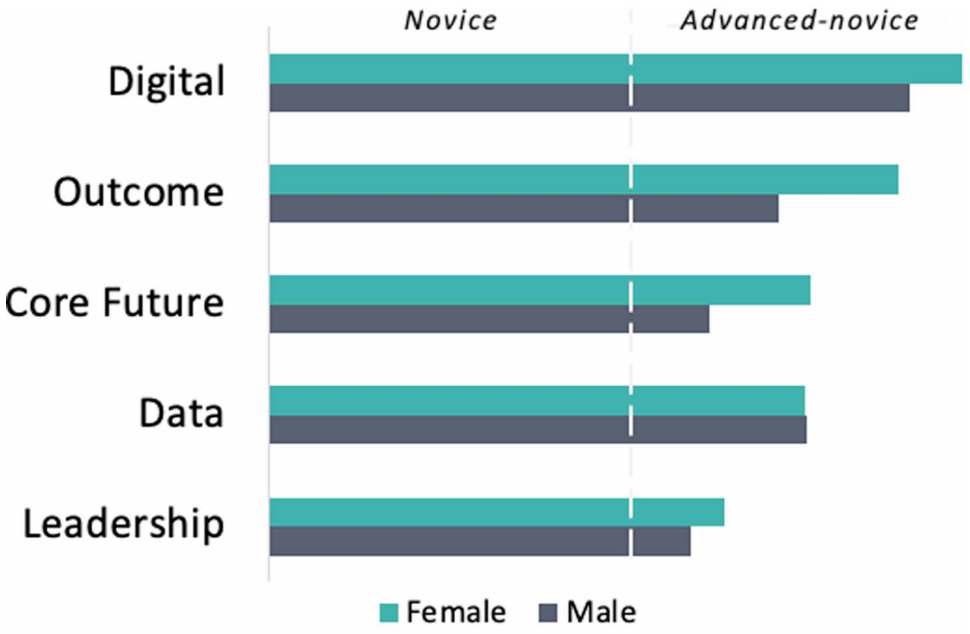
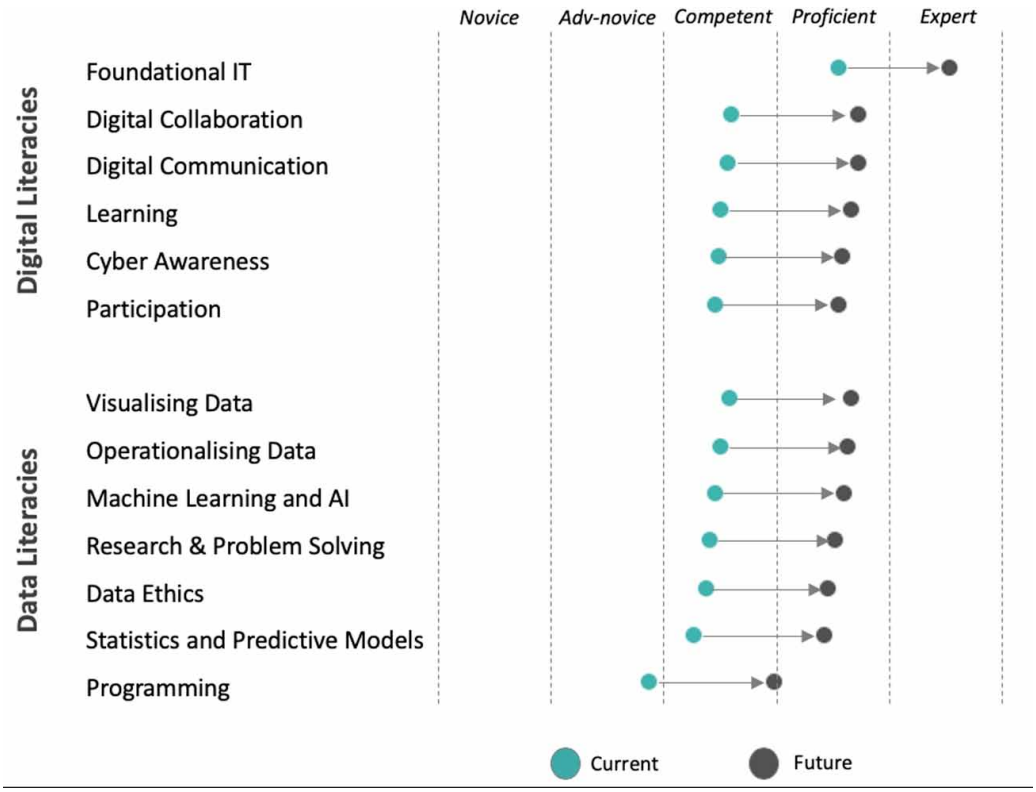


Figure 6. Average future Digital and Data Literacies of the Australian workforce: Professional Services, current and future



This paper describes an approach to answering the question: what are the core work capabilities students and employees should be learning now to future-proof their careers? We apply a prediction of automation and augmentation to work-tasks to model the change to the future workforce and identify those skills and abilities required in the future. These future skills and abilities are further grouped to determine 32 future capabilities, including 13 Digital and Data Literacies that can be targeted by employees, firms and governments in L&D programs.

The derived Future Capability Framework was applied to the Australian workforce to identify both current and future capability needs. The analysis identifies groups of workers in industries that will need to be targeted to help build the capabilities they will require to remain relevant in the future of work.

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REFERENCES

Autor, D. (2019). Work of the Past, Work of the Future. *AEA Papers and Proceedings*, *109*, 1–32. doi:10.1257/pandp.20191110

Bessen, J. (2019). Automation and Jobs: When Technology Boosts Employment. Boston University School of Law & Economics Paper No. 17-09.

Bowles, M. (2020). *Human Capability Reference Framework*. Institute for Working Futures.

Bowles, M., Ghosh, S., & Thomas, L. (2020). Future-proofing Accounting Professionals: Ensuring Graduate Employability and Future Readiness. *Journal of Teaching and Learning for Graduate Employability*, *11*(1), 2–23. doi:10.21153/jtlge2020vol11no1art888

Brynjolfsson, E., Rock, D., & Syverson, C. (2017). *Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics*. NBER Working Paper 22401.

Brynjolfsson, E., & Hitt, L. M. (2003). Computing Productivity: Firm-Level Evidence. *The Review of Economics and Statistics*, *85*(4), 793–808. doi:10.1162/003465303772815736

Clark, C. (1940). The Conditions of Economic Progress. London: MacMillan & Co. Ltd.

Engler, S., & Weisstanner, D. (2020). Income Inequality, Status Decline and Support for the Radical Right. In R. Careja, P. Emmenegger, & N. Giger (Eds.), *The European Social Model under Pressure*. Springer VS. doi:10.1007/978-3-658-27043-8_22

Feldstein, M. S. (2008). *Did Wages Reflect Growth in Productivity?* National Bureau of Economic Research. Working Paper 13953.

Frey, C. B., & Osborne, M. A. (2016). The Future of Employment: How Susceptible are Jobs to Computerization? *Technological Forecasting and Social Change*, *114*, 254–280. doi:10.1016/j.techfore.2016.08.019

Fisher, A. G. (1935). *The Clash of Progress and Security*. MacMillan & Co. Ltd.

Fuchs, V. R. (1968). *The Service Economy*. Columbia University Press.

George, R. A. (2019). *Modeling Automation and Augmentation*. Sydney: Faethm.

Hall, R. E., & Schulhofer-Wohl, S. (2018). Measuring Job-Finding Rates and Matching Efficiency with Heterogeneous Job-Seekers. *American Economic Journal. Macroeconomics*, *10*(1), 1–32. doi:10.1257/mac.20170061

Keynes, J. M. (1930). *Economic Possibilities for our Grandchildren*. Academic Press.

OECD. (2009). *Employment Outlook*. OECD Publishing.

OECD. (2011). *Divided We Stand: Why Inequality Keeps Rising*. OECD Publishing.

Orwell, G. (1937). *The Road to Wigan Pier.* Left Book Club.

Piketty, T. (2014). *Capital in the twenty-first century*. Belknap Press.

Manyika, J., Lund, S., Auguste, B., Mendonca, L., Welsh, T., & Ramaswamy, S. (2011). *An Economy That Works: Job Creation and America's Future*. McKinsey.

MIT Task Force. (2019). *Work of the Future: Shaping Technology and Institutions*. MIT.

Snell, D., Gekara, V., & Gatt, K. (2016). Cross-occupational Skill Transferability: Challenges and Opportunities in a Changing Economy. Research Report. Adelaide: NCVER.

APPENDIX: TABLE OF O*NET ATTRIBUTES ASSIGNED TO FUTURE CAPABILITIES

Ordered by +ve to –ve t-scores for the unimpacted workforce; * = significance at 95% confidence.

Element ID	Element Name	Unimpacted t-score	Augmented t-score	Automated t-score	Future Capability
2.B.1.a	Social Perceptiveness	2.08*	1.98*	-6.23*	Cultural and Social Intelligence
2.A.2.c	Learning Strategies	1.91	1.97	-5.28*	Personal Learning and Mastery
2.B.1.b	Coordination	1.86	1.93	-5.16*	Collaboration
1.B.1.d	Social	1.86	1.02	-4.73*	Cultural and Social Intelligence
2.B.1.f	Service Orientation	1.84	1.44	-3.83*	Customer Focus
2.B.1.e	Instructing	1.82	2.02*	-5.23*	People Management
4.A.4.b.5	Coaching and Developing Others	1.80	1.63	-5.13*	People Management
2.B.5.d	Management of Personnel Resources	1.80	1.55	-4.68*	People Management
1.A.1.b.2	Originality	1.79	2.45*	-5.89*	Creativity
1.C.2.b	Leadership	1.78	1.53	-4.15*	Direction and Purpose
1.B.2.a	Achievement	1.74	2.61*	-6.18*	Achievement Focus
1.B.2.c	Recognition	1.73	2.32*	-5.99*	Value Orientation
2.B.1.c	Persuasion	1.71	2.00*	-4.67*	Engagement & Culture
2.B.5.a	Time Management	1.71	1.62	-4.36*	Personal Learning and Mastery
2.A.2.d	Monitoring	1.70	2.16*	-5.02*	People Management
2.C.6	Education and Training	1.70	2.14*	-6.00*	Technical
4.C.1.a.2.c	Public Speaking	1.68	1.17	-4.82*	Communication
1.B.2.f	Independence	1.68	2.33*	-5.12*	Personal Learning and Mastery
2.A.1.d	Speaking	1.67	2.00*	-4.62*	Communication
2.B.1.d	Negotiation	1.67	1.65	-4.13*	Engagement & Culture
1.A.4.b.5	Speech Clarity	1.66	1.59	-4.85*	Communication
1.A.1.b.1	Fluency of Ideas	1.65	2.50*	-5.68*	Creativity
2.C.4.e	Psychology	1.64	2.35*	-7.33*	Technical
1.B.2.d	Relationships	1.60	0.58	-2.95*	Collaboration
2.C.1.f	Personnel and Human Resources	1.60	1.43	-4.29*	Technical
1.C.4.c	Adaptability/Flexibility	1.58	1.81	-3.91*	Personal Learning and Mastery
1.B.2.b	Working Conditions	1.57	2.32*	-5.31*	
2.A.2.b	Active Learning	1.57	2.27*	-5.01*	Personal Learning and Mastery
1.C.1.c	Initiative	1.55	2.05*	-4.36*	Achievement Focus
2.C.4.f	Sociology and Anthropology	1.53	2.22*	-8.37*	Technical
2.B.4.h	Systems Evaluation	1.53	2.23*	-4.89*	Process Improvement
4.A.2.b.5	Scheduling Work and Activities	1.53	1.82	-4.24*	People Management
4.A.4.b.3	Training and Teaching Others	1.52	1.69	-4.82*	People Management
2.C.7.e	Philosophy and Theology	1.52	1.78	-7.30*	Technical
2.C.5.b	Therapy and Counseling	1.51	1.62	-7.75*	Technical
4.A.4.b.4	Guiding, Directing, and Motivating Subordinates	1.51	1.47	-4.24*	People Management
4.A.4.a.7	Resolving Conflicts and Negotiating with Others	1.50	1.41	-3.95*	People Management
2.A.1.b	Active Listening	1.49	1.93	-4.01*	Emotional Intelligence
1.A.1.a.3	Oral Expression	1.48	2.15*	-4.49*	Communication
1.C.4.a	Self Control	1.47	0.51	-2.64*	Personal Learning and Mastery
4.A.4.b.1	Coordinating the Work and Activities of Others	1.47	1.76	-4.41*	People Management
2.B.2.i	Complex Problem Solving	1.46	2.08*	-4.72*	Problem Solving
1.A.1.a.4	Written Expression	1.46	1.91	-4.22*	Communication
4.A.4.c.2	Staffing Organizational Units	1.45	1.29	-4.06*	People Management
4.A.4.b.6	Provide Consultation and Advice to Others	1.45	2.02*	-5.32*	Engagement & Culture
2.A.1.c	Writing	1.45	2.00*	-4.32*	Communication
1.C.3.b	Concern for Others	1.45	0.46	-2.63*	Emotional Intelligence

continued on following page

Table 5. Continued

Element ID	Element Name	Unimpacted t-score	Augmented t-score	Automated t-score	Future Capability
2.B.4.e	Judgment and Decision Making	1.45	2.25*	-5.11*	Judgement & Decision Making
2.A.2.a	Critical Thinking	1.45	2.20*	-4.38*	Critical Thinking
4.A.2.b.2	Thinking Creatively	1.45	2.44*	-5.45*	Creativity
1.C.7.a	Innovation	1.44	2.06*	-4.27*	Innovation & Entrepreneurship
1.A.1.a.1	Oral Comprehension	1.44	2.06*	-4.47*	Communication
4.A.4.a.4	Establishing and Maintaining Interpersonal Relationships	1.42	1.52	-3.68*	Collaboration
4.A.4.b.2	Developing and Building Teams	1.42	1.56	-4.27*	People Management
1.C.3.c	Social Orientation	1.41	0.50	-2.50*	Cultural and Social Intelligence
2.B.4.g	Systems Analysis	1.40	2.00*	-4.33*	Critical Thinking
4.A.2.b.4	Developing Objectives and Strategies	1.39	2.22*	-5.16*	Direction and Purpose
1.C.5.c	Integrity	1.38	1.49	-3.07*	Ethics
1.C.1.a	Achievement/Effort	1.37	1.90	-3.77*	Achievement Focus
1.A.1.b.3	Problem Sensitivity	1.37	2.39*	-5.44*	Critical Thinking
2.C.9.b	Communications and Media	1.37	1.89	-4.84*	Technical
2.C.1.a	Administration and Management	1.36	1.35	-3.58*	Technical
4.C.1.b.1.g	Coordinate or Lead Others	1.36	0.79	-2.75*	Direction and Purpose
1.A.4.b.4	Speech Recognition	1.35	1.62	-3.61*	Communication
1.A.1.d.1	Memorization	1.35	1.60	-3.50*	Critical Thinking
2.C.7.a	English Language	1.35	2.08*	-4.69*	Technical
1.C.4.b	Stress Tolerance	1.35	1.10	-2.85*	Personal Learning and Mastery
4.A.4.a.3	Communicating with Persons Outside Organization	1.34	1.70	-3.91*	Communication
2.C.1.e	Customer and Personal Service	1.33	1.26	-2.82*	Technical
2.B.5.c	Management of Material Resources	1.33	1.18	-3.42*	People Management
1.C.5.a	Dependability	1.33	1.40	-3.06*	Achievement Focus
1.A.1.b.4	Deductive Reasoning	1.32	2.33*	-4.89*	Critical Thinking
4.A.2.b.6	Organizing, Planning, and Prioritizing Work	1.31	1.60	-3.67*	People Management
2.A.1.a	Reading Comprehension	1.31	1.97	-4.11*	Communication
1.B.1.c	Artistic	1.30	1.92	-7.79*	Creativity
1.C.1.b	Persistence	1.29	2.02*	-3.93*	Personal Learning and Mastery
2.B.3.a	Operations Analysis	1.27	2.10*	-4.75*	Innovation & Entrepreneurship
1.C.3.a	Cooperation	1.25	0.73	-2.28*	Collaboration
2.B.5.b	Management of Financial Resources	1.25	1.08	-3.33*	People Management
1.A.1.a.2	Written Comprehension	1.23	1.92	-4.05*	Communication
4.C.1.a.2.j	Letters and Memos	1.23	0.95	-2.39*	
4.A.4.a.5	Assisting and Caring for Others	1.22	0.78	-3.34*	Emotional Intelligence
1.A.1.b.5	Inductive Reasoning	1.21	2.31*	-5.06*	Critical Thinking
4.A.4.c.3	Monitoring and Controlling Resources	1.17	1.24	-3.23*	People Management
4.C.3.b.8	Structured versus Unstructured Work	1.16	1.28	-2.80*	
4.C.3.a.4	Freedom to Make Decisions	1.12	1.55	-3.14*	Innovation & Entrepreneurship
4.C.1.a.2.h	Electronic Mail	1.11	1.26	-2.57*	
4.A.4.a.2	Communicating with Supervisors, Peers, or Subordinates	1.10	1.66	-3.64*	Communication
4.A.2.b.1	Making Decisions and Solving Problems	1.10	2.05*	-4.01*	Problem Solving
4.A.4.a.6	Selling or Influencing Others	1.09	1.49	-3.37*	Innovation & Entrepreneurship
4.C.1.d.1	Frequency of Conflict Situations	1.09	0.55	-2.12*	
1.C.6	Independence	1.09	1.10	-2.44*	Achievement Focus
4.A.4.a.8	Performing for or Working Directly with the Public	1.09	0.51	-1.86	Customer Focus
2.C.7.d	History and Archeology	1.09	1.53	-5.65*	Technical

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Table 5. Continued

Element ID	Element Name	Unimpacted t-score	Augmented t-score	Automated t-score	Future Capability
1.B.1.e	Enterprising	1.08	0.30	-1.84	
4.A.1.a.1	Getting Information	1.08	1.95	-3.90*	Process Improvement
1.C.7.b	Analytical Thinking	1.06	1.99*	-3.53*	Problem Solving
4.A.2.a.1	Judging the Qualities of Things, Services, or People	1.06	1.77	-3.64*	Judgement & Decision Making
4.A.4.c.1	Performing Administrative Activities	1.02	0.98	-2.20*	
2.C.1.d	Sales and Marketing	1.02	1.23	-3.00*	Technical
4.A.2.b.3	Updating and Using Relevant Knowledge	1.00	2.05*	-3.70*	Personal Learning and Mastery
1.A.1.g.2	Time Sharing	0.98	0.91	-2.15*	Agility
2.C.8.b	Law and Government	0.98	1.60	-3.05*	Technical
4.C.1.a.2.f	Telephone	0.97	0.85	-1.74	
4.C.1.a.2.l	Face-to-Face Discussions	0.95	0.82	-2.03*	
1.A.1.e.1	Speed of Closure	0.94	1.95	-3.28*	Critical Thinking
4.C.1.a.4	Contact With Others	0.94	-0.02	-1.00	Communication
1.A.1.b.6	Information Ordering	0.89	2.12*	-3.65*	Problem Solving
4.A.4.a.1	Interpreting the Meaning of Information for Others	0.89	1.92	-4.07*	Communication
2.C.7.b	Foreign Language	0.89	1.13	-2.92*	Technical
1.A.1.b.7	Category Flexibility	0.89	1.74	-3.41*	Agility
4.C.1.c.2	Responsibility for Outcomes and Results	0.87	0.41	-1.64	Value Orientation
2.C.7.c	Fine Arts	0.87	1.15	-4.97*	Technical
2.C.1.c	Economics and Accounting	0.84	0.51	-1.66	Technical
2.C.4.d	Biology	0.83	1.48	-4.11*	Technical
4.A.1.b.1	Identifying Objects, Actions, and Events	0.81	1.79	-3.32*	Critical Thinking
4.C.2.a.1.a	Indoors, Environmentally Controlled	0.79	0.62	-1.44	
4.C.1.b.1.e	Work With Work Group or Team	0.79	0.35	-1.48	Collaboration
2.C.5.a	Medicine and Dentistry	0.77	1.24	-3.88*	Technical
2.C.1.b	Clerical	0.77	0.54	-1.28	
1.A.1.c.1	Mathematical Reasoning	0.77	1.28	-2.43*	
4.A.2.a.4	Analyzing Data or Information	0.75	1.87	-3.33*	Problem Solving
2.A.1.f	Science	0.75	1.95	-4.45*	Problem Solving
2.C.3.a	Computers and Electronics	0.73	1.47	-2.44*	Technical
2.C.4.g	Geography	0.72	1.33	-2.93*	Technical
4.C.1.b.1.f	Deal With External Customers	0.70	0.13	-0.89	Customer Focus
1.A.4.a.2	Far Vision	0.69	1.28	-1.94	
4.C.2.c.1.b	Exposed to Disease or Infections	0.63	0.66	-1.98*	
4.C.3.a.2.a	Impact of Decisions on Co-workers or Company Results	0.62	1.05	-1.89	People Management
4.C.1.d.3	Deal With Physically Aggressive People	0.62	0.35	-1.47	
1.A.1.c.2	Number Facility	0.59	1.19	-2.02*	
2.B.3.b	Technology Design	0.57	1.69	-2.89*	Creativity
4.C.3.c.1	Level of Competition	0.55	1.38	-2.37*	Value Orientation
4.A.3.b.6	Documenting/Recording Information	0.55	1.63	-2.54*	
4.A.1.a.2	Monitor Processes, Materials, or Surroundings	0.54	1.58	-2.54*	Process Improvement
4.A.2.a.3	Evaluating Information to Determine Compliance with Standards	0.53	1.24	-2.12*	Judgement & Decision Making
2.C.4.a	Mathematics	0.52	1.41	-2.35*	Technical
2.A.1.e	Mathematics	0.50	1.23	-2.05*	
2.C.8.a	Public Safety and Security	0.48	0.69	-1.37	Technical
1.A.1.e.2	Flexibility of Closure	0.45	1.90	-2.45*	Critical Thinking
4.A.3.b.1	Interacting With Computers	0.45	1.27	-1.87	
4.C.3.a.2.b	Frequency of Decision Making	0.44	0.39	-0.95	
4.A.2.a.2	Processing Information	0.44	1.36	-2.09*	Process Improvement
2.C.9.a	Telecommunications	0.40	1.13	-1.82	Technical
4.A.1.b.3	Estimating the Quantifiable Characteristics of Products, Events, or Information	0.39	1.67	-2.46*	Judgement & Decision Making

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Table 5. Continued

Element ID	Element Name	Unimpacted t-score	Augmented t-score	Automated t-score	Future Capability
1.C.5.b	Attention to Detail	0.34	1.30	-1.62	
4.C.2.a.3	Physical Proximity	0.33	0.18	-0.68	
4.C.2.d.1.a	Spend Time Sitting	0.32	0.53	-0.86	
1.A.4.a.1	Near Vision	0.31	1.48	-1.92	
1.A.1.f.2	Visualization	0.30	1.51	-1.88	Problem Solving
4.C.1.c.1	Responsible for Others' Health and Safety	0.30	-0.17	-0.20	Ethics
4.C.1.d.2	Deal With Unpleasant or Angry People	0.28	-0.34	0.02	
2.C.3.c	Design	0.24	1.38	-2.04*	Technical
1.A.1.g.1	Selective Attention	0.24	1.54	-1.75	
2.C.4.c	Chemistry	0.22	0.94	-1.45	Technical
1.B.1.b	Investigative	0.21	1.87	-2.99*	Problem Solving
2.C.2.b	Food Production	0.08	-0.24	0.15	Technical
2.C.4.b	Physics	0.08	1.20	-1.67	Technical
2.B.3.e	Programming	0.07	1.18	-1.59	Technical
2.C.3.d	Building and Construction	0.02	0.31	-0.37	Technical
4.C.2.a.1.f	In an Enclosed Vehicle or Equipment	0.02	0.47	-0.47	
4.C.2.a.1.d	Outdoors, Under Cover	-0.03	0.19	-0.16	
4.C.2.c.1.a	Exposed to Radiation	-0.03	0.77	-1.16	
2.C.3.b	Engineering and Technology	-0.04	1.29	-1.51	Technical
1.A.4.b.2	Auditory Attention	-0.13	0.14	0.02	
4.C.3.a.1	Consequence of Error	-0.15	0.66	-0.54	
2.C.10	Transportation	-0.15	0.05	0.13	
1.A.3.a.2	Explosive Strength	-0.15	-0.11	0.32	
2.C.2.a	Production and Processing	-0.21	0.25	0.01	
1.A.1.e.3	Perceptual Speed	-0.21	1.07	-0.80	
1.A.3.c.2	Dynamic Flexibility	-0.21	-0.84	1.22	
1.A.4.b.1	Hearing Sensitivity	-0.22	0.36	-0.10	
4.C.3.d.1	Time Pressure	-0.24	-0.22	0.53	
1.B.2.e	Support	-0.24	0.22	0.08	
2.B.3.m	Quality Control Analysis	-0.24	0.64	-0.37	
4.C.2.d.1.f	Spend Time Keeping or Regaining Balance	-0.25	-0.43	0.76	
1.A.4.a.3	Visual Color Discrimination	-0.28	0.95	-0.67	
4.A.3.b.2	Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment	-0.30	0.70	-0.43	
4.C.2.a.1.c	Outdoors, Exposed to Weather	-0.33	-0.05	0.41	
4.C.2.d.1.b	Spend Time Standing	-0.34	-0.60	0.96	
4.C.2.d.1.e	Spend Time Kneeling, Crouching, Stooping, or Crawling	-0.37	-0.45	0.91	
4.A.3.a.1	Performing General Physical Activities	-0.38	-0.49	0.96	
4.A.1.b.2	Inspecting Equipment, Structures, or Material	-0.44	0.27	0.26	
1.A.3.b.1	Stamina	-0.45	-0.59	1.18	
1.A.3.c.4	Gross Body Equilibrium	-0.45	-0.32	0.91	
1.A.3.c.3	Gross Body Coordination	-0.46	-0.51	1.13	
1.A.3.a.4	Trunk Strength	-0.46	-0.43	0.98	
4.C.2.d.1.d	Spend Time Walking and Running	-0.48	-0.75	1.33	
4.C.2.e.1.e	Wear Specialized Protective or Safety Equipment such as Breathing Apparatus, Safety Harness, Full Protection Suits, or Radiation Protection	-0.49	0.29	0.27	
2.B.3.g	Operation Monitoring	-0.52	0.25	0.36	
2.C.3.e	Mechanical	-0.52	0.24	0.38	
2.B.3.d	Installation	-0.52	0.13	0.47	
4.C.2.c.1.c	Exposed to High Places	-0.54	-0.22	0.83	
4.C.2.a.1.b	Indoors, Not Environmentally Controlled	-0.55	-0.12	0.72	

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Table 5. Continued

Element ID	Element Name	Unimpacted t-score	Augmented t-score	Automated t-score	Future Capability
1.A.3.a.3	Dynamic Strength	-0.57	-0.68	1.46	
4.C.2.b.1.f	Exposed to Whole Body Vibration	-0.58	-0.47	1.04	
1.A.4.a.6	Depth Perception	-0.58	0.12	0.52	
4.C.2.c.1.d	Exposed to Hazardous Conditions	-0.59	-0.01	0.67	
4.C.2.b.1.e	Cramped Work Space, Awkward Positions	-0.59	-0.03	0.71	
4.C.2.c.1.f	Exposed to Minor Burns, Cuts, Bites, or Stings	-0.59	-0.51	1.21	
4.C.2.d.1.c	Spend Time Climbing Ladders, Scaffolds, or Poles	-0.60	-0.15	0.84	
1.A.3.a.1	Static Strength	-0.62	-0.64	1.40	
1.A.2.b.2	Multilimb Coordination	-0.66	-0.44	1.23	
2.B.3.k	Troubleshooting	-0.66	0.16	0.62	
1.A.2.c.3	Speed of Limb Movement	-0.67	-0.66	1.46	
4.C.2.d.1.h	Spend Time Bending or Twisting the Body	-0.67	-0.88	1.76	
4.A.3.a.2	Handling and Moving Objects	-0.68	-0.91	1.79	
4.C.2.e.1.d	Wear Common Protective or Safety Equipment such as Safety Shoes, Glasses, Gloves, Hearing Protection, Hard Hats, or Life Jackets	-0.68	-0.30	1.08	
4.C.2.b.1.a	Sounds, Noise Levels Are Distracting or Uncomfortable	-0.70	-0.60	1.43	
4.C.2.c.1.e	Exposed to Hazardous Equipment	-0.72	-0.41	1.19	
4.A.3.b.5	Repairing and Maintaining Electronic Equipment	-0.72	0.13	0.75	
1.A.4.a.5	Peripheral Vision	-0.73	-0.66	1.34	
4.C.2.b.1.c	Extremely Bright or Inadequate Lighting	-0.73	0.00	0.84	
1.A.3.c.1	Extent Flexibility	-0.73	-0.69	1.62	
4.A.3.a.4	Operating Vehicles, Mechanized Devices, or Equipment	-0.76	-0.51	1.30	
1.A.1.f.1	Spatial Orientation	-0.76	-0.52	1.30	
2.B.3.c	Equipment Selection	-0.77	0.27	0.62	
1.A.4.b.3	Sound Localization	-0.77	-0.35	1.15	
1.A.2.a.1	Arm-Hand Steadiness	-0.78	-0.41	1.65	
4.C.2.b.1.b	Very Hot or Cold Temperatures	-0.79	-0.64	1.56	
4.A.3.b.4	Repairing and Maintaining Mechanical Equipment	-0.81	-0.44	1.38	
1.A.2.a.3	Finger Dexterity	-0.81	0.10	0.99	
1.A.4.a.4	Night Vision	-0.82	-0.50	1.30	
4.C.2.a.1.e	In an Open Vehicle or Equipment	-0.82	-0.62	1.39	
1.A.4.a.7	Glare Sensitivity	-0.83	-0.46	1.32	
1.A.2.b.3	Response Orientation	-0.87	-0.33	1.30	
4.C.2.b.1.d	Exposed to Contaminants	-0.91	-0.56	1.59	
2.B.3.h	Operation and Control	-0.93	-0.23	1.28	
4.C.3.b.2	Degree of Automation	-0.93	-1.33	2.47*	
2.B.3.j	Equipment Maintenance	-0.93	-0.34	1.36	
4.C.3.b.7	Importance of Repeating Same Tasks	-0.94	-1.37	2.44*	
2.B.3.l	Repairing	-0.94	-0.26	1.30	
1.A.2.c.1	Reaction Time	-0.94	-0.40	1.43	
4.A.3.a.3	Controlling Machines and Processes	-0.99	-0.67	1.83	
1.B.1.f	Conventional	-0.99	-1.52	2.82*	
1.A.2.a.2	Manual Dexterity	-0.99	-0.68	2.23*	
4.C.3.b.4	Importance of Being Exact or Accurate	-1.02	-0.20	1.57	
1.A.2.c.2	Wrist-Finger Speed	-1.07	-0.80	2.14*	
1.A.2.b.4	Rate Control	-1.14	-0.69	1.88	
1.A.2.b.1	Control Precision	-1.17	-0.42	1.99*	
4.C.2.d.1.i	Spend Time Making Repetitive Motions	-1.26	-1.65	4.14*	
1.B.1.a	Realistic	-1.28	-0.55	2.11*	
4.C.3.d.3	Pace Determined by Speed of Equipment	-1.29	-1.34	2.62*	

Chapter 11
Organizational Climate and Strategic Leadership in Industry 4.0

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ABSTRACT

Strategic leadership and organizational climate have been made more important by the Industry 4.0 revolution. Strategic leadership and organizational climate enable businesses to adapt easily to rapidly changing environmental conditions and innovations for sustainability. Therefore, the role of strategic leaders is important in creating an organizational climate to manage and implement strategic changes and also in the preparation and implementation of roadmap to design the future of the business in Industry 4. 0. This study aims to discuss the strategic leadership skills in creating the organizational climate in Industry 4.0. The authors found that there is a relationship between organizational climate and strategic leaders' skills in Industry 4.0. Understanding the relationship between the skills of strategic leaders and organizational climate is essential to uncovering the critical links to firm performance to get competitive advantage in Industry 4.0. Strategic leadership is a key interpreter of how climate of the organization links to the wider systems and requires leadership systems.

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INTRODUCTION

Businesses that would like to have competitive advantage in rapidly changing environmental conditions need effective leaders. The presence of effective leaders in businesses always increases the chances of success for businesses. In this context, business need leaders who can adapt to the Industry 4.0 and create the necessary flexibility to adapt to the changes dues to environmental conditions. Moreover, they can create an achievable future for the business by having a vision and can increase the motivation of employees by thinking strategically. These leaders are called strategic leaders in literature. Strategic leader is the leader who determines the mission and vision of the organization. Strategic leader can make strategic changes for the future and provide competitive advantage. The strategic leader is considered to have an important role in creating a positive organizational climate that can affect employees' motivation and commitment. By creating a positive environment organization can ensure that internal relations continue safely. It can contribute to improve the performance of the organizations. Furthermore, it can also make it easier for organizations to adapt the changes in competitive environment due to Industry 4.0. Therefore, organizations need strategic leader to reach their goals, to maximize their profit and value, to overcome chaos, turbulent and incomprehensible situations. Increasing speed, complexity and complexity with Industry 4.0 almost make strategic leadership imperative. Strategic leader can make strategic changes for the future and provide competitive advantage within the scope of Industry 4.0.

There is technology for Industry 4.0, which is expected to provide added value in industrial production. With the integration of information and operation technologies, it will be possible to manufacture products that will offer practical solutions to every part of daily life. To achieve their goals, organizations need strategic thinking, planning and implementation. This can be achieved by organizational climate with this strategic change and to fulfill the requirements of the new smart system occurred by Industry 4.0. All these processes can be effectively managed by a strategic leadership skills and behaviors. In this study, Industry 4.0, strategic leadership and organizational climate are related in perspective of Industry 4.0. The fact that there is no study evaluating these concepts together in the literature reveals the originality and importance of the subject. Therefore, this study will make an important contribution to the literature.

We begin by defining Industry 4.0. Following the structure of the Industry 4.0, we first examine strategic leadership and characteristics of strategic leaders focusing on changes in the environment and implications for strategic leadership responsibilities. After describing the levels, we propose organizational climate and its dimensions. Finally, we discuss the implications for research and management in perspective of Industry 4.0, strategic leadership and organizational climate.

LITERATURE REVIEW

Industry 4.0

Industry 1.0 was realized as the transition from agriculture to industrial economy at the end of the 18th century with the discovery of steam. Industry 2.0 is assumed the production system in which mass production was adopted for car production. Although this period is the beginning of mass production, it covers the period until the late 1960s. Industry 3.0 has been manifested with the developments in electronic and information technologies based on digital technology instead of machines based on mechanical and electronic technology since the early 1970s. The rapid development of computers and the internet

thanks to digital technology, the use of computing, communication and microelectronic techniques has become widespread (Demirkol & Özcan, 2018: 275). This rapid technology led to the emergence of the industry 4.0.

In the Industry 4.0 process, which is expressed as the fourth industrial revolution today, the use of cyber physical systems triggers the paradigm shift especially in the manufacturing sector (Xu et al., 2018: 2941-2942). Industry 4.0 was first mentioned at the Hannover Fair in 2011. Experts who attended the fair stated that the modern face of the informatics era adds a new dimension to the production processes and a new industrial revolution is being experienced. Technological factors of Industry 4.0 were thougth to shape the industrial production of the future and three-dimensional (3'D) printers have been grouped as internet of things, smart factories, cyber-physical systems, big data, autonomous robots, simulation, system integration, cloud computing system and augmented facts (Demirkol & Özcan, 2018: 275). Industry 4.0, which is used to define the 4th phase of industrialization, states that the objects will be connected to the internet and communicate, and smart production will take place in all layers of society together with the private and public sector. The IT infrastructure that forms Industry 4.0 realizes smart production, new business models emerge with smart production and as a result, radical changes are expected in the processes ranging from daily life to working life, from the structure of products to supply and sales (Özsoylu, 2017: 60). Industry 4.0 is based on producing technological solutions for the needs of industries and becoming increasingly widespread and demonstrating its sensible effects. Therefore, it is considered that Industry 4.0 will be one of the cornerstones in the future (Barutçu, 2019: 88).

Industry 4.0 process focuses on machines and production systems that do not require manpower at their core and operate autonomously on their own (Görçün, 2017: 141). In this context, Industry 4.0 can be defined as the "Internet of machines, computers, people and objects". Industry 4.0 is a process in which "smart machines" employ autonomous production in the field of industry, learn about production processes, produce new information without the need for human intervention, and communicate with each other through the Internet (Schwab, 2016: 11). The Industry 4.0 process refers to a process that creates its own economy and fundamentally changes the established value chains. In this new process, productivity increase, higher added value, zero-inventory production, reduced costs, higher quality, faster and environmentally friendly production, individual production and customer satisfaction, and the need for qualified manpower will increase (TÜSİAD, 2016). Therefore, Industry 4.0 provides faster, more flexible and efficient processes to produce higher quality products with lower costs (Serinikli, 2018: 1616).

Industry 4.0 is entering a new and versatile period in terms of production methods and interaction with stakeholders (Aytar, 2019: 81). The feature of Industry 4.0 is its ability to realize real-time communication, connections and definitions between people, machines and products, and to develop a customized and digitalized smart manufacturing model according to customer demands with a very high flexibility (Fırat & Fırat, 2017: 10). These innovations, which are felt in almost every field among business functions, aimed to increase the flexibility of companies in general, reduce costs, increase quality, and catch up with current business approaches (Barutçu, 2019: 71). Especially, it is critical for business executives to consider Industry 4.0 approach during the strategy development, planning and organizational climate (Aytar, 2019: 89).

Developments show that people, objects and systems will be interconnected, economic growth, employment, investments, business, and even academic studies are facing new opportunities and responsibilities. Companies and governments that can take advantage of these opportunities will mark the future (Özsoylu, 2017: 61).

The most distinctive elements of Industry 4.0 can be grouped in three dimensions (Schwab, 2016): these are listed below.

- *Speed:* Industrial developments in the new period are developing at a very fast rate. Every day, new technological developments are witnessed, new technological developments are opening up new ones.
- *Width and Depth:* Developments in the new period are evolving on the digital revolution. However, this rapid development leads not only to the production structure, but also to profound changes in the business world, society and the individual's living conditions.
- *System Impact:* The new era changes the structure (s) of companies, sectors, but also countries, and includes a holistic transformation of systems.

These three distinctive elements will be very decisive in the coming period and companies and countries that cannot adapt will suffer great losses.

These dimensions show that Industry 4.0 is not only a model that is highly associated with internet technologies and advanced algorithms, but also an industrial value adding and information management process (Lu, 2017: 1). Considering the impact of the process and the area of interaction, there is a digital integration of different sectors, from transportation to urbanization both internal and external. These systems will affect not only the production processes, but also all socio-economic areas in which people interact. According to a research, the authorities emphasized the concepts of smart factory and manufacturing, smart product and smart city (Lu, 2017). It shows that nearly all components of Industry 4.0 are connected with "smart" information technology systems (Kinzel, 2017: 81; Aytar, 2019: 84).

The most important feature of the industrial revolutions is that it is constantly developing and leading new changes. These changes have some global economic, social and political effects. The awareness of these impacts, which are the building blocks of the global economic system, is of strategic importance for their companies' existence. The Industry 4.0 approach offers very important opportunities for emerging economies. The most important advantage of Industry 4.0 is that it enables investments with Industry 4.0 vision without the need for experience in the industry development process (Aytar, 2019: 79). The way to take advantage of the opportunities created by the Industry 4.0 revolution is to adapt to change by generating strategic thinking. Strategic leaders who have the ability to create the necessary strategic change can success that most effectively. Strategic leaders can create an organizational climate that will enable them to increase operating performance, efficiency, quality and lower costs in an Industry 4.0. Industry 4.0 has four general characteristics that may affect the organizational climate. The first is the official level, the second is the control authority, the third is the place of information within the organization, and finally the level of professionalization. The integration of all these processes requires the digital transformation and the "strategic leadership" style of this development to strengthen the organizational climate.

Strategic Leadership

Strategy literally means "referral, directing, sending, taking and taking". The concept of strategy has been used as a military concept for centuries (Güçlü, 2003: 66). Although the concept of strategy is a term applied in the military field, it has become a frequently mentioned concept in all societies in recent years. In terms of organizations, strategy is regarded as one of the most important elements of survival,

survival and growth in both individual and institutional structuring. Strategy is a concept related to the future (Kara, 2018: 424).

In the literature, there are various definitions of strategic leadership. Strategic leadership, having multiple leadership roles, is the type of leadership that displays the appropriate ones at the right time and conditions (Thompson & Strickland, 2001: 430-431). It is the ability to anticipate the future, to adapt to changing conditions, to think strategically, and to work in harmony with others, to initiate changes that create a future that can be applied to the business (Ireland and Hitt, 2005: 63-67). It is the wisdom and ability to make important decisions about goals, actions and tactics in a highly variable, chaotic environment (Pisapia, 2009). According to Sullivan and Harper (1997), strategic leadership is to manage and oversee a logical and well-thought-out action that creates the organization in its most basic sense, such as purpose, culture, strategy, core identities and critical processes. Guillot (2003), on the other hand, defines strategic leadership in a complex and ambiguous strategic environment as the ability of an experienced senior executive to create vision and make important decisions. Rowe (2001) stated that strategic leadership is to affect the followers or subordinates of the organization in order to take decisions that can survive in the long term while maintaining economic stability in the short term. Strategic leadership is a type of leadership that occurs within the scope of strategic decision making processes. Strategic leadership is a long-term perspective and predictive events that provide belief and orientation to the need to create a vision, mission and strategy to sustain and achieve organizational goals. Strategic leaders determine their vision and role thanks to their charismatic roles, strengthen the audience and energize (Naktiyok, 2004: 158-159).

Strategic leadership is a collaborative, integrative and decision-making process that allows the organization to understand, define and adopt shared goals, priorities and goals based on its identity and vision (Morrill, 2007: 258-259). Strategic leadership is a form of leadership foreseeing the future and philosophy of creating a good strategic management approach in this context. The strategic leader is the person acting in a visionary manner. The strategic leader employs senior managers and employees working at his disposal with his own management approach, and directs them towards creative goals in the organization's purpose, mission and vision (Anello, 1992: 9).

Strategic leadership brings the basic capabilities of the organization to the forefront in the face of uncertainties in the environment. In this framework, strategic leadership emphasizes the activities that increase organizational effectiveness against change and chaos and confusion in organizations and creates a positive organizational climate (Boal & Schultz, 2007: 412). According to Ülgen and Mirze (2004), the strategic leader is the person who can make strategic changes when necessary, through his talents such as seeing the future, creating vision, being flexible and empowering other people. Strategic leader is the manager who can be described as a strategy-oriented leader who exhibits a basic set of behaviors so that the organization can effectively implement its strategy (Sosik et al., 2005: 48). Creating strategies in the strategic leadership process is only possible with strategic thinking skills. Strategic thinking is the in-depth and systematic consideration and analysis of complex situations. The strategic leader is the person who has these skills (Akyüz, 2018: 60).

Characteristics of Strategic Leaders

Organizations should evaluate the opportunities and threats in the environment, adopt flexible management approaches and gain competitive advantage, and have strategic leaders to fulfill these roles in order to survive and ensure their development in 21st century (Hinterhuber & Friedrich, 2002: 191). There is

no common opinion about the characteristics of strategic leaders. However, Besler (2004: 18) stated that strategic leadership is a concept with three important dimensions such as managing, creating the future and building a team. Pisapia et al. (2005) stated that strategic leadership has five dimensions which are called managerial, ethical, political, transformational and relational leadership (Türk & Akbaba, 2017: 185). Specifically, strategic leadership characteristics listed by different authors (Abell, 2004; Adair, 2005; Davies & Davies, 2004; Pisapia et al., 2005; Swayne, 2006) are collected in a certain cluster as below:

- Anticipating the future
- Continuous review of current strategies
- Creating an exciting vision for the future
- To be flexible against changing situations,
- Adopting a participatory management approach
- Generating strategic thinking
- Turning strategy into action
- Creating a positive organizational climate
- To solve the crises
- Using human resources effectively and efficiently
- To set an example with their behavior
- Empowering employees to solve problems
- Having managerial wisdom

Based on those dimensions and characteristics mentioned above, it can be summarized that strategic leaders have three main characteristics which are listed below (Shepherd, 2016).

1. First, strategic leaders set a superior goal for the organization. The vision, intra-organizational activities and works put forward by the leader for the organization and shared by the employees put it in a new perspective. While giving all employees the feeling that their work related activities are renewed, it allows them to see the effects of their work on the entire organization rather than being stuck in the details of their work.
2. Strategic leaders are to present a model to follow. They set an example with their behavior. The attitudes and values of the organization's goals and activities are very precise and they often present through speeches and actions.
3. Strategic leaders set high performance standards and at the same time trust their followers to meet these standards. The coaching role of the leader here is of great importance.

In other words, the strategic leadership characteristics are to determine the purpose and vision of the organization, to have the ability to think strategically, to develop manpower, to try to find solutions for organizations' problems, to create an effective organizational culture and climate to pay importance to the principles and creates a balanced control system for organizational outputs.

Organizational Climate

Organizational climate has rapidly become widespread in researches related to schools and other organizations with different perspectives (Hoy et al., 2003). A human being is an entity that creates meaning

and performs its actions by constructing them on meanings. It can be said that people who take part in an organizational environment carry out their actions on a set of meanings (Cüceloğlu, 2002: 25). In this context, organizational climate is expressed as the environment created by human behavior and relationships in organizations with their individual and environmental characteristics. Therefore, organizational climate is a system that explains how the relations of the people in the organization are and how they should behave. In other words, it is called as "organizational climate of the psychological environment of the organization" (Katz & Kahn, 1977: 123).

Forehand and Gilmer (1964:362) stated that organizational climate is a collection of features that distinguish the organization from other organizations and has relatively continuity and affects the behavior of people in the organization.

Organizational climate is the atmosphere of the working environment, which is formed as a result of the attitudes, behaviors of the employees and the rules they apply, reveals the internal characteristics of the organization and created by common perceptions (Gök, 2009: 590). It consists of the common perceptions of the employees and the interaction of the employees with each other on issues such as autonomy, trust, harmony, support, appreciation, innovation, justice (Volkwein (1992). Organizational climate is a framework that defines the working environment, shapes and affects the working behavior (Hemingway and Smith, 1999).

Barutçugil (2004) defined the organizational climate as the most general atmosphere formed as a result of the perceptions of employees about how they should behave within the organization. According to Halpin (1966: 131), it as the character of the organization at the same time as "what personality is for the individual, what is the climate for the organization". It is shared perceptions of organizational policies, practices and procedures (Reichers & Schneider, 1990: 22). Organizational climate is related to the application and the working environment felt in the organization or the dominant air, and that the employees perceive the air reflected by the procedures in the workplace (Hocaniyazov, 2008).

Considering these definitions of organizational climate, Batlis (1980: 233-234) lists the prominent features of the organizational climate as follow:

- Organizational climate arises from the mutual interaction of employees with colleagues, organizational policy, organizational structure and processes and consists of general impressions of the organization,
- Organizational climate is based on the perception of the conditions related to the business environment and forms the basis for the definition of the business environment. It also directs the shaping of behaviors,
- Organizational climate is influenced by organizational features such as leadership style and business practices as well as being a source of pressure that shapes activities,
- Organizational climate is a concept with multiple dimensions.

Organizational Climate Dimensions

Different researchers with different aspects handled organizational climate and its dimensions. The concept of organizational climate is observed that it is handled and analyzed under various dimensions such as responsibility, reward, autonomy, trust, morale, conflict (Halpin & Croft, 1963; Scheneider et al., 1996; Zammuto & Krackover, 1991; Litwin & Stringer, 1968). However, the organizational climate dimensions

(structuralism, reward, risk and conflict, sincerity, support and commitment standards) developed by Litwin and Stringer, which are the most widely accepted and used in the field of organizational climate.

Structuralism (Organizational Structure)

The organizational structure is the skeleton of that organization and forms the basis of the relations between the upper and lower. It is the organizational structure that clarifies who is working with whom, or who will be managed by whom (Demirdöken, 2017: 13). Structuralism is the perceptions of the employees regarding their limitations, which constitute the rules, procedures and instructions for organizational structuring (Litwin & Stringer, 1968: 46). The perception of structural variables such as the employees' feelings of restraint in the environment, the number and characteristics of the rules and the importance given to bureaucracy are defined as the factors that make up the climate (Şener, 2019: 17). Organizational structure is an important factor of organizational climate. This is because the organizational climate will vary depending on whether the organization has strict rules or a more flexible and supportive structure (Öge, 2001: 136).

Rewarding

The rewarding means the perception of the award that will be given to the employees in the enterprise in case they do their job well. The existence of a fair reward system in organizations increases employee loyalty, job satisfaction and creativity while decreasing the intention to quit (Keleş, 2008: 45). Creating a fair reward scheme will also provide a positive organizational climate (Hocaniyazov, 2008: 29). Therefore, it is important to recognize and reward good performance in order to provide high efficiency (Şener, 2019: 20).

Risk and Conflict

The perception of risk and degree of struggle in an organization or task affects the organizational climate. It is suggested that an organizational culture that supports risk taking, cooperation, quality and security will encourage inventiveness and cause high performance (Leonard & Swap 2005: 122). Risk drives the need to succeed. Leaders or managers with a strong motivation for success often want to undertake tasks with moderate risk. While the risk taking dimension, attachment, and power motivation are ineffective on the level of motivation of individuals, moderate risk taking behavior has a motivating effect on managers or leaders (Litwin & Stringer, 1968: 62).

There is a high level of conflict within this organization, if there is a separation of powers, goals and beliefs, it creates conflict and conflict among individuals. If there is harmony in goals and beliefs and creating a spirit of cooperation among these individuals, the level of conflict in that organization is low (Burton & Obel, 2004: 142). According to Litwin and Stringer (1968:56) the extent of conflict refers to the process of listening to different ideas in the solution of any problem, and if there is tolerance to conflict in the organization, there is a favorable environment for empowering employees

Sincerity

It emerges as a dimension in which organizational staff establish friendly relations with each other and with managers, like and respect to each other, strengthen friendly relations and draw a happy family picture. Having these warm and sincere relationships will improve the organizational climate and increase the motivation of the employees (Tataroglu, 2017: 15). In an organization where bilateral relations are positive and warm, it harmoniously develops a warm and positive climate (Özdevecioğlu, 2003: 117).

Support and Commitment

The perception of support is defined as the acceptance or approval of the person within the organization (Spreitzer, 1996). A supportive and encouraging climate is a determining feature in the success of employees (Litwin & Stringer, 1968). More perception of support in the organization enables employees to develop more positive attitudes towards their organization (Tumwesigyel, 2010: 943). Loyalty is concerned with the extent to which employees within the organization feel themselves belonging to the organization. The loyalty, the opinion of the leader, the facilitation of the leader, the psychological distance of the leader, the effect of the hierarchy and the awareness of the management are important for support and commitment (Koys & DeCotiis, 1991: 270-272).

Standards

Standards is the last dimension of the organizational climate. Standards are the expression of clarity in performance goals and objectives (Gayef, 2006: 48). High performance organizations have some features that differentiate themselves. Some of these features are the quality of the work, being clear and clear, evaluating talents, high but achievable and measurable performance goals, realizing high performance and development, compatibility of strategic resources, managing the business in a way to support the liveliness and change, continuous learning and teamwork (Barutçugil, 2002: 26). It is extremely important for management to set performance standards correctly and notify employees. Because it guides to employees to know what their gains will be when they reach the determined performance standards. When they are aware of the standards of their organizations they will increase their efforts to achieve those standards (Giesecke & McNeil, 2010: 117).

CONCLUSION

Industry 4.0 is not a sudden emerging process, it has emerged as a result of developments and advances in Industry 3.0. Industry 4.0 is based on the production and distribution activities of machinery and production systems that do not require manpower, operate on their own, are self-regulating and self-healing and in constant communication and coordination with each other. Organizations have gained many advantages from cloud technologies, internet of things, artificial intelligence, cyber-physical systems and smart factories that are components of Industry 4.0 system. These advantages are reducing the costs of enterprises and therefore reducing the prices of products and services, only in terms of time production and efficient use of scarce resources, better quality, faster and environmentally friendly production,

shortening the life of the product. Thus, organizations will maximize their profits and gain advantages in global competition (Serinikli, 2018: 1607).

Industry 4.0 is a journey started, there is no option to stay out of it. Just like the transition of information technologies to many fields. In this system, the role of member of organizations is to take advantage of the opportunities of the new revolution, to minimize threats and risks and act proactively (Fırat & Fırat, 2017: 23). Therefore, the human workforce must be qualified, smart, intelligent and skilled in the Industry 4.0. In industry 4.0, however, it would have to be translated from negative to positive for business management approach to human resources. A management approach that sees business management as unmotivated, sluggish and can make mistakes at any time also needs to be changed (Banger, 2018; Serinikli, 2018: 1617).

The concepts of hierarchy and governance change as never before with the Industry 4.0 revolution. Today, the difficulties brought about by today's velocity and complexity, and the many responsibilities entrusted to them, have almost been rendered impossible for any person to overcome. More than half of IBM's CEOs do not agree that in global research with 1500 CEOs they are able to handle their assigned tasks and responsibilities alone. That shows that with the emerging of Industry 4.0 autocratic, individualist leadership and more can hardly be taken into account at the same time by increasing pain, complexity and complexity (Yüksel & Genç, 2018). This shows how important strategic leadership is.

Leaders of businesses that will benefit from the Industry 4.0 revolution and want to integrate better into the future need to run this process effectively. The Industry 4.0 process can be managed most effectively with strategic leadership skills. Within the scope of adapting to this process, strategic leaders can realize the necessary structural changes and transformations in businesses to create an organizational climate that will enable employees to use their creativity skills, increase their motivation and efficiency. In this case, leaders have important duties in all businesses regardless of their fields. Developing an organizational climate and business atmosphere in which employees can develop innovation, increase their trust and sense of responsibility, are participatory, customer-oriented and lifelong learning is based on strategic leadership. The transfer of information, adoption of appropriate solutions for the period and the promotion of creativity are central to the strategic leaders who are change managers in order to direct their followers to common ideas. The presence of strategic leaders as visionaries directly concerns the industry 4.0. The development of societies and humanity, the realization of common dreams with strategic leaders, will reach a greater level of welfare.

Every revolution, by its very nature, affects all aspects of society as a whole. There should be no delay in acting to prevent the destructive impact of Industry 4.0 being caught without preparation and adapted (Demirkol & Tis, 2018: 444). Industry 4.0 is now more efficient in terms of strategic leaders who foresee the future by building a strong vision, managing change and therefore steering the organizing climate, which takes a complex structure along with rapid development of technology in companies (Tabak et al., 2009: 395). The development and change required by the Industry 4.0 revolution also manifests itself in organizational structures. In the past, businesses with closed organizational structure have begun to take the principle of building their organizational structures on an open and transparent basis. Only with a positive organizational climate can organizations be assured of the ability to live in Industry 4.0 process and to continue their activities through their growth. A positive organizational climate is harder and harder to establish than the organizational climate of companies. At this stage, strategic managers have important tasks and duties (Gürdoğan & Yavuz, 2013: 66).

The researches and literature mentioned above show that there is a strong relationship among Industry 4.0, strategic leadership and organizational climate. Many studies in literature strategic management and

organizational climate in Industry 4.0 have been carried out, but no study has been found that examines those concepts in an organized and integrated approach. Thus this study is an original research and will contribute significantly to literature. In the light of this information, it can be said that the most important issue in compliance with Industry 4.0 is the strategic leadership that will create a positive organizational climate. Therefore, researchers and managers the work on strategic implementation plans for these developments will contribute positively to the quality of the added value expected from Industry 4.0.

Despite the above contributions this framework has a number of limitations. For example, in attempting to clarify the key processes involved in organizational climate over time it portrays strategic leader skills as a simple linear process. In fact, there are many areas where constructs overlap and interact with each other, for instance organizational climate and learning and strategic leader skills and dynamic capabilities, agile leadership and organizational climate, industry 4.0 and organizational agility with strategic flexibility. Further research should look to address the links between those variables. Furthermore, although the importance of context is emphasized at the front end of the framework, for reasons of parsimony we did not attempt to show the constant interactions between organizational climate and strategic leadership skills in a quantitative research method design.

This study could take the form of qualitative case studies and a large scale survey. However, the operationalization of different types of strategic leadership skills is a matter of some thought, and most constructs in the framework could be operationalized on base of previous studies. In addition, the complexity of the framework may actually require the division into the three phases of the model of a quantitative study.

REFERENCES

Adair, J. (2005). Etkili stratejik liderlik. İstanbul: Babıali Kültür Yayınları.

Akyüz, M. (2018). Stratejik liderlik. *Stratejik Yönetim Araştırmaları Dergisi/Journal of Strategic Management Research, 1*(1), 45-66.

Altınkurt, Y. (2007). *Eğitim örgütlerinde stratejik liderlik ve okul müdürlerinin stratejik liderlik uygulamaları* (PhD Thesis). Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Eskişehir.

Anello, E. (1992). *Sürdürülebilir bir gelecek için değerler, kurumlar ve liderlik.* Bahai Uluslararası Toplumu Sempozyumu Global Forum, Rio de Janeiro, Brezilya.

Aytar, O. (2019). Industry 4.0 ve bu paradigmanın örgüt yönetimi üzerindeki olası etkileri. *İŞ, GÜÇ. Endüstri İlişkileri ve İnsan Kaynakları Dergisi*, *21*(2), 75–90.

Banger, G. (2018). *Edüstri 4.0 ve akıllı işletme*. Dorlion Yayınevi.

Barutçu, H. C. (2019). *Industry 4.0 uygulamalarının üretim süreçlerine etkisi: Bosch Sanayi ve Ticaret Anonim Şirketi örneği* (Master Thesis). İstanbul Gelişim Üniversitesi, Sosyal Bilimler Enstitüsü, İstanbul.

Barutçugil, İ. (2002). *Performans yönetimi*. Kariyer Yayıncılık.

Barutçugil, İ. (2004). *Stratejik insan kaynakları yönetimi*. Kariyer Yayınları.

Batlis, C. N. (1980). The effects of organizational climate on job satisfaction, anxiety, and propensity to leave. *The Journal of Psychology*, *104*(2), 233–240. doi:10.1080/00223980.1980.12062970

Besler, S. (2004). *İşletmelerde stratejik liderlik*. Beta Yayınları.

Bilgin, G. D. (2014). *Sivil toplum kuruluşlarında stratejik liderlik: Uluslararası operasyonlar yürüten Türk yardım dernekleri üzerine bir araştırma* (Master Thesis). Düzce Üniversitesi, Sosyal Bilimler Enstitüsü, Düzce.

Boal, K., & Schultz, P. (2007). Storytelling, time, and evoluation: The role of strategic leadership in complex adaptive systems. *The Leadership Quarterly*, *18*(4), 411–428. doi:10.1016/j.leaqua.2007.04.008

Burton, M. R., & Obel, B. (2004). Strategic organizational diagnosis and design. In The Dynamics of Fit. Kluwer Academic Publishers. doi:10.1007/978-1-4419-9114-0

Çoban, Ö. (2016). *Milli Eğitim Bakanlığı Merkez Teşkilatı yöneticilerinin örgütsel değişimi yönetme yeterlikleri ile stratejik liderlik davranışları arasındaki ilişkinin incelenmesi* (PhD Thesis). Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü.

Cüceloğlu, D. (2002). *İletişim donanımları*. Remzi Kitapevi.

Davies, B. J., & Davies, B. (2004). Strategic leadership. *School Leadership & Management*, *24*(1), 29–38. doi:10.1080/1363243042000172804

Demirdöken, Ç. (2017). *Gençlik ve Spor Bakanlığında örgüt ikliminin işgören performansı üzerine etkisi: Alan araştırması* (PhD Thesis). Hitit Üniversitesi, Sosyal Bilimler Enstitüsü, Çorum.

Demirkol, İ., & Özcan, S. (2018). Industry 4.0 ve çağrı merkezi hizmetlerini etkileyen faktörler üzerine bir araştırma. *İşletme Bilimi Dergisi, 6*(3), 273-294.

Demirkol, N., & Tis, G. (2018). Industry 4.0'ın İnsan kaynakları ve insan kaynakları yönetimine etkisi. *IV. International Caucasus-Central Asıa Foreign Trade And Logistics Congress*.

Eren, E. (1998). *Stratejik Yönetim*. Anadolu Üniversitesi Açık Öğretim Fakültesi Yayınları.

Fırat, S. Ü., & Fırat, O. Z. (2017). Sanayi 4.0 devrimi üzerine karşılaştırmalı bir inceleme: Kavramlar, küresel gelişmeler ve Türkiye. *Toprak İşveren Dergisi*, *114*, 10–23.

Forehand, G. A., & Gilmer, V. H. (1964). Environmental variation in studies of organizational behaviour. *Psychological Bulletin*, *62*(6), 361–382. doi:10.1037/h0045960 PMID:14242590

Gayef, A. (2006). *Özel hastanelerde uygulanan liderlik yaklaşımlarının üst düzey yöneticilerin takım çalışması ve örgüt iklimi algılamaları üzerindeki etkisi* (Master Thesis). İstanbul Üniversitesi, Sosyal Bilimler Enstitüsü, İstanbul.

Giesecke, J., & Mcneil, B. (2010). *Fundamentals of library supervision* (2nd ed.). American Library Association.

Gök, S. (2009) Örgüt ikliminin çalışanların motivasyonuna etkisi üzerine bir araştırma. *Uluslararası İnsan Bilimleri Dergisi/Journal of Human Sciences, 6*(2), 587-605.

Görçün, Ö. F. (2017). *Dördüncü Industry devrimi Industry 4.0*. Beta Yayıncılık.

Güçlü, N. (2003). Stratejik Yönetim. *Gazi Eğitim Fakültesi Dergisi*, *23*(2), 61–85.

Guillot, C.W. (2003). Strategic leadership: Defining the challenge. *Air & Space Power Journal*, *17*(4), 67-75.

Gürdoğan, A., & Yavuz, E. (2013). Turizm işletmelerinde örgüt kültürü ve liderlik davranışı etkileşimi: Muğla İli'nde bir araştırma. *Anatolia: Turizm Araştırmaları Dergisi*, *24*(1), 57–69.

Halpin, A. W. (1966). *Theory and tesearch in administration*. The MacMillan Company.

Halpin, A. W., & Croft, D. B. (1963). *The Organizational Climate of Schools*. Midwest Administration Center.

Hemingway, M. A., & Smith, C. S. (1999). Organizational climate and occupational stressor as predictors of withdrawal behaviours and injuries in nurse. *Journal of Occupational and Organizational Psychology*, *72*(3), 285–299. doi:10.1348/096317999166680

Hinterhuber, H. H., & Friedrich, S. A. (2001). Stratejik liderliğin teknolojik boyutu/üretim ekonomisinde liderliğin meydan okuması. *Science Direct İnternational Journal of Production Economic*, *77*, 191–203. doi:10.1016/S0925-5273(01)00160-8

Hitt, M. A., Ireland, D. R., & Hosisson, R. E. (1999). *Strategic management* (3rd ed.). South Western.

Hocaniyazov, A. (2008). *Ağırlama işletmelerinde örgütsel iklim ve liderlik* (Master Thesis). Dokuz Eylül Üniversitesi, Sosyal Bilimler Enstitüsü, İzmir.

Hoy, W., Smith, P. A., & Sweetland, S. R. (2003). The development of the organizational climate index for high schools: Its measure and relationship to faculty trust. *High School Journal*, *86*(2), 38–49. doi:10.1353/hsj.2002.0023

Ireland, D., & Hitt, M. (2005). Achieving and maintaining strategic competitiveness in the 21st century: The role of strategic leadership. *The Academy of Management Executive*, *19*(4), 63–77. doi:10.5465/ame.2005.19417908

Kara, E. (2018). Örgütlerde stratejik liderliğin önemi üzerine bir araştırma. *International Journal of Disciplines Economics & Administrative Sciences Studies*, *4*(9), 423–436.

Katz, D., & Kahn, R. L. (1977). *Örgütlerin toplumsal psikolojisi*. Doğan Basımevi.

Keleş, Ö. (2008). *Örgüt iklimi boyutlarının çalışanların güçlendirme algılarıyla ilişkilerinin değerlendirilmesi. Bir araştırma* (Master Thesis). Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü, Kocaeli.

Kinzel, H. (2017). Industry 4.0 – where does this leave the human factor? *Journal of Urban Culture Research*, *15*, 70–83.

Koys, D. J., & Decotiis, T. A. (1991). Inductive measures of psychological climate. *Human Relations*, *44*(3), 265–285. doi:10.1177/001872679104400304

Leonard, D., & Swap, W. (2005). Kıvılcımlar Uçuşurken. İstanbul: Optimist Yayınları.

Litwin, H. G., & Stringer, A. R. (1968). *Motivation and organizational climate*. Graduate School of Business Administration, Harvard University.

Lu, Y. (2017). Industry 4.0: A survey on technologies, applications and open research ıssues. *Journal of Industrial Information Integration*, *6*(1), 1–10. doi:10.1016/j.jii.2017.04.005

Moran, E. T., & Volkwein, J. F. (1992). The cultural approach to the formation of organizational climate. *Human Relations*, *45*(1), 19–47. doi:10.1177/001872679204500102

Morrill, R. L. (2007). *Strategic leadership: Intergrating strategy and leadership in coolages and universities*. American Council on Education and Praeger Publishers.

Naktiyok, A. (2004). *İç girişimcilik*. Beta Basım Yayın.

Öge, S. (2001). Örgüt iklimi. *Selçuk İletişim*, *1*(4), 132–143.

Özdevecioğlu, M. (2003). Algılanan örgütsel destek ile örgütsel bağlılık arasındaki ilişkilerin belirlenmesine yönelik bir araştırma. *Dokuz Eylül Ünversitesi İktisadi ve İdari Bilimler Dergisi*, *18*(2), 113–130.

Özsoylu, A. F. (2017). Industry 4.0. *Çukurova Üniversitesi İİBF Dergisi*, *21*(1), 41-64.

Pisapia, J. (2009). *The Strategic leader: New tactics for a globalizing world, charlotte*. IAP, Information Age Publishing.

Pisapia, J., Guerra, D. R., & Semmel, E. C. (2005). Developing the leader's strategic mindset: Establishing the measures. *Leadership Review*, *5*, 41–67.

Reichers, A. E., & Schneider, B. (1990). Climate and culture: an evolution of constructs. In B. Schneider (Ed.), *Organizational Climate and Culture*. Jossey-Bass.

Rowe, W. G. (2001). Creating wealth in organizations: The role of strategic leadership. *The Academy of Management Executive*, *15*, 81–94.

Schnieder, B., Brif, A. P., & Guzzo, R. A. (1996). Creating a climate and culture for sustainable organizational change. *Organizational Dynamics*, *24*(4), 7–19. doi:10.1016/S0090-2616(96)90010-8

Schwab, K. (2016). Dördüncü sanayi devrimi. İstanbul: Optimist Yayınları.

Şener, S. (2019). *Örgüt ikliminin, çalışanların örgütsel bağlılık ve iş tatminlerine etkisinin incelenmesi: Adana-Mersin otel işletmeleri örneği* (Master Thesis). Çağ Üniversitesi, Sosyal Bilimler Enstitüsü, Mersin.

Serinikli, N. (2018). Industry 4.0'ın özel, kamu ve kooperatif sektörlerine etkisi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *23*, 1607-1621.

Sosik, J. J., Jung, D. I., Berson, Y., Dionne, S. D., & Jaussi, K. S. (2005). Making all the right connections: The strategic leadership of top executives in high-tech organizations. *Organizational Dynamics*, *34*(1), 47–61. doi:10.1016/j.orgdyn.2004.11.003

Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal*, *39*(2), 483–504.

Sullivan, G. R., & Harper, M. V. (1997). Umut bir yöntem olamaz. İstanbul: Boyner Holding Yayınları.

Swayne, L. E., Duncan, W. J., & Ginter, P. M. (2006). *Strategic management of health care organizations*. Blackwell Publishing.

Tabak, A., Sığrı, Ü., Eroğlu, A., & Hazır, K. (2009). Örgütlerde yöneticilerin dönüştürücü liderlik algılamalarının problem çözme becerilerine etkisi: Kamu sektöründe bir uygulama. *Ç.Ü. Sosyal Bilimler Enstitüsü Dergisi*, *18*(2), 387–397.

Tataroğlu, E. K. (2017). *Örgüt ikliminin motivasyon ile ilişkisi üzerine bir araştırma* (Master Thesis). Kırklareli Üniversitesi, Sosyal Bilimler Enstitüsü, Kırklareli.

Thompson, A., & Strickland, A. (2001). *Strategic management: Concepts and cases* (12th ed.). McGraw-Hill.

Tumwesigye, G. (2010). The Relationship between perceived organisational support and turnover intentions in a developing country: The mediating role of organisational commitment. *African Journal of Business Management*, *4*(6), 942–952.

Türk, M., & Akbaba, M. (2017). Stratejik liderlik algılamalarının çalışan performansına etkisi: Konaklama işletmeleri üzerine bir araştırma. *Sosyal Bilimler Dergisi*, *4*(16), 182–196.

TÜSİAD. (2016). *Türkiye'nin küresel rekabetçiliği için bir gereklilik olarak sanayi 4.0 gelişmekte olan ekonomi perspektifi*. Yayın No: TÜSİAD-T/2016-03/576. http://www.tusiad.org/indir/2016/sanayi-40.pdf

Ülgen, H., & Mirze, S. K. (2004). *İşletmelerde stratejik yönetim*. Literatür Yayınları.

Xu, L. D., Xu, E. L., & Li, L. (2018). Industry 4.0: State of the art and future trends. *International Journal of Production Research*, *56*(8), 2941–2962. doi:10.1080/00207543.2018.1444806

Yüksel, M., & Genç, K. Y. (2018). Industry 4.0 ve liderlik. ISAS 2018-Winter *2nd International Symposium on Innovative Approaches in Scientific Studies.*

Zammuto, R. F., & Krakower, J. Y. (1991). Quantitative and qualitative studies in organizational culture. *Research in Organizational Change and Development*, *5*, 83–113.

ADDITIONAL READING

Akkaya, B. (2020). Review of Leadership Styles in Perspective of Dynamic Capabilities: An Empirical Research on Managers in Manufacturing Firms. *Yönetim Bilimleri Dergisi*, *18*(36), 389–407. doi:10.35408/comuybd.681427

Akkaya, B., & Tabak, A. (2020). The Link Between Organizational Agility and Leadership: A Research in Science Parks. *Academy of Strategic Management Journal*, *19*(1), 1–17.

Akkaya, B., & Yazıcı, M. A. (2020). Comparing Agile Leadership with Biomimicry-Based Gray Wolf: Proposing A New Model. *BMIJ*, *8*(2), 1455–1478. doi:10.15295/bmij.v8i2.1480

Tetik, S. (2010). İşletmelerde Stratejik Yönetim. *Dayanışma Dergisi*, *108*, 15–22.

Tetik, S. ve Ünal, A. (2018). Akademisyenlerin Dönüştürücü Liderlik Algısı Üzerine Bir Araştırma/A Research on Transformational Leadership Perception of Academicians. *Bandırma İİBF Yönetim ve Ekonomi Araştırmaları Dergisi/Journal of Management and Economics Research*, 16(Özel Sayı/Special Issue), 20-42. doi:10.11611/yead.441902

Tetik, S., Emeklier, B. ve Emeklier, N. (2019). Dönüştürücü Liderliğin İnovasyon ve İnovasyon Kültürüne Etkisi: Büyük Ölçekli İşletmelere Yönelik Bir Saha Araştırması/Influence of Transformative Leadership on Innovation and Innovation Culture: A Field Research on the Large-Scale Enterprises. *Avrasya Uluslararası Araştırmalar Dergisi/International Journal of Euroasian Researches,* 7(16), 165-195. doi:10.33692/avrasyad.543742

Chapter 12
Sustainability and Competency-Based Learning at the University of Seville:
Challenges and Opportunities in Educational Sciences

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ABSTRACT

The purpose of this study is to analyse the presence of sustainability in the curricula of the Science of Education at the University of Seville and to determine the perception of both teachers and students regarding sustainability competencies. The work forms part of the R+D+i "Training Project in Spanish Universities for Professionals as Agents of Change in Order to Meet the Challenges Facing Society" (EDINSOST). The methodology a case study, in which an analysis of the curriculum of the Bachelor Degree in Early Childhood Education, Primary Education, and Pedagogy has been conducted. Two questionnaires have been drawn up and four focus groups established in which a total of 61 teachers and 152 students have participated. The results show that there is a low presence of sustainability in the Science of Education courses, particularly in the Bachelor Degree in Primary Education. The teachers express the opinion that they have sustainable initiatives as well as an interest in ethical models. The students express a high degree of interest in receiving sustainability training.

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INTRODUCTION

This research is part of an R+D+I research project, "Education and social innovation for sustainability. Training in Spanish universities of professionals as agents of change to face the challenges of society (EDINSOST 2015)" and has its continuity in the current EDINSOST2. The general objective is the training of graduates capable of leading the resolution of the challenges of our society through the integration of training in competencies in Sustainability in the Spanish University System (SUE) Sánchez Carracedo, Segalàs, Cabré, Climent, López, Martín & Vidal (2017).

A total of 15 degrees in the fields of engineering and education have participated in this project, which are taught in 10 universities throughout Spain (Universidad Autónoma de Madrid, Universidad de Cádiz, Universidad Camilo José Cela, Universidad de Córdoba, Universidad de Girona, Universidad Internacional de Cataluña, Universidad Politécnica de Cataluña, Universidad Politécnica de Madrid, Universidad de Salamanca and Universidad de Sevilla) and 52 researchers constitute the research team and the work team.

This research work is a case study (Calduch, 2014; Goodrick, 2014) focused on the Faculty of Education Sciences, University of Seville, where a complete analysis is made from the perspective of sustainability of the curricular content, the training in competences of education professionals in initial training (students) and teachers. The work developed from the EDINSOST project will serve as a diagnosis to be able to act in an integral way in the education degrees of the University of Seville, and in subsequent research projects focused on the development of the SDG.

BACKGROUND

Universities and States are committed to Sustainability and the achievement of the Sustainable Development Goals (SDG). This requires the identification of relevant socio-environmental problems, action planning and curriculum development. The Conference on Sustainable Development concluded with Agenda 2030 for Sustainable Development which puts at the centre of this Agenda 17 Sustainable Development Goals (SDG) that address the main development challenges facing humanity. These SDG focus on key systemic barriers to sustainable development, such as inequality, sustainable consumption patterns, weak institutions, capacity and environmental degradation Rieckmann (2017). The SDG represent the need to rethink the relationship of human beings with the planet, the productive processes, the interactions between countries, cultures, the protection of habitats, etc. These challenges are the challenges that will be addressed by political agendas.

The University faces several challenges with regards to sustainability: to train citizens capable of acting as such in different scenarios, to train people in sustainability in connection with their daily lives, this requires training professionals who are agents of change in a context of socio-environmental crisis (Limón-Domínguez, Ruiz-Morales, & Torres Fernández, 2019). Universities, in the case of education faculties, in the Spanish context, have a crucial role to develop SDG, their function is to generate and transfer relevant knowledge, educate and train leaders capable of contributing to a better Sustainable future (Scott & Gough, 2007; Tilbury, 2012).

Since 1992, UNESCO has promoted Education for Sustainable Development (ESD). Between 2005 and 2014, it coordinated the Decade of The United Nations Convention on ESD, and is now carrying out the follow-up programme, the Global Programme of Action on ESD. Sustainability involves the

transformation of production processes, economic relations, conflict management and problem solving from an ecological perspective. The human being is part of Nature, which is not at the service of human beings, nor is it a resource for their development. In this international context of agreements and policy development in favor of sustainability, universities are contributing to this effort through their commitment to introduce SDG in their political planning and organization, curricula, research and social projection, and strategic teacher training actions (Wright, 2010). However, different studies have made it clear that the lack of commitment to undergraduate students still exists, and even decreases when they go on to study at higher levels (Cech & Sherick, 2015; Segalàs, Ferrer-Balas, Mulder, 2010). Given this situation, how can universities improve their commitment to sustainability? According to Moore (2001) it is first necessary to imagine what a "sustainable" university would be, including the vision of educational programs for sustainability. Second, how to engage the university community in sustainability as an eco-citizen (Limón-Domínguez, Ruiz-Morales, & Torres Fernández, 2019).

Taking the path towards sustainability in the university means starting by empowering the university community as well as creating spaces for collective, interdisciplinary and transdisciplinary reflection and collaboration (Sánchez Carracedo, Segalàs, Cabré, Climent, López, Martín, Vidal, 2017). The inclusion of sustainability in higher education poses a new challenge for the academic system (Lozano, 2006) in order to make it an emerging field of research and curriculum development.

In recent years, different universities have been carrying out activities with varying degrees of success and difficulty in achieving this objective (Segalàs, Ferrer-Balas & Mulder, 2010; Lozano, 2006; Segalàs, Ferrer-Balas, Svanström, Lundqvist, Mulder, 2009; Lidgren, Rodhe, & Huisingh, 2006). Some of the main tasks have focused on management, descriptive case studies, best practice examples, integration of sustainability in specific courses, theoretical development in teaching and learning focused on sustainability, and analysis of university policies, among others (Sánchez Carracedo, Segalàs, Cabré, Climent, López, Martín & Vidal 2017; Fien, J. 2002; Cotton, Bailey, Warren, & Bissell, 2009).

However, despite efforts, including that of the Conference of Rectors of the Spanish University (CRUE) and since the emergence of the SDG, there is still a lack of common criteria on the incorporation of sustainability in the curricula. In 2005 CRUE produced a document entitled "Guidelines for the Introduction of Sustainability into the Curriculum" (CADEP, 2011) which was subsequently extended in 2011 in line with the European Higher Education Area (EHEA). This refers to the training of "participatory and proactive individuals capable of taking responsibility for decision-making, becoming aware of the challenges posed by globalization, promoting respect for diversity and a culture of peace", as well as consolidating training strategies to empower a citizenry capable of effecting change in reality.

Implementing sustainability in the curriculum, including sustainability in the curriculum in the most caring version, has meant introducing environmental content into teaching (Barrón, Navarrete, & Ferrer-Balas, 2010), making the curriculum more environmental. Now the aim is to enable people to critically analyse reality, to take the world's problems as a reference, identifying the interrelations between environmental, cultural, social and economic factors so that their decisions are based on more sustainable and socially responsible criteria (Vilches & Gil Pérez, 2015).

Different initiatives have been undertaken at universities with the aim of integrating sustainability through teaching. The most important has been the inclusion of sustainability in the curriculum, the development of active pedagogies that incorporate contents, methodologies (Tejedor, et al., 2019) and evaluation systems from the perspective of sustainability (objective 2) (Barrón, Navarrete & Ferrer-Balas, 2010; Disterheft, Ferreira da Silva Caeiro, Ramos & de Miranda Azeiteiro, 2012; Albareda-Tiana, García-González, Jiménez-Fontana, & Solís-Espallargas, 2019; Sánchez-Carracedo, Ruiz-Morales,

Valderrama-Hernández, Muñoz-Rodríguez, & Gomera, 2019). These initiatives require a change in the vision of sustainability on the part of the university professor, as well as on the part of teachers and pedagogues in initial training, as well as specific training. The incorporation of sustainability in the curricula and its implementation in academic training is difficult because of the vision with which it has been worked in the university context, of atomization, disciplinarity, courses or subjects, typical of a school culture (Scott & Gough, 2007; Morilla, Camacho & Tiana, 2015). Although teachers can understand this integration in a theoretical sense, they encounter obstacles when putting it into practice. The inclusion of sustainability in the university is conditioned by some important factors, such as the absence in the curricula, adequate training for teachers and the diverse conceptions of sustainability itself. This last factor has been analyzed by Shephard & Furnari (2013), among others, who have found that it is vital to identify what ideas act on teachers when they conduct their teaching duties. Such ideas play a crucial role in the educational and training processes with students with more sustainable habits. Based on the existing literature on perceptions and attitudes of university teaching, some conclusions can be drawn about common concerns: diversity of views, teacher discourse and understanding of sustainability, and uncertainty about how students learn and how teachers teach the topics in the curriculum. Also important is the perception that early childhood education professionals have of the relevance of sustainability to their training, how what is learned in university is transferred to reality when acting as a professional (Cotton, Bailey, Warren, & Bissell, 2009; Cebrian & Junyent, 2015; Melles, 2019).

In a university system where the teaching of content or discipline predominates over the learning processes, where the voice of the students (professionals in initial training) has little relevance to the academic curriculum, thus losing an opportunity for permeability, transparency and commitment, it is very logical that the eyes are directed towards the conceptions of the university professor. In the studies by Jones, Selby & Sterling (2010) and by Leal-Filho (2011) some of the factors that limit academics in the integration of sustainability were identified, such as personal beliefs and values, lack of awareness, time and capacity. In addition, studies by Cheung, Chow, So, (2018) indicate slow and insufficient progress in integrating sustainability into the curriculum. As noted by Aznar et al. (2017), "literature and research in the field so far provide very few examples of any major curricular change and available experiences are few and far between" (p. 227). It is worth suggesting that even in postgraduate studies where a broad view of sustainability is proposed from the teaching perspective, later when the final work is done, there is a regression that leaves aside many lines of research that are included in the SDG. Other studies suggest that despite the fact that teachers are the pillar of any innovative process, there are difficulties with respect to both their commitment to sustainability and the training of students in sustainability (Aznar et al., 2013). In addition, students who are trained in university classrooms face difficulties in understanding sustainability and its inclusion in professional practice.

For example, studies conducted with teachers on training Solis-Espallargas & Valderrama-Hernández (2015) concluded that they understand sustainability as an area of knowledge belonging to the natural sciences that has more to do with nature conservation than with the purpose of stimulating critical thinking on prevention and resolution of socio-environmental problems. Although this is a field that is growing in interest, more research is needed to investigate more deeply the understanding that both teachers and students have about the challenges that education for sustainability should be based on. It is important to recognize the societal utility of including sustainability in the curriculum, as it is capable of bringing about personal, cultural, and economic change. To that end, the purpose of this chapter is to consider proposals made by teachers and students that can help in academic training and research.

RESEARCH METHODOLOGIES

The research methodology focuses on a case study using different quantitative and qualitative instruments (Fernández-Núñez, 2006). The research objectives and problems are first defined. This is essential because each methodology is consistent with the way in which the research questions contained in the problems are asked. It produces a focus on what we wanted to investigate, pointing out what was important, relevant to the researcher, which in turn allows us to make methodological and instrument design decisions (Flick, 2009). The field work is then carried out on three fronts, (a) the analysis of the study plans with the heading of the matrix of units of competence that emerged from the Edinsost Project; (b) simultaneously the questionnaires are passed on to the teachers, and (c) students; finally the focus groups are held with these two sectors of the university community.

After the analisys of the data (Coffey, 2014; Guimarães, Moraes & Guarido, 2007) that emerged from the field work carried out with the help of the instruments, the information was organised in the form of understandable data. The analysis of the results is carried out by looking for the existing relationships between what the analysis of the curricula, the teachers and the students tells us. After that, we return to the research problems to answer the questions posed and to structure the knowledge that emerges from the process. Finally, we end this with the conclusions, which structure the discourse based on the objectives of this research.

The EDINSOST project has four specific objectives:

- To define the sustainability map of the participating degrees and to establish the framework that facilitates their integration into the studies in a holistic way;
- To validate didactic strategies for the acquisition of sustainability from a constructivist and community-based pedagogical approach;
- Diagnose the state of training needs in sustainability in the teacher and develop and test training proposals; and
- Diagnose the state of sustainability learning in university students and develop and test training proposals.

The research problems are defined as follows:

- **Problem 1:** What is the presence of sustainability in the curricula of the Faculty of Education Sciences of the University of Seville?
- **Problem 2:** What do teachers think about their knowledge of sustainability to develop it in their classes? What are their conceptions of sustainability?
- **Problem 3:** What do students think about their level of training in sustainability?
- **Problem 4:** Possible improvements to be introduced that emerge from the analysis of the discourse of teachers and students.

RESEARCH INSTRUMENTS

The definition of the research problems allowed us to create the research instruments, which are related in their conception to the research methodology. The instruments are built taking into account the

Sustainability Map of Higher Education Degrees. A relationship can be observed between the different instruments that allow for a coherent analysis of mixed qualitative and quantitative data. The choice of instruments is based on the object of the study, the problems involved and the approach. This has allowed us to gather the necessary information to analyze and explore the field of study (Flick, 2009). Some of the instruments used provide a description and narrative of the educational process, speak of the facts, situations and transmit the events of the educational process in the classroom (Elliot, 1993). The following instruments used in this research have been validated in the EDINSOST project and are used to analyze the state of education for sustainability in Educational Sciences and particularly at the University of Seville.

- A sustainability map of the degree courses in Education Sciences used to analyze the presence of sustainability in the curricula, considered as written sources of information to provide data related to **problem 1**.
- A questionnaire sent to teachers and another to students to find out their conception and perception of training in sustainability, with the intention of providing answers to **problems 2 and 3**.
- Four focus groups, two with students and two with teachers from the Faculty of Education Sciences, which provide information on **problems 2, 3** and **4**.

Sustainability Map. It is organized into units of competence and levels of mastery. Each competency is divided into three simplified levels using the Miller Pyramid (Miller, 1990), which establishes three levels of competency acquisition in the medical profession (and is applicable to other professions), which have much to do with the four pillars of education outlined in the UNESCO Report, prepared by Delors (1996). The first level of mastery corresponds to knowledge and refers to knowledge of the more conceptual type "know"; the second level of mastery corresponds to the integration of knowledge and skills, "know how"; the third level of mastery is linked to the demonstration of competence in action and the possibility of transferring it to other situations, "show how and do".

Sustainability questionnaires. The questionnaires belonging to the EDINSOST project, elaborated from the sustainability competence map Albareda-Tiana, Ruiz-Morales, Azcárate, Valderrama-Hernández, Múñoz, (2019), were sent to the teachers and students and the data were subsequently analysed. To this end, the two online questionnaires were answered by a total of 219 subjects, of which 170 were students and 49 teachers. The validation of the questionnaires was done through an internal consistency reliability test. All groups of variables have a Cronbach's alpha coefficient greater than 0.7; that is, they are all close to 1, which is the optimal consistency value.

Focus Groups. The research professor participating in Objective 3 of the EDINSOST Project, representatives from 10 universities in Spain, drew up a protocol of action to carry out the focal group that served as a guide for all the field work and analysis process, which takes as a reference the methodological process followed by Ruiz Morales (2013). Firstly, a system of categories was drawn up a priori by the professor participating in the EDINSOST project. The category system was arrived at by the consensus of the 13 researchers from different Spanish universities and degrees, who formed the research team in objective 3 and 4, referred to above. Once this first system had been designed, a script was drawn up to carry out a first focus group, with teachers and students at the University of Murcia, which did not participate in the EDINSOST Project, so that the pilot study did not contaminate the case study.

Finally, the four focus groups were organized with the participation of 12 students and 12 teachers, seeking to have all grades of education represented, in four focus groups of six people, two for each grade

Table 1. Sustainability Map of Higher Education Degree. Source: Sánchez-Carracedo, Ruiz-Morales, Valderrama-Hernández, Muñoz-Rodríguez, Gomera (2019).

Related Competencies	Dimension	Competency Unit	Domain levels (according to the simplified Miller pyramid)		
			Level 1. KNOWING	Level 2. KNOWING HOW	Level 3. SHOWING & DOING
SUST 1- Critical contextualization of knowledge establishing interrelationships between social, economic and environmental, local and/or global problems	Holistic	1.1. Understands the functioning of natural, social and economic systems, as well as their interrelations and problems, both at a local and global level	Knows the functioning of natural, social and economic systems and the mutual relations between them	Analyses and understands the relationship between natural systems and social and economic systems	Is able to imagine and predict the impacts the changes produced in natural systems may cause in social and economic systems and among each other
		1.2. Possesses critical thinking and creativity, taking advantage of the different opportunities presented (ICT, strategic plans, regulations, etc.) in the planning of a sustainable future	Knows the procedures and resources to integrate sustainability into educational projects	Understands and takes advantage of the opportunities that present themselves in educational contexts in order to plan sustainable projects	Provides solutions to educational projects from a critical and creative viewpoint with the aim of planning a sustainable future
SUST 2- Sustainable use of resources in the prevention of negative impacts on natural and social environments	Holistic	2.1.Designs and develops actions, making decisions that take into account the environmental, economic, social, cultural and educational impacts so as to improve sustainability	Has basic knowledge of identifying possible socio-environmental impacts derived from educational actions	Knows how to develop educational actions that mitigate negative socio-environmental impacts	Designs and develops educational activities in which negative socio-environmental impacts are taken into account and incorporates mitigating measures
SUST 3- Participation in community processes that promote sustainability	Holistic	3.1. Promotes and participates in community activities that encourage sustainability	Recognises himself/ herself as an integral part of his/ her surroundings and knows the community education programmes that encourage participation and commitment to socio-environmental improvement	Is able to interact satisfactorily in educational community projects, encouraging participation	Designs and carries out socio-educational activities in participatory community processes that promote sustainability
SUST 4- Application of ethical principles related to sustainability values in personal and professional behaviour	Holistic	4.1. Is consistent in actions, respecting and valuing (biological, social and cultural) diversity and committed to improving sustainability	Knows the ethical principles of sustainability and the importance of respecting diversity in educational intervention	Understands and integrates the ethical principles of sustainability in his/ her actions, considering nature as a good in itself and transmitting the importance of education for change in the relationship between human beings and the socio-cultural environment	Is able to design and/ or manage educational projects taking into account ecological ethics to improve quality of life and to promote the common good
		4.2. Promotes education in values oriented to the formation of responsible, active and democratic citizens	Takes into account promoting integral and sustainable human development as the basic purpose of the formation of citizenship	Critically analyses and assesses the consequences his/ her personal and professional actions may have on the integral development of students and on promoting sustainable human development	Designs and develops educational intervention proposals that integrate the values of sustainability and which result in justice and the common good

in the case of the teacher and for each sector in the case of the students, giving priority to those in the third and fourth grades. The process that was followed to carry out the focal groups can be summarized as follows, in accordance with the protocol that was elaborated:

- Selection of the participants.
- Elaboration of the script according to the system of categories.
- Carrying out of the focal groups: introduction (15 minutes), development (65 minutes) divided in three blocks: competences, didactic strategies and good practices, conclusions.
- Transcription.
- Emptying in the analysis tables.

A definitive system of categories for students (S) and teachers (T) is obtained (see table 2) which also includes a code corresponding to the initials of each category; the script for the focal groups is elaborated from this system of categories.

At this point, when the category system is in place and the focus groups have been carried out, the time comes to empty the data, the information units selected in the participants' (teachers and students) speeches. For this purpose, the information units are organized and emptied in the format of table 3. The first column (sequence) refers to the cuts that have been selected, and they are represented with an ordinal number; the second column refers to the time in which the cut occurs in the general balance of the recording and the time that it lasts; the third column (subject) refers to the participating subject that is represented with S1, S2...; the fifth column (information unit) refers to the relevant data that is extracted from the subject's speech; finally there is the column that refers to the category where the information unit is located.

The selection of the information unit is fundamental since only one meaning must be given to the sentence. It is not correct that a unit can belong to more than two categories, since this would generate a lack of clarity and direct sense between data and category, which would make the next step difficult.

Subsequently, each void is reviewed by peers with the participating researchers from the University of Seville, the process of systematization of the data is verified and those that generate controversy are addressed. This is a validation process that serves to verify the process of analysis and systematization of the data. Next, a triangulation process is carried out, which consists of choosing those information units that are related to a category and is proposed by at least three people participating in the focal group of each sector, teachers or students, separately, so that each construct is elaborated for each sector (table 4). This is very important for the elaboration of the conclusions. In the heading of Table 3, each category is identified by a number that refers to the place it occupies in Table 2, regardless of whether it can be shared by teachers and students or not. The legend refers to how the construct is identified, example Co1:T1, meaning that it is the first construct of the CS category identified with the number 1, of the teacher, if it says Co1:S3, it is the third (3) construct of the category 1(Co1) for the students (S). The next column presents the content of the construct with a title and brief description and finally the source from which it came. Where the information unit reference GF1:1 appears, it refers to the fact that it is taken from the first focus group and is found in sequence 1.This step allows a level of abstraction, from the data coming from the discourse, towards the elaboration of the results that will allow an analytical and inductive relation with the data coming from the questionnaires (Ruiz Morales, 2013).

In this work we opted to carry out an analysis of the story that puts the word of the teachers and students into focus, instead of referring to the quantitative analysis centered on the study of the frequency of the categories, attending to those that have more units of information, because we are more interested in the qualitative analysis that can be put in dialogue with the quantitative analysis centered on the questionnaires. In addition, it allows the emergence of the nuances of the subjects' discourse, the tensions that appear in their speeches, the doubts, the certainties, the proposals, etc. The more quantitative analysis of the focus group has been published in Solís-Espallargas, Ruiz-Morales, Limón-Domínguez, & Valderrama-Hernández (2019). Nevertheless, in this chapter we have chosen to show this other mode of analysis of the focus group discourse, understanding that both can be complementary. It is striking that categories, which had a high frequency of information units, could not necessarily form a construct, because they came from statements of a single teacher or student, or because they were not sufficiently related to each other. It has also been noted that quantitative analysis does not give us exact information

Table 2. Category system for the analysis of the focus groups. Source: Solís-Espallargas, Ruiz-Morales, Limón-Domínguez, & Valderrama-Hernández, 2019

Category	Description	S	T	Code
Sustainability concept	Statements referring to what is understood by sustainability.	X	X	CS
Importance of sustainability	Statements referring to the importance of sustainability in all its spheres (academic, personal, professional …).	X	X	IS
Participation	Statements referring to participation in projects and programmes, and possible obstacles to participation.	X	X	P
Prior knowledge	Statements referring to knowledge believed to be possessed prior to starting at university and about personal and professional conduct aimed at the creation of environmental awareness and sustainability values.	X		CP
Preparation in university studies	Comments about competencies they believe they have acquired throughout their university course.	X		PU
Subjects	Statements about the subject(s) studied throughout the course in which they think sustainability has been most incorporated.	X	X	A
Methodologies and resources/Didactic strategies	References to methodologies, resources, didactic strategies, dynamics etc., in which they believe they have worked on sustainability.	X	X	MR
Competency in sustainability	References about whether or not they feel prepared and competent in the matter of sustainability.	X	X	CS
Roles, relations and classroom atmosphere	Comments about the characteristics of teachers' and students' roles, as well as relations in the classroom and the atmosphere they think is conducive to the acquisition of sustainability competencies.	X	X	RRC
Assessment	Statements about how to assess sustainability competencies and the concerns and ideas expressed about this.	X	X	E
Others	Complementary information not categorizable in the above.	X	X	S
Teacher motivation and commitment	Aspects reflecting the interest for putting sustainability into teaching practice from the point of view of intrinsic motivation regarding a lifestyle that is respectful of the environment.		X	MCP
Ethical model	Statements referring to personal and professional conduct aimed at the creation of awareness of sustainability and the values associated with it.		X	ME
Self-assessment	Statements referring to the level of effectiveness and efficiency of the resources employed.		X	AE
Curricular organisation	Possible obstacles/assistance encountered by teachers when organising active learning strategies (Service learning, project-based learning …), arising from the disciplinary organisation of the study plans. Proposals for improvement.		X	OC
Teacher training	Difficulties/assistance encountered by teachers for applying sustainability training strategies arising from their own lack of training.		X	FP
Expository teaching	An entrenched tendency to use the expository method of teaching in the classroom, which hinders the introduction of active strategies and participative learning.		X	EE
Presence or absence	Refers to the presence or absence of non-curricular activities involving collaboration with social entities outside the university, in order to strengthen the connection between learning and the reality of professional service and practice.		X	US
Institutional support	Difficulties/assistance arising from the lack/existence of a university policy to support and strengthen teaching innovation programmes aimed at integrating active methodologies for sustainability training.		X	AI
Best practice	Refers to best practice in the classroom regarding the use of resources, and attention to students with special needs.		X	BP
Extra-university student training	Refers to the sustainability training received outside the academic sphere of the university.		X	FE
Holistic vision	Refers to the three dimensions of environmental, socio-cultural and economic sustainability.		X	VH
Transversality/Coordination	Need for/examples of making sustainability transversal throughout the course and improving inter- and intra-departmental coordination mechanisms.		X	TC

Table 3. Emptying of information units from the focus group Source: Proyecto EDINSOST

Sequence	Temporization		Subject	Information Unit	Category
	Cut in time	Time			
1	4:06-4:19	13''	S1 Mario	As a concept of sustainability or definition, I have nothing clear, I explain: we have always been told that we have to educate for sustainability, ...	CS
2	4:36-4:43	17''	S1	Sustainability is something that is there in many speeches, that appears on TV, that everyone says: yes, yes, we must be sustainable.	IS
3	5:03-5:11	8''	S1	How are we going to educate on sustainability if the planet is currently not sustainable? If we consume many more resources than the Planet supports	ME
4	5:13-5:37	24''	S1	First we should decrease, first we will try to reach a desired level, truly sustainable, which we do not have and then when we arrive, when we decrease then we will have to start thinking about sustainability.	CS, ME
5	6:01-6:14	13''	S1	I should be a little more prepared and trained to convey to my teaching students that this is an important aspect of their day-to-day classroom discourse	FP
6	8:03-8:24	19''	S2 Miguel Angel	This is not about one class, today we are going to talk about sustainability, how beautiful it is, how fantastic it is, but that has to be impregnated in everything we are doing.	CS, IS
7	8:13-8:29	16''	S2	In the field of engineering, if you are doing a study on a project of a certain chemical plant, etc., etc., if you do not put in from moment A, all the environmental conditions that this will have, where are we going?	IS,

about what is expressed. In this way the construct will be able to show the voice of the teachers and students, because it has more reliability with respect to their statements.

In this example, there is a coincidence between constructs elaborated from the information units coming from the focal groups of teachers and students.

DATA ANALYSIS AND DISCUSSION OF RESULTS.

The data obtained with the research instruments (Figure 1) have been organized according to their characteristics and have provided different views focused on the four research problems. The data organized according to the research problems are presented below.

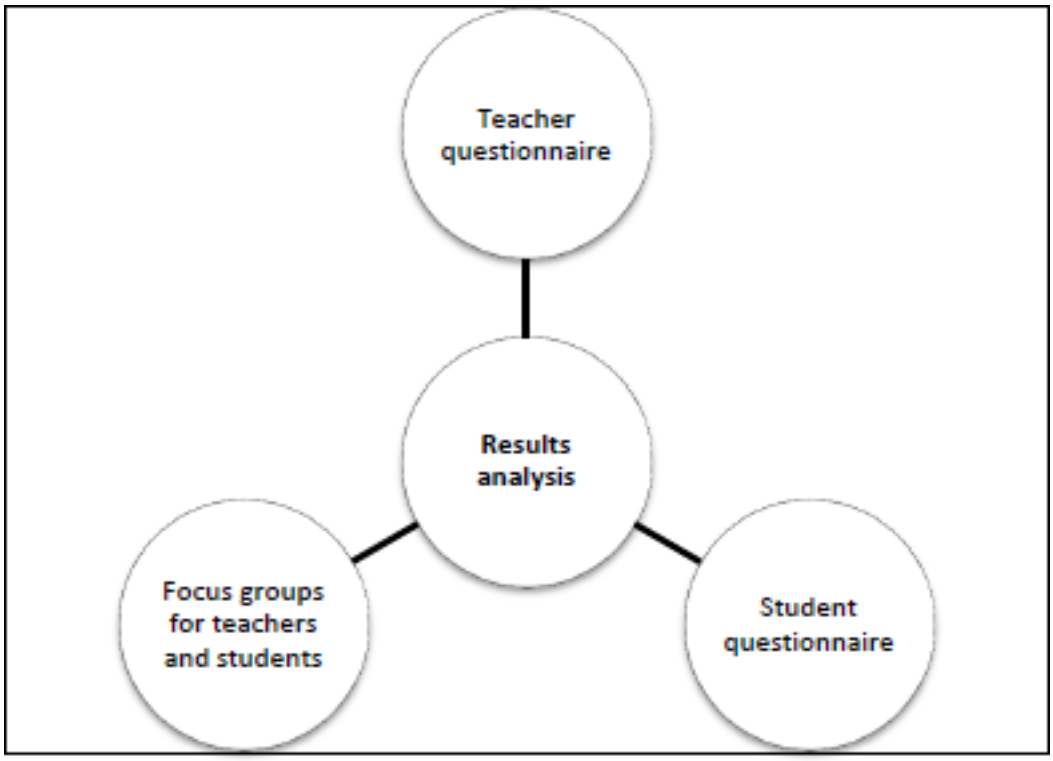
Problem1: What is the presence of sustainability in the curricula of the Faculty of Education Sciences of the University of Seville?

The curricula of the Degree in Early Childhood Education (ECE), the Degree in Primary Education (PE) and the Degree in Pedagogy (P) contain 134 subjects. Table 5 shows the presence of sustainability according to the analysis of the degrees using the map of competencies in sustainability. It allows having the information derived from the analysis of the presence of sustainability in the curriculum and how it

Table 4. Buildings by category Source: Proyecto EDINSOST

Sustainability concept (CS) (1) Statements referring to what is understood by sustainability.			
Legend	Contents of the construction	Sources	
		Teachers	Students
Co1:T1; Co1:S1;	**Dispersión entorno al concepto de sostenibilidad.** Multitud de concepciones, conceptos muy desconexos, no se hace referencia a más que a educación para la sostenibilidad, gestión de residuos, decrecimiento y género.	GF2:1; GF1:1; GF1: 28; GF2:46; GF2:47; GF2:49; GF2:54;	GF1:1; GF1:4; GF1:5; GF2:1; GF2:3;

Figure 1. Research instruments Source: EDINSOST Project



is interpreted in the form of competencies and levels of mastery. It is also possible to observe the number of subjects that develop sustainability in each degree of studies of the Faculty of Education.

Table 5. Analysis of the presence of sustainability in Science of Education Degree courses Source: Solís-Espallargas, Ruiz-Morales, Limón-Domínguez, & Valderrama-Hernández, 2019

	DOMAIN LEVELS (DLs)									
Related Competencies	Level 1. KNOWING			Level 2. KNOWING HOW			Level 3. SHOWING and DOING			Total
	ECE	PE	P	ECE	PE	P	ECE	PE	P	
SUST 1	4	5	10	4	0	4	1	0	1	29
SUST 2	4	0	4	0	0	2	0	0	1	11
SUST 3	1	0	4	3	0	2	0	0	1	11
SUST 4	14	4	3	3	0	1	2	2	1	30
Total	23	9	21	10	3	9	3	2	4	84

The results indicate that the level of sustainability content presence in ECE curricula, PE and P is relatively low. The sustainability content is present in 37 of the 134 subjects belonging to the different courses of each grade. Table 3 shows the subjects grouped according to the competences SUST1, SUST2, SUST3 and SUST4 in the different levels of mastery (hereinafter DL). It can be seen that the same subject can be represented in different competencies and levels of mastery. It is worth noting that the Degrees of Early Childhood Education (ECE) and Pedagogy (P) are related to level 1 of mastery in relation to the percentage of subjects, with the Degree of Primary Education (PE) having the lowest number of subjects represented on the map, which also indicates the low level of presence of sustainability.

Significant differences are found in the number of subjects to which each degree course of studies dedicates sustainability development. The levels of mastery (DL) found in each grade also vary significantly. Of relevance, because of their higher scores, are SUST1 which refers to the contextualization of learning and critical knowledge and SUST 4 which refers to the application of ethical principles related to personal and professional behavior. This leads us to think that education professionals have a low level of competence in what has to do with minimizing impacts on sustainability (SUST 2) and community participation (SUST 3).

Problem 2: What do teachers think about their sustainability knowledge to develop in their classes? What are their conceptions of sustainability?

The analysis of the data obtained from the questionnaires answered by a sample of 49 teachers of the three grades and teaching in different subjects and courses, allows us to approach their own knowledge of the competences of sustainability and their inclusion in the teaching practice (table 6). It should be noted that the information collected in the questionnaire refers to SUST1, SUST2 and SUST3 competencies, while the information on SUST 4 is not explicitly collected, but is extracted from the use of teaching strategies and methodologies. But on the latter, the focus groups are more in-depth, hence the importance of complementing the instruments. With respect to the Level 1 Domain (Knowledge), teachers are mainly located in N3 in all competencies, except for the SUST 1 (1-2) competency, where they state that they are located in N2, in the case of NL 2 (Knowing how), most of the answers are found in N3, for the SUST 1 and SUST 2 competencies, while for the SUST 3 competency most of them are

found in N2 and N4. Only in this case are teachers at the highest level. Finally in relation to Proficiency level 3 (Show and Do) teachers are mainly placed on N3 for SUST 1 and for SUST 2 and SUST 3 they are placed on N2. Overall, the results suggest that teachers are not at the highest level (N4) in any of the competencies. The results indicate the need to improve teacher training in knowledge and skills to build competencies for sustainability.

Table 6. Teachers' perception of sustainability competencies Source: Solís-Espallargas, Ruiz-Morales, Limón-Domínguez, & Valderrama-Hernández, 2019

	Unit of Competence (UC)	Level 1. KNOWING					Level 2. KNOWING HOW					Level 3. SHOWING and DOING				
		N0	N1	N2	N3	N4	N0	N1	N2	N3	N4	N0	N1	N2	N3	N4
SUST 1	1-1.	3	4	7	24	11	2	3	7	26	11	6	3	4	22	14
	1-2.	2	4	21	17	5	3	2	17	19	8	3	4	14	17	11
SUST 2	2-1.	1	2	11	25	10	2	3	15	21	8	2	6	17	15	9
SUST 3	3-1.	3	4	10	20	12	5	7	14	9	14	4	10	17	8	10

Notes: The most significant results are shown marked in color.

In relation to the focal groups, the following constructs appear, table 7, which offer us relevant results to elaborate the discussion of results.

Table 7. Constructs of teacher and student focus groups Source: EDINSOST Project

Relevant constructions			
Legend	Contents of the construction	Sources	
		Teachers	Students
Co1:T1; Co1:S1;	**Dispersion around the concept of sustainability.** Multitude of conceptions, very unconnected concepts, there is no reference to more than education for sustainability, waste management, degrowth and gender.	GF2:1; GF1:1; GF1: 28; GF2:46; GF2:47; GF2:49; GF2:54;	GF1:1; GF1:4; GF1:5; GF2:1; GF2:3;
Co2:T1	**Sustainability depends on the teacher.** Education for sustainability depends largely on the teacher.	GF1:6; GF1:10; GF1:11;GF2:4; GF2:8; GF2:9; GF2:10; GF2:11; GF2:28;	
Co2:S1	**Sustainability is important in education.** Curricular recognition is mandatory. It is related to social awareness.		GF1:2; GF1:1; GF1:3;
Co4:S1	**Previous knowledge.** There are previous ideas that come from the most basic knowledge coming from the school and what is general knowledge focused on recycling.		GF1:5; GF1:6; GF1:7; GF1:8; GF2:12; GF2:16; GF2:17;
Co4:S2	**There are significant changes in relation to specific subjects.** Students explain that they have worked on some environmental education, social science, TFG subjects, but they see this work as insufficient, not feeling prepared to incorporate them professionally.		GF2:13; GF2:19; GF2:23; GF2:51;
Co5:S1	**Students feel unprepared for sustainability.** Basically what they know they have learned at school, in the social context, but at university they have not developed relevant content.		GF1:8; GF1:9; GF1:10; GF1:11
Co7:T1; Co7:S1;	**Importance of critical thinking, questioning and understanding processes.** The purpose of much of what is done and worked on has to do with developing critical thinking. But there are few strategies that are used, personal diary, problem-based work, project development.	GF1;24; GF1:33; GF2:44; GF2:39;	GF1:15; GF1: 14; GF2:36; GF2:37; GF2:38;
Co15:T1	**There are obstacles to developing sustainability.** Difficulties in working in collaboration with other colleagues, contradictions in waste management, the very lack of teacher training, organisation in the form of subjects and areas of knowledge.	GF1:27; GF1:37; GF1:40, GF1:41; GF2:16;GF2:17;GF2:18; GF2:56; GF2:57;	
Co19:T1	**Diversity of weaknesses in institutional support.** The importance of strong support from the institutions, the lack of involvement of the professor, his advice, the presence of very important contradictions related to management, participation, the lack of an integrated ecofaculty project is pointed out.	GF1:18; GF1:34; GF1:35; GF2:4; GF2:11; GF2:14; GF2:15;	
Co20:T1	**Good practices for sustainability.** Understanding the processes, interactions and complexities of the world we live in. Take advantage of the experiences and learning of each group to share them with other students and teachers. Learn also in other contexts and from our processes. Integrate theory and practice as part of the learning contents and processes.	GF2:12; GF1:24; GF1:36; GF1:43; GF1:52; GF1:53; GF1: 54.	

The constructs Co1:T1 and Co2:T1 highlight that there is dispersion as to what is understood by sustainability, and that there is a lack of knowledge, as expressed by the participants in the focus group. And there is a strong dependence on the teacher for the contents to be addressed. This adds up to a not very encouraging panorama because the teacher in the Co15:T1 and Co19 constructs: T1 recognizes that there is no institutional support and there are identified weaknesses for the implementation of sustainability. This has to do with the very lack of teacher training, difficulties in working collaboratively with other colleagues, contradictions in waste management, the organisation of the curriculum in the form of subjects and knowledge areas. In addition, the importance of a decisive support from the institutions, with an advice to the teacher, is pointed out, also the lack of involvement of these, in short, the lack of an integrated project of ecofaculty.

Problem 3: What do students think about their level of training in sustainability?

The questionnaire carried out by 170 students belonging to the three degrees shows their view on training in sustainability skills Table 8. Student perception of their knowledge of sustainability competencies. Source: Solís-Espallargas, Ruiz-Morales, Limón-Domínguez, & Valderrama-Hernández, (2019). In this analysis, a score of over 40% (agreement between subjects) is considered relevant; that is, a total of 68 students or more who answered yes to a question, knowing that a figure of 50% is desirable. SUST 1 is the only competency that approaches and in some cases exceeds 50% at mastery level 3. It is worth noting that there is no competencia that reaches the maximum N4 score in one of the domains (DL). Levels N2 and N3 are those highlighted in the Unit of Competence 1.1, as in DL3, that almost all units of competence are at levels N2 and N3, except in the case of Competence Units 2-1 and 3-1 which reach N3 at domain level 2 (DL). However, it is true that both students and teachers have room for improvement in reaching N4 at all progression levels.

This analysis is reinforced by the data obtained from the student focus groups. The students in the Co1:S1 and Co5:S1 constructs, agree with the teachers that there is a strong dispersion in the conception about sustainability and they feel there is lack of training. This is somewhat worrying if we relate it to the Co4:S2 construct, which points out the relationship between what they learn and specific subjects, resulting in the idea that it depends strongly on the teacher. The important thing is that they consider sustainability important for education and for their professional training (Co2:S1).

Problem 4: Possible improvements emerging from discourse analysis from the perspective of teachers and students.

From the analysis of the data from the Teacher and Student Focus Groups, the improvements go in the direction of a greater involvement of the university institution, also related to more extensive teacher training and the need for sustainability advice (Co15:T1 and Co19:T1). It is important to note that the sustainability learning that takes place in some subjects has a strong impact (Co4:S2).Teachers can contribute to foster good practices for sustainability (Co20:T1) . They can also help to instill in the students the importance for critical thinking, understanding processes and questioning in relation to sustainability.

FUTURE RESEARCH DIRECTIONS

Although this case study focuses on a university institution, it offers keys to analysis and research methodology for others even though they are not replicable. It is necessary to continue to deepen on the strengths, opportunities, weaknesses and threats in order to successfully implement sustainability. It will be important to use other research instruments and to carry out different cross-cutting work to analyse the changes that are taking place. This will now be continued in the EDINSOST2 project with the integration of the Sustainable Development Goals (SDG).

CONCLUSION

The implications of this work are related to its objectives. Higher education should learn on its own to improve the implementation of sustainability. At this point, at the end of the work, the key ideas are presented, supported by a process of analysis of reality, where the subjects have taken the floor to explain how sustainability is developed in the Faculty of Education.

The combination of qualitative and quantitative methodology offers opportunities to make better diagnoses, propose changes and implement actions.

This work provides concepts based on the words of the protagonists, teachers and students, and facilitates the analysis of their ideas, what is actually done in the classrooms, beyond what is stated to be known in the questionnaires. The picture is much more complete now, compared to when research is focused only on statistical analysis. Both the analysis of the presence of sustainability in the curricula, and what is expressed by professors and students, goes in the direction of pointing out the need for improvement in a Sustainable Faculty project, EcoFaculty. It is up to the professors to continue making changes in their practices, and to carry out the revision of the curricula of the Degrees of Education, in order to achieve the development of SUST2 and SUST3 competencies. Sustainability is a priori present as theoretical knowledge, but more in the discussion groups, teachers deny that this is present in educational practices. As indicated by Lozano, Merrill, Sammalisto, Ceulemans, Lozano (2017), alternative pedagogical approaches to traditional ones have not been implemented in higher education.

The main findings are the scarce presence of sustainability in the degree courses in Educational Sciences, especially in the Degree in Primary Education. The case study on the Faculty of Education Sciences offers a broad and in-depth look at the perceptions and conceptions of teachers and students, allowing for institutional analyses that can lead to specific decisions applicable to other faculties of education. The analyses on the presence of the sustainability competences of the EDINSOST Project have been a learning process for the teachers who have worked from the University of Seville. They have become aware of the importance of analyzing the curriculum of the subjects. To relate these results with what teachers and students consider, in order to be able to extract a more complete view of training in sustainability.

The four competencies of the CRUE are unequally and insufficiently represented in the curricula of the Degrees of Education at the University of Seville. It is also concluded that teachers are motivated and show interest in working on sustainability, although they develop it individually without the explicit help or support of the institution. In addition, teachers feel insecure about the concept of education for sustainability and the competence for sustainability. Likewise, students of Educational Sciences at the University of Seville are aware of the importance of education for sustainability for their professional future, although they are not sufficiently prepared. Universities in the 21st century are obliged to face

the challenges that demand a new education in accordance with international agreements, declarations and reports. Researching teaching practices, university curricula and the presence of sustainability makes sense and has a future as a line of research (Sánchez-Carracedo, Ruiz-Morales, Valderrama-Hernández, Muñoz-Rodríguez, Gomera, 2019; Aznar-Minguet, Martínez-Agut, Piñero, 2017; Tilbury, 2012). The challenge is to take into account and make available all the means to favour the construction of knowledge focused on sustainability, as well as measures to reform, strengthen and support the necessary changes. An advanced society with a high degree of sophisticated knowledge should be able to ensure its own existence and is sustained by Sustainable Universities. The views of faculty and students in all universities are essential to address reforms and innovation in the curriculum at a time when sustainability is an emerging and urgent need.

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REFERENCES

Albareda-Tiana, S., García-González, E., Jiménez-Fontana, R., & Solís-Espallargas, C. (2019). Implementing Pedagogical Approaches for ESD in Initial Teacher Training at Spanish Universities. *Sustainability*, *11*(18), 4927. doi:10.3390u11184927

Albareda-Tiana, S., Ruíz-Morales, J., Azcárate, P., Valderrama-Hernández, R., & Múñoz, J. (2019). El Proyecto EDINSOST: Implementación de los Objetivos de Desarrollo Sostenible a Nivel Universitario. In *Universities as Living Labs for Sustainable Development* (pp. 193–210). Springer.

Aznar-Minguet, P., Ull, M. A., Martínez-Agut, M. P., & Piñero, A. (2017). Assess in order to transform: University teaching assessment through the lens of Sustainability. *Enseñanza De Las Ciencias Revista De Investigación y Experiencias Didácticas*, *35*(1), 5. doi:10.5565/rev/ensciencias.2112

Aznar Minguet, P., Ull, M. A., Piñero, A., & Martínez-Agut, M. P. (2013). La sostenibilidad en la formación universitaria: Desafíos y oportunidades. *Educación XXI*, *17*(1), 133–157. doi:10.5944/educxx1.17.1.10708

Barrón, A., Navarrete, A., & Ferrer-Balas, D. (2010). Sostenibilización curricular en las universidades españolas. ¿ha llegado la hora de actuar? *La Revista Eureka Sobre Enseñanza y Divulgación de las Ciencias*, *7*(extra), 388–399. doi:10.25267/Rev_Eureka_ensen_divulg_cienc.2010.v7.iextra.18

Brundtland, G. H. (1987). *Informe Brundtland, nuestro futuro común*. Alianza Editorial.

CADEP. (2011). *Directrices para la introducción de la sostenibilidad en el currículum*. CRUE.

Calduch, R. (2014). *Métodos y técnicas de investigación internacional*. Universidad Complutense de Madrid.

Cebrián, G., & Junyent, M. (2015). Competencies in Education for Sustainable Development: Exploring the Student Teachers' Views. *Sustainability*, *7*(3), 2768–2786. doi:10.3390u7032768

Cech, E. A., & Sherick, H. M. (2015). Depoliticization and the structure of engineering education. In *International Perspectives on Engineering Education* (pp. 203–216). Springer. doi:10.1007/978-3-319-16169-3_10

Cheung, Y. T. Y., Chow, C. F., & So, W. W. M. (2018). A train-the-trainer design for green ambassadors in an environmental education programme on plastic waste recycling. *International Research in Geographical and Environmental Education*, *27*(1), 24–42. doi:10.1080/10382046.2017.1285138

Coffey, A. (2014). Analysing documents. In *The SAGE Handbook of Qualitative Data Analysis* (Vol. 25, pp. 367–380). SAGE Freie Universtität Berlin. doi:10.4135/9781446282243.n25

Cotton, D., Bailey, I., Warren, M., & Bissell, S. (2009). Revolutions and second-best solutions: Education for sustainable development in higher education. *Studies in Higher Education*, *34*(7), 719–733. doi:10.1080/03075070802641552

Delors, J. (1996). *La educación encierra un tesoro. Informe a la UNESCO de la Comisión internacional sobre la educación para el siglo XXI*. Santillana.

Disterheft, A., Ferreira da Silva Caeiro, S. S., Ramos, M. R., & de Miranda Azeiteiro, U. M. (2012). Environmental Management Systems (EMS) implementation processes and practices in European higher education institutions. Top-down versus participatory approaches. *Journal of Cleaner Production*, *31*, 80–90. doi:10.1016/j.jclepro.2012.02.034

Elliot, J. (1993). *El cambio educativo desde la investigación-acción*. Morata.

Fernández-Núñez, L. (2006). ¿Cómo analizar datos cualitativos. *LaRecerca*, *6*, 1-13. Recuperado de https://bit.ly/29CPQE4

Fien, J. (2002). Advancing sustainability in higher education: Issues and opportunities for research. *Studies in Higher Education*, *15*, 143–152.

Filho, W. L. (2011). About the Role of Universities and Their Contribution to Sustainable Development. *Higher Education Policy*, *24*(4), 427–438. doi:10.1057/hep.2011.16

Flick, U. (2009). *An Introduction to Qualitative Research*. Sage.

Goodrick, D. (2014). *Estudios de caso comparativos, Síntesis metodológicas: evaluación de impacto n.º 9*. Centro de Investigaciones de UNICEF.

Guimarães, J. A. Ch.; Moraes, J. B. E. de; Guarido, M. D. M. (2007). Análisis documental de contenido de textos narrativos: bases epistemológicas y perspectivas metodológicas. *Ibersid: Revista de sistemas de información y documentación*, *1*, 93-99.

Jones, P., Selby, D., & Sterling, S. (2010). *Sustainability Education: Principles and Practices across Higher Education*. Earthscan.

Lidgren, A., Rodhe, H., & Huisingh, D. (2006). A systemic approach to incorporate sustainability into university courses and curricula. *Journal of Cleaner Production*, *14*(9-11), 797–809. doi:10.1016/j.jclepro.2005.12.011

Limón-Domínguez, D., Ruiz-Morales, J., & Torres Fernández, C. (2019). Una ciudadanía activa para conseguir el desarrollo de los objetivos de desarrollo sostenible. In *Retos de la educación ambiental ante los objetivos de desarrollo sostenible* (pp. 17–30). Ediciones Octaedro.

Lozano, R. (2006). Incorporation and institutionalization of SD into universities: Breaking through barriers to change. *Journal of Cleaner Production*, *14*(9-11), 787–796. doi:10.1016/j.jclepro.2005.12.010

Lozano R., Merrill M., Sammalisto K., Ceulemans K., Lozano F. J. (2017). Connecting Competences and Pedagogical Approaches for Sustainable Development in Higher Education: A Literature Review and Framework Proposal res. *Sustaintability, 9*(10).

Melles, G. (2019). Views on education for sustainable development (ESD) among lecturers in UK MSc taught courses. *International Journal of Sustainability in Higher Education*, *20*(1), 115–138. doi:10.1108/IJSHE-02-2018-0032

Miller, G. E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine*, *65*(9), 63–67. doi:10.1097/00001888-199009000-00045 PMID:2400509

Moore, G. (2001). Corporate social and financial performance: An investigation in the U.K. Supermarket industry. *Journal of Business Ethics*, *34*(3/4), 299–315. doi:10.1023/A:1012537016969

Morilla, M. F., Camacho, M. T. F., & Tiana, S. A. (2015). Sostenibilización curricular en la Educación Superior: Propuesta metodológica. *Opción*, *31*(6), 284–304.

Rieckmann, M. (2017). *Education for Sustainable Development Goals: Learning Objectives*. UNESCO.

Ruiz Morales, J. (2013). *Experiencias sociales y educativas en los procesos de participación con niñas, niños y jóvenes en la ciudad de Sevilla entre los años 2005-2008*. Sevilla: Universidad de Sevilla. Recuperado de http://fondosdigitales. us. es/tesis/tesis/2687/experiencias-sociales-y-educativasen-los-procesos-de-participacion-con-ninas-y-ninos-jovenes-en-la-ciudad-desevilla-entre-los-anos-20052008

Sánchez-Carracedo, F., Ruiz-Morales, J., Valderrama-Hernández, R., Muñoz-Rodríguez, J. M., & Gomera, A. (2019). Analysis of the presence of sustainability in Higher Education Degrees of the Spanish university system. *Studies in Higher Education*, *11*, 1–18. doi:10.1080/03075079.2019.1630811

Sánchez Carracedo, F., Segalàs, J., Cabré, J., Climent, J., López, D., Martín, C., & Vidal, E. (2017). El proyecto EDINSOST: Inclusión de los ODS en la educación superior. *VII Congr. Univ. y Coop. al Desarro*.

Scott, W., & Gough, S. (2007). Universities and sustainable development: The necessity for barriers to change. *Perspect. Policy Pract. High. Educ.*, *11*(4), 107–115. doi:10.1080/13603100701613947

Segalàs, J., Ferrer-Balas, D., & Mulder, K. F. (2010). What do engineering students learn in sustainability courses? The effect of the pedagogical approach. *Journal of Cleaner Production*, *18*(3), 275–284. doi:10.1016/j.jclepro.2009.09.012

Segalàs, J., Ferrer-Balas, D., Svanström, M., Lundqvist, U., & Mulder, K. F. (2009). What has to be learnt for sustainability? A comparison of bachelor engineering education competences at three European universities. *Sustainbility*, *4*(1), 17–27. doi:10.100711625-009-0068-2

Shephard, K., & Furnari, M. (2013). Exploring what university teachers think about education for sustainability. *Studies in Higher Education*, *38*(10), 1577–1590. doi:10.1080/03075079.2011.644784

Solís-Espallargas, C., Ruiz-Morales, J., Limón-Domínguez, D., & Valderrama-Hernández, R. (2019). Sustainability in the University: A Study of Its Presence in Curricula, Teachers and Students of Education. *Sustainability*, *11*(23), 6620. doi:10.3390u11236620

Solis-Espallargas, C., & Valderrama-Hernández, R. (2015). La educación para la sostenibilidad en la formación de profesorado. ¿Qué estamos haciendo? *Foro Educación*, *13*(19), 165–192. doi:10.14516/fde.2015.013.019.008

Tejedor, G., Segalàs, J., Barrón, Á., Fernández-Morilla, M., Fuertes, M. T., Ruiz-Morales, J., Gutiérrez, I., García-González, E., Aramburuzabala, P., & Hernández, À. (2019). Didactic strategies to promote competencies in sustainability. *Sustainability*, *11*(7), 2086. doi:10.3390u11072086

Tilbury, D. (2012). Higher education for sustainability: a global overview of commitment and progress. In GUNI Higher Education in the World 4: Higher Education's Commitment to Sustainability from Understanding to Action. Palgrave Macmillan.

Tonon, G. (2011). La utilización del método comparativo en estudios cualitativos en ciencia política y ciencias sociales. *KAIROS. Revista de Temas Sociales*, *27*, 1–12.

Vilches, A., & Gil Pérez, D. (2015). Ciencia de la Sostenibilidad: ¿Una nueva disciplina o un nuevo enfoque para todas las disciplinas? *Revista Iberoamericana de Educación*, *69*(1), 39–60. doi:10.35362/rie691152

Wright, T. (2010). University presidents' conceptualizations of sustainability in higher education. *International Journal of Sustainability in Higher Education*, *11*(1), 61–73. doi:10.1108/14676371011010057

KEY TERMS AND DEFINITIONS

Case Study: qualitative methodology to investigate in depth the social, educational, and cultural processes that take place in a specific context, which can be limited.

Construct: An elaboration, from the perspective of qualitative research, that emerges from the analysis of the units of information or data coming from the techniques of qualitative research. It serves to elaborate the discussion of results and conclusions.

EcoFaculty: Institutions need an institutional project of sustainability that can energise training, organisational and executive processes that increase university co-responsibility with society and the environment.

Focus Group: Qualitative research technique similar to the discussion group, which facilitates the collection of data directly from the subjects, which is related to a group interview, although it reflects the tensions and discourses between participants.

Proficiency Level: Each learning can be characterized as being in a more initial or mature developmental range, so establishing scaling processes helps to classify them.

Sustainable Development Goals: UNESCO defined a total of 17 Sustainable Development Goals to be developed for Agenda 2030 at the request of the UN in 2015, in which all countries and institutions are involved.

Sustainability Skills Map: Design of a heading or set of elements that are useful for identifying key aspects to be developed in training from the perspective of sustainability. They serve to design, plan, and evaluate.

Compilation of References

Abbosh, O., Nunes, P., & Downes, L. (2019). *Pivot To The Future: Discovering Value and Creating Growth in a Disrupted World*. Public Affairs.

Abraham, S., & Karns, L. (2009). Do Business Schools Value the Competencies that Businesses Value? *Journal of Education for Business*, *84*(6), 350–356. doi:10.3200/JOEB.84.6.350-356

Acklin, C. (2013). Design management absorption model: A framework to describe and measure the absorption of knowledge by SMEs with little or no prior experience. *Creativity and Innovation Management*, 147–160. doi:10.1111/caim.12022

Adair, J. (2005). Etkili stratejik liderlik. İstanbul: Babıali Kültür Yayınları.

Adams, S. M., & Zanzi, A. (2004). Academic development for careers in management consulting. *Career Development International*, *9*(6/7), 559–577. doi:10.1108/13620430410559151

Adler, N. J., & Bartholomew, S. (1992). Managing globally competent people. *The Academy of Management Executive*, *6*(3), 52–65.

Aguado, R., & Eizaguirre, A. (Eds.). (2020). *Virtuous Cycles in Humanistic Management*. Springer. doi:10.1007/978-3-030-29426-7

Akyüz, M. (2018). Stratejik liderlik. *Stratejik Yönetim Araştırmaları Dergisi/Journal of Strategic Management Research, 1*(1), 45-66.

Albareda-Tiana, S., García-González, E., Jiménez-Fontana, R., & Solís-Espallargas, C. (2019). Implementing Pedagogical Approaches for ESD in Initial Teacher Training at Spanish Universities. *Sustainability*, *11*(18), 4927. doi:10.3390u11184927

Albareda-Tiana, S., Ruíz-Morales, J., Azcárate, P., Valderrama-Hernández, R., & Múñoz, J. (2019). El Proyecto EDINSOST: Implementación de los Objetivos de Desarrollo Sostenible a Nivel Universitario. In *Universities as Living Labs for Sustainable Development* (pp. 193–210). Springer.

Albrecht, W. S., & Sack, R. J. (2000). Accounting Education Series: Vol. 16. *Accounting education: Charting the course through a perilous future*. American Accounting Association. Retrieved from https://aaahq.org/pubs/AESv16/toc.htm

Aliko, Y. A. (2014). Employers' perception of the employability skills of new graduates in Nigeria. *Journal of Educational Review*, *7*(4), 547–556.

Alsabbah, M. Y. A., & Ibrahim, H. I. (2013). Employee competence (Soft and Hard) outcome Of recruitment and selection process. *American Journal of Economics*, *3*(C), 67-73. https:// doi:10.5923/c.economics.201301.12

Altınkurt, Y. (2007). *Eğitim örgütlerinde stratejik liderlik ve okul müdürlerinin stratejik liderlik uygulamaları* (PhD Thesis). Anadolu Üniversitesi Eğitim Bilimleri Enstitüsü, Eskişehir.

Amir, E., Kallunki, J. P., & Nilsson, H. (2014). Criminal convictions and risk taking. *Australian Journal of Management*, *39*(4), 497–523. doi:10.1177/0312896213513276

Ammons-Stephens, S., Cole, H. J., Jenkins-Gibbs, K., Riehle, C. F., & Weare Jr, W. H. (2009). *Developing core leadership competencies for the library profession*. Academic Press.

Anderson, J. R. (1995). *Learning and Memory: An Integrated Approach*. John Wiley & Sons.

Andreú, J. (2002). *Las técnicas de análisis de contenido: Una revisión actualizada*. Centro de Estudios Andaluces.

Anello, E. (1992). *Sürdürülebilir bir gelecek için değerler, kurumlar ve liderlik*. Bahai Uluslararası Toplumu Sempozyumu Global Forum, Rio de Janeiro, Brezilya.

Anfara, V. A. Jr, Brown, K. M., & Mangione, T. L. (2002). Qualitative analysis on stage: Making the research process more public. *Educational Researcher*, *31*(7), 28–38. doi:10.3102/0013189X031007028

Anitha, R. P. (2014). *Competency Mapping model: Drive for Educational institution*. Academic Press.

Aquilina, S. (2019, January 12). Great regional city challenge encourages northern Tasmanians to make change. *The Examiner*. Retrieved January 21, 2020, from Accessed 2020, January 21. https://www.examiner.com.au/story/6424641/community-given-chance-to-implement-change/

Arum, R., & Roksa, J. (2011). *Academically Adrift: Limited Learning on College Campuses*. University of Chicago Press.

Aslan, M. (2016). *Yönetici Yetkinlik Denetimi* [Auditing Management Competency] (MS Thesis). Istanbul Arel University, Istanbul.

Assamoi, C. A. O. (2015). Core competencies development among Science and Technology (S&T) college students and new graduates. *American Journal of Educational Research*, *3*(9), 1077–1084.

Australian Government. (2020). *Self-employment – new business assistance with NEIS.* Australian Government, Department of Education, Skills and Employment. Retrieved March 27, 2020, from https://www.employment.gov.au/self-employment-new-business-assistance-neis

Autor, D. (2019). Work of the Past, Work of the Future. *AEA Papers and Proceedings*, *109*, 1–32. doi:10.1257/pandp.20191110

Avery, G. C., & Bergsteiner, H. (2011). Sustainable leadership practices for enhancing business resilience and performance. *Strategy and Leadership*, *39*(3), 5–15. doi:10.1108/10878571111128766

Avolio, B., Gardner, W., Walumbwa, F., Luthans, F., & May, D. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *The Leadership Quarterly*, *15*(6), 801–823. doi:10.1016/j.leaqua.2004.09.003

Ayling, D., Hebblethwaite, D. E., & Kirkland, K. (2019). Back to the Future: Business workplace competencies revisited. In K. E. Zegwaard & K. Hoskyn (Eds.), *Our place in the Future of Work: New Zealand Association of Co-operative Education 2019 Refereed Conference Proceedings* (pp. 1-6). Academic Press.

Aytar, O. (2019). Industry 4.0 ve bu paradigmanın örgüt yönetimi üzerindeki olası etkileri. *İŞ, GÜÇ. Endüstri İlişkileri ve İnsan Kaynakları Dergisi*, *21*(2), 75–90.

Azevedo, A., Apfelthaler, G., & Hurst, D. (2012a). Competency development in business graduates: An industry-driven approach for examining the alignment of undergraduate business education with industry requirements. *International Journal of Management Education*, *10*(1), 12–28. doi:10.1016/j.ijme.2012.02.002

Azevedo, A., Gomezelj Omerzel, D., Andrews, J., Higson, H., Caballero, A., & Frech, B. (2012b). Satisfaction with knowledge and competencies: A multi-country study of employers and business graduates. *American Journal of Economics and Business Administration*, *4*(1), 23–39. doi:10.3844/ajebasp.2012.23.39

Aznar Minguet, P., Ull, M. A., Piñero, A., & Martínez-Agut, M. P. (2013). La sostenibilidad en la formación universitaria: Desafíos y oportunidades. *Educación XXI*, *17*(1), 133–157. doi:10.5944/educxx1.17.1.10708

Aznar-Minguet, P., Ull, M. A., Martínez-Agut, M. P., & Piñero, A. (2017). Assess in order to transform: University teaching assessment through the lens of Sustainability. *Enseñanza De Las Ciencias Revista De Investigación y Experiencias Didácticas*, *35*(1), 5. doi:10.5565/rev/ensciencias.2112

Bajis, D., Chaar, B., Penm, J., & Moles, R. (2016). Competency-based pharmacy education in the Eastern Mediterranean Region-A scoping review. *Currents in Pharmacy Teaching & Learning*, *8*(3), 401–428. Advance online publication. doi:10.1016/j.cptl.2016.02.003 PMID:30070251

Baker, E. (2019, October 11). Tourism Tasmania says it has made 'internal changes' since 2016 culture report labelled it a 'boys club'. *ABC News*. Retrieved from https://www.abc.net.au/news/2019-10-11/tourism-tasmania-defends-record-after-culture-report/11595532

Bales, W. D., & Mears, D. P. (2008). *In prison visitation. What works: A reentry clearinghouse*. Retrieved from https://whatworks.csgjusticecenter.org/evaluation/bales-mears-2008

Ballesteros, B., & Mata-Benito, P. (2018). The inner process of collective interpretation in qualitative research. *Qualitative Report*, *23*(1), 168–183.

Ballou, R., Bowers, D., Boyatzis, R. E., & Kolb, D. A. (1999). Fellowship in lifelong learning: An executive development programme for advanced professionals. *Journal of Management Education*, *23*(4), 338–354. doi:10.1177/105256299902300403

Banger, G. (2018). *Edüstri 4.0 ve akıllı işletme*. Dorlion Yayınevi.

Barney, J. B., & Hesterly, W. S. (2010). *Strategic management and competitive advantage: Concepts and cases*. Prentice Hall.

Barrón, A., Navarrete, A., & Ferrer-Balas, D. (2010). Sostenibilización curricular en las universidades españolas. ¿ha llegado la hora de actuar? *La Revista Eureka Sobre Enseñanza y Divulgación de las Ciencias*, *7*(extra), 388–399. doi:10.25267/Rev_Eureka_ensen_divulg_cienc.2010.v7.iextra.18

Barutçu, H. C. (2019). *Industry 4.0 uygulamalarının üretim süreçlerine etkisi: Bosch Sanayi ve Ticaret Anonim Şirketi örneği* (Master Thesis). İstanbul Gelişim Üniversitesi, Sosyal Bilimler Enstitüsü, İstanbul.

Barutçugil, İ. (2002). *Performans yönetimi*. Kariyer Yayıncılık.

Barutçugil, İ. (2004). *Stratejik insan kaynakları yönetimi*. Kariyer Yayınları.

Batlis, C. N. (1980). The effects of organizational climate on job satisfaction, anxiety, and propensity to leave. *The Journal of Psychology*, *104*(2), 233–240. doi:10.1080/00223980.1980.12062970

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *Qualitative Report*, *13*(4), 544–559.

Beard, C., & Wilson, J. P. (2013). *Experiential Learning: A handbook for education, training, and coaching*. Kogan Page.

Beck, A., & Mumola, C. (1999). Prisoners in 1998. Washington, DC: The U.S. Department of Justice Bureau of Justice Statistics.

Beck, L. W. (1990). *Foundations of metaphysics of morals* (2nd ed.). Macmillan.

Benabou, R., & Tirole, J. (2003). Intrinsic and Extrinsic Motivation. *The Review of Economic Studies*, *70*(3), 489–520. doi:10.1111/1467-937X.00253

Beneitone, P., Esquetini, C., González, J., Maleta, M. M., Siufi, G., & Wagenaar, R. (Eds.). (2007). *Reflections on and outlook for higher education in Latin America: Final report Tuning Latin America project 2004-2007*. Universidad de Deusto.

Bennis, W. (1984). The four competencies of leadership. *Training and Development Journal*, *38*(8), 14–19.

Bentham, J. (1988). *The principles of moral and legislation*. Prometheus. (Original work published 1781)

Benton, A. (2019). The Pepsico transformational leadership program. *Pepsico*. Retrieved March 28, 2020, from https://www.ceoaction.com/actions/the-pepsico-transformational-leadership-program-tlp/

Berger, P. L., & Luckmann, T. (1966). *The social construction of reality: A treatise in the sociology of knowledge*. Penguin Books.

Berhem, B., Salih, A. H., & Yousef, D. A. (2008). The Business curriculum and the future employment market: UAE Business leaders' views. *Education, Business and Society*, *1*(2), 124–137. doi:10.1108/17537980810890301

Besler, S. (2004). *İşletmelerde stratejik liderlik*. Beta Yayınları.

Bessen, J. (2019). Automation and Jobs: When Technology Boosts Employment. Boston University School of Law & Economics Paper No. 17-09.

Bezanilla, M. J., García Olalla, A. M., Paños Castro, J., & Poblete Ruiz, M. (2019). A model for the evaluation of competence-based learning implementation in higher education institutions: Criteria and indicators. *Tuning Journal for Higher Education*, *6*(2), 127–174. doi:10.18543/tjhe-6(2)-2019pp127-174

Biech, E. (2007). *The Business of Consulting: The Basics and Beyond* (2nd ed.). John Wiley & Sons.

Biggs, J. (2003). *Teaching For Learning Quality at University* (2nd ed.). Open University Press.

Bilgin, G. D. (2014). *Sivil toplum kuruluşlarında stratejik liderlik: Uluslararası operasyonlar yürüten Türk yardım dernekleri üzerine bir araşturma* (Master Thesis). Düzce Üniversitesi, Sosyal Bilimler Enstitüsü, Düzce.

Bird, R., Momenté, F., & Reggiani, F. (2012). The market acceptance of corporate social responsibility: A comparison across six countries/regions. *Australian Journal of Management*, *37*(2), 153–168. doi:10.1177/0312896211416136

Bisquerra, R. (2009). *Metodología de la investigación educativa*. La Muralla.

Blumenstyk, G. (2015). *American Higher Education in Crisis? What Everyone Needs to Know*. Oxford University Press.

Boal, K., & Schultz, P. (2007). Storytelling, time, and evoluation: The role of strategic leadership in complex adaptive systems. *The Leadership Quarterly*, *18*(4), 411–428. doi:10.1016/j.leaqua.2007.04.008

Bogdan, R. C., & Biklen, S. K. (2007). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Pearson Education.

Bogo, M., Regehr, C., Woodford, M., Hughes, J., Power, R., & Regeher, G. (2006). Beyond competencies: Field instructors' descriptions of student performance. *Journal of Social Work Education*, *42*(3), 191–205. doi:10.5175/JSWE.2006.200404145

Bolden, R., & Gosling, J. (2006). Leadership competencies: Time to change the tune? *Leadership*, *2*(2), 147–163. doi:10.1177/1742715006062932

Bonache, J. (1999). El estudio de casos como estrategia de construcción teórica: Características, críticas y defensas. *Cuadernos de Economía y Dirección de la Empresa*, *3*, 123–140.

Bonnstetter, B. J. (2000). The DNA of global leadership competencies. *Thunderbird International Business Review*, *42*(2), 131–144. doi:10.1002/1520-6874(200003/04)42:2<131::AID-TIE1>3.0.CO;2-2

Boritz, J. E., Carnaghan, C. A., Carnaghan, C. A., & Waterloo, U. (2003). Competency based education and assessment for the accounting profession: A critical review. *Canadian Accounting Perspectives*, *2*(1), 7–42. doi:10.1506/5K7C-YT1H-0G32-90K0

Boscia, S. (2018). Launceston Chamber of Commerce's 2018 awards launch in June. *The Examiner*. https://www.examiner.com.au/story/5403872/launceston-chamber-of-commerces-2018-awards-launch-in-june/

Bouchard, T. J. (1976). Field research methods: Interviewing, questionnaires, participant observation, systematic observation, unobtrusive measures. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 363–414). Wiley.

Bourdieu, M. (2014). Agusta Comte. *Standford encyclopedia of philosophy*. Retrieved from https://plato.stanford.edu/entries/comte/#ComMil

Bourdieu, P. (1986). The Forms of Capitalism. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). Greenwood.

Bovinet, J. W. (2007). Different Skill-set views: A four-year study of Marketing students, Practitioner and educators. *Journal of Business and Public Affairs*, *1*(1). http://www.scientificjournals.org/journals2007/articles/1023.htm

Bowles, M. (2020). *Human Capability Reference Framework*. Institute for Working Futures.

Bowles, M., Ghosh, S., & Thomas, L. (2020). Future-proofing Accounting Professionals: Ensuring Graduate Employability and Future Readiness. *Journal of Teaching and Learning for Graduate Employability*, *11*(1), 2–23. doi:10.21153/jtlge2020vol11no1art888

Boyatzis, R. (2008). Competencies in the 21st Century. *Journal of Management Development*, *27*(1), 5–12. doi:10.1108/02621710810840730

Boyatzis, R. E. (1982). *The competent manager: A model for effective performance*. John Wiley & Sons.

Boyatzis, R. E. (1994). Stimulating self-directed change: A required MBA course called managerial assessment and development. *Journal of Management Education*, *18*(3), 304–323. doi:10.1177/105256299401800303

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Sage.

Boyatzis, R. E., Stubbs, E. C., & Taylor, S. N. (2002). Learning cognitive and emotional intelligence competencies through graduate management education. *Academy of Management Learning & Education*, *1*(2), 150–162. doi:10.5465/amle.2002.8509345

Bradshaw, G., Langley, P., & Simon, H. (1983). Studying scientific discovery by computer simulation. *Science*, *222*(4627), 971–975. doi:10.1126cience.222.4627.971 PMID:17776217

Brake, T. (1997). *The global leader. Critical factors for creating the world class organisation*. Irwin Professional.

Brake, T., Walker, D. M., & Walker, T. (1995). *Doing business internationally. The guide to cross-cultural success*. Irwin Professional.

Bratianu, C., Hadad, S., & Bejinaru, R. (2020). Paradigm Shift in Business Education: A Competence-Based Approach. *Sustainability*, *12*(4), 1348. doi:10.3390u12041348

Brewer, P. C., Sorensen, J. E., & Stout, D. E. (2014). The future of accounting education: Addressing the competency crisis. *Strategic Finance*, *96*(8), 29–37.

Brøgger, K. (2019). How education standards gains hegemonic power and become international: The case of higher education and the Bologna Process. *European Educational Research Journal*, *18*(2), 158–180. doi:10.1177/1474904118790303

Brown, R. B. (1993). Meta-competence: A recipe for reframing the competence debate. *Personnel Review*, *22*(6), 25–36. doi:10.1108/EUM0000000000814

Brown, R. B. (1994). Refrain the competency debate: Management knowledge and meta-competence in graduate education. *Management Learning*, *25*(2), 289–299. doi:10.1177/1350507694252008

Brown, R. B., & McCartney, S. (1995). Competence is not enough: Meta-competence and accounting education. *Accounting Education*, *4*(1), 43–53. doi:10.1080/09639289500000006

Brown, S. E., Esbensen, F., & Geis, G. (2015). *Criminology: Explaining crime and its context*. Routledge. doi:10.4324/9780323357395

Brundtland, G. H. (1987). *Informe Brundtland, nuestro futuro común*. Alianza Editorial.

Brynjolfsson, E., Rock, D., & Syverson, C. (2017). *Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics*. NBER Working Paper 22401.

Brynjolfsson, E., & Hitt, L. M. (2003). Computing Productivity: Firm-Level Evidence. *The Review of Economics and Statistics*, *85*(4), 793–808. doi:10.1162/003465303772815736

Bughin, J., Hazan, E., Lund, S., Dahlstrom, P., Wiesinger, A., & Subramaniam, A. (2018). Skill Shift: automation and the future of the workforce (Discussion Paper, May 2018). *McKinsey &Company*, (May), 3–84. Retrieved from https://www.mckinsey.com/~/media/McKinsey/Featured Insights/Future of Organizations/Skill shift Automation and the future of the workforce/MGI-Skill-Shift-Automation-and-future-of-the-workforce-May-2018.ashx

Bui, B., & Porter, B. (2010). The expectation-performance gap in accounting education: An exploratory study. *Accounting Education*, *19*(1–2), 23–50. doi:10.1080/09639280902875556

Bureau of Justice Assistance, U.S. Department of Justice, Office of Justice Programs. (2013). Second Chance Act Adult Mentoring and Transitional Services for Successful Reentry Program FY 2013 Competitive Grant Announcement. Office of Management and Budget (OMB) No.1121-0329.

Burton, M. R., & Obel, B. (2004). Strategic organizational diagnosis and design. In The Dynamics of Fit. Kluwer Academic Publishers. doi:10.1007/978-1-4419-9114-0

Butz, N. T., Hanson, S., Schultz, P. L., & Warzynski, M. M. (2018). Beyond the Big Five: Does grit influence the entrepreneurial intent of university students in the US? *Journal of Global Entrepreneurship Research*, *8*(1), 1–16. doi:10.118640497-018-0100-z

CADEP. (2011). *Directrices para la introducción de la sostenibilidad en el currículum*. CRUE.

Caena, F., & Margiotta, U. (2010). European Teacher Education: A fractal perspective tackling complexity. *European Educational Research Journal*, *9*(3), 317–331. doi:10.2304/eerj.2010.9.3.317

Calduch, R. (2014). *Métodos y técnicas de investigación internacional*. Universidad Complutense de Madrid.

Calhoun, J. G., Vincent, E. T., Calhoun, G. L., & Brandsen, L. E. (2008). Why competencies in Graduate health management and policy education. *The Journal of Health Administration Education*, *1*(1), 17–37. PMID:19655616

Campbell, T., Knox, M., Rowlands, J., Cui, A., & De Jesus, L. (in press). Leadership in FinTech: Authentic leaders as enablers of innovation and competitiveness in financial technology firms. In Fostering Innovation and Competitiveness with FinTech, RegTech, and SupTech. Hershey, PA: IGI Global.

Camuffo, A., & Gerli, F. (2004). An integrated competency-based approach to management education: An Italian MBA case study. *International Journal of Training and Development*, *8*(4), 240–257. doi:10.1111/j.1360-3736.2004.00212.x

Canada, C. P. A. (2020). *The Chartered Professional Accountant Competency Map: Understanding the competencies a candidate must demonstrate to become a CPA*. Retrieved from https://www.cpacanada.ca/en/become-a-cpa/pathways-to-becoming-a-cpa/national-education-resources/the-cpa-competency-map

Canadian Nurses Association. (2010). *Canadian nurse practitioner core competency framework*. Ottawa, Canada: Canadian Nurses Association. Retrieved from https://www.cna-aiic.ca/~/media/cna/files/en/competency_framework_2010_e.pdf

Capoizzo, C. (2011, November 30). *Prisoner Reentry Programs: Ensuring a Safe and Successful Return to the Community*. Obama White House Archives. Retrieved from www.obahawhitehouse.archives.gov/blog/2011/11/30/prisonreentry

Cardy, R. L., & Selvarajan, T. T. (2006). Competencies: Alternative framework for competitive Advantage. *Business Horizons*, *49*(1), 235–245. doi:10.1016/j.bushor.2005.09.004

Caulley, D. N. (2008). Making qualitative research reports less boring: The techniques of writing creative non-fiction. *Qualitative Inquiry*, *14*(3), 424–449. doi:10.1177/1077800407311961

Cebrián, G., & Junyent, M. (2015). Competencies in Education for Sustainable Development: Exploring the Student Teachers' Views. *Sustainability*, *7*(3), 2768–2786. doi:10.3390u7032768

Cech, E. A., & Sherick, H. M. (2015). Depoliticization and the structure of engineering education. In *International Perspectives on Engineering Education* (pp. 203–216). Springer. doi:10.1007/978-3-319-16169-3_10

Chaffer, C., & Webb, J. (2017). An evaluation of competency development in accounting trainees. *Accounting Education*, *26*(5/6), 431–458. doi:10.1080/09639284.2017.1286602

Chan, K. Y., Moon-ho, R. H., Chernyshenko, O. S., Bedford, O., Uy, M. A., Gomulya, D., ... Phan, W. M. J. (2012). Entrepreneurship, professionalism, leadership: A framework and measure for understanding boundaryless careers. *Journal of Vocational Behavior*, *81*(1), 73–88. doi:10.1016/j.jvb.2012.05.001

Cheetham, G., & Chivers, G. (1998). The reflective (and competent) practitioner: A model of professional competence which seeks to harmonise the reflective practitioner and competence-based approaches. *Journal of European Industrial Training*, *22*(7), 267–276. doi:10.1108/03090599810230678

Cheung, Y. T. Y., Chow, C. F., & So, W. W. M. (2018). A train-the-trainer design for green ambassadors in an environmental education programme on plastic waste recycling. *International Research in Geographical and Environmental Education*, *27*(1), 24–42. doi:10.1080/10382046.2017.1285138

Ch, F. A., Khobreh, M., Nasiri, S., & Fathi, M. (2009). Knowledge management support for quality management to achieve higher customer satisfaction. *Proceedings of 2009 IEEE International Conference on Electro/Information Technology, EIT 2009*, 78–83. 10.1109/EIT.2009.5189588

Chhinzer, N., & Russo, A. M. (2018). An exploration of employer perceptions of graduate student employability. *Education + Training*, *60*(1), 104–120. doi:10.1108/ET-06-2016-0111

Chouhan, V. S., & Srivastava, S. (2014). *Understanding Competencies and Competency Modeling — A Literature Survey*. IOSR Journal of Business and Management., doi:10.9790/487X-16111422

Clark, C. (1940). The Conditions of Economic Progress. London: MacMillan & Co. Ltd.

Çoban, Ö. (2016). *Milli Eğitim Bakanlığı Merkez Teşkilatı yöneticilerinin örgütsel değişimi yönetme yeterlikleri ile stratejik liderlik davranışları arasındaki ilişkinin incelenmesi* (PhD Thesis). Gazi Üniversitesi, Eğitim Bilimleri Enstitüsü.

Coffey, A. (2014). Analysing documents. In *The SAGE Handbook of Qualitative Data Analysis* (Vol. 25, pp. 367–380). SAGE Freie Universtität Berlin. doi:10.4135/9781446282243.n25

Cohen, L., Manion, L., & Morrison, K. (2008). *Research methods in education*. Routledge.

College of Alberta Psychologists. (2013). *College of Alberta psychologists standards of practice*. Retrieved from https://www.cap.ab.ca/pdfs/HPAStandardsofPractice.pdf

Coll, R., & Zegwaard, K. E. (2006). Perceptions of desirable graduate competencies for science And technology new graduates. *Research in Science & Technological Education*, *24*(1), 29–58. doi:10.1080/02635140500485340

Commonwealth of Australia. (2017). *Smart Cities Plan: Launceston City Deal*. Launceston: Commonwealth of Australia.

Conger, J. A., & Ready, D. A. (2004). Rethinking leadership competencies. *Leader to Leader*, *2004*(32), 41–47. doi:10.1002/ltl.75

Cooper, D. R., & Schindler, P. S. (2011). Business research methods (11th ed.). New York, NY: McGraw-Hill/Irwin.

Cooper, K. E. (2000). *Effective Competency Modeling and Reporting: A Step-by – step guide for improving individual and organizational performance*. AMACON.

Costa, K. (2019). *Maximizing organizational performance and goal-achievement through competency-based education*. Preprints.

Cotton, D., Bailey, I., Warren, M., & Bissell, S. (2009). Revolutions and second-best solutions: Education for sustainable development in higher education. *Studies in Higher Education*, *34*(7), 719–733. doi:10.1080/03075070802641552

Cousins, B. 2018. Design Thinking: Organizational Learning in VUCA Environments. Academy of Strategic Management Journal, 17(2).

Covington, M. V., & Mueller, K. J. (2001). Intrinsic versus extrinsic motivation: An approach/avoidance reformulation. *Educational Psychology Review*, *13*(2), 157–176. doi:10.1023/A:1009009219144

Cranmer, S. (2006). Enhancing graduate employability: Best intentions and mixed outcomes. *Studies in Higher Education*, *31*(2), 169–184. doi:10.1080/03075070600572041

Crawford, J. (2019, January 12). A leadership revolution is required. *The Examiner*, Retrieved January 21, 2020, from Accessed 2020, January 21. https://www.examiner.com.au/story/5842872/tasmanian-leadership-revolution-required/

Crawford, J., Young, S., & Knox, M. (2020). Following Through the Good and the Bad? Building a Positive Change Culture with Authentic Followers. In S. Nawaz Khan (Ed.), Leadership and Followership in an Organizational Change Context. Hershey, PA: IGI Global.

Crawford, J., Dawkins, S., Martin, A., & Lewis, G. (2018). Conceptualising authentic followers and developing a future research agenda. In *Authentic leadership and followership* (pp. 271–293). Palgrave Macmillan. doi:10.1007/978-3-319-65307-5_11

Crawford, J., Dawkins, S., Martin, A., & Lewis, G. (2020). Putting the leader back into authentic leadership: Reconceptualising and rethinking leaders. *Australian Journal of Management*, *45*(1), 114–133. doi:10.1177/0312896219836460

Crawford, J., Kelder, J., & Knox, M. (2020). What Does It Take to Be a Social Entrepreneur?: Authentic Leaders and Their Effect on Innovation. In Ç. Doğru (Ed.), *Leadership Styles, Innovation, and Social Entrepreneurship in the Era of Digitalization* (pp. 282–310). IGI Global. doi:10.4018/978-1-7998-1108-4.ch011

Creswell, J. W. (2003). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage Publishing.

Creswell, J. W. (2003). *Research design. Qualitative, quantitative and mixed methods approaches*. Sage.

Creswell, J. W. (2013). *Research design for qualitative, quantitative, and mixed methods approaches* (2nd ed.). Sage Publications.

Creswell, J. W. (2019). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson.

Cüceloğlu, D. (2002). *İletişim donanımları*. Remzi Kitapevi.

Cullen-Knox, C., Eccleston, R., Haward, M., Lester, E., & Vince, J. (2017). Contemporary Challenges in Environmental Governance: Technology, governance and the social licence. *Environmental Policy and Governance*, *27*(1), 3–13. doi:10.1002/eet.1743

Culver, R., Pilafidis, E., & Sathe, V. (1998). Fusing theory and practice: Honors consulting projects for Drucker MBA Students. *Journal of Education for Business*, *73*(5), 298–301. doi:10.1080/08832329809601648

Curry, L., & Docherty, M. (2017). *Implementing competency-based education* (Vol. 10). Collected Essays on Learning and Teaching.

Danford, G. L. (2006). Project based learning and international business education. *Journal of Teaching in International Business*, *18*(1), 7–25. doi:10.1300/J066v18n01_02

Dantzer, M. R. (2000). *Leadership requirements in the 21st century: The perceptions of Canadian public sector leaders* [Unpublished Doctoral Thesis]. Andrews University.

Datar, S. M., Garvin, D. A., & Cullen, P. (2010). *Rethinking the MBA: Business education at a crossroads*. Harvard Business Press.

Davies, B. J., & Davies, B. (2004). Strategic leadership. *School Leadership & Management*, *24*(1), 29–38. doi:10.1080/1363243042000172804

Davis, L., & Bozick, B. (n.d.). *Higher education ad reentry. John Jay College of Criminal Justice Prison Reentry Institute*. The City University of New York. Retrieved from http://johnjaypri.org/wp-content/uploads/2016/09/P2CP-One-Pager-June-2016.pdf

Davis, L. M., Bozick, R., Steele, J. L., Saunders, J., & Miles, J. N. V. (2013). *Evaluating the effectiveness of correctional education: A meta-analysis of programs that provide education to incarcerated Adults. Bureau of Justice Assistance*. U.S. Department of Justice.

De La Harpe, B., Radloff, A., & Wyber, J. (2000). Quality and generic (professional) skills. *Quality in Higher Education*, *6*(3), 231–243. doi:10.1080/13538320020005972

De Lange, P., Jackling, B., & Gut, A.-M. (2006). Accounting graduates' perceptions of skills emphasis in undergraduate courses: An investigation from two Victorian universities. *Accounting and Finance*, *46*(3), 365–386. doi:10.1111/j.1467-629X.2006.00173.x

De Ville, H. G. (1986). Review of vocational qualifications in England and Wales: a report by the Working Group, April 1986. Manpower Services Commission and Dept. of Education and Science.

De Weerd-Nederhof, P. C. (2001). Qualitative case study research. The case of a PhD research project on organising and managing new product development systems. *Management Decision*, *39*(7), 513–538. doi:10.1108/EUM0000000005805

Decker, P. J., Durand, R., Ayadi, F., Whittington, W., & Kirkman, D. (2014). Self-assessment of management competencies and intention to change. *Academy of Educational Leadership Journal*, *18*(4), 129–147.

Delisi, M., & Conis, P. J. (2010). *American corrections: Theory, research, policy, and practice*. Jones and Bartlett.

Delors, J. (1996). *La educación encierra un tesoro. Informe a la UNESCO de la Comisión internacional sobre la educación para el siglo XXI*. Santillana.

Demirdöken, Ç. (2017). *Gençlik ve Spor Bakanlığında örgüt ikliminin işgören performansı üzerine etkisi: Alan araştırması* (PhD Thesis). Hitit Üniversitesi, Sosyal Bilimler Enstitüsü, Çorum.

Demirkol, İ., & Özcan, S. (2018). Industry 4.0 ve çağrı merkezi hizmetlerini etkileyen faktörler üzerine bir araştırma. *İşletme Bilimi Dergisi, 6*(3), 273-294.

Demirkol, N., & Tis, G. (2018). Industry 4.0'ın İnsan kaynakları ve insan kaynakları yönetimine etkisi. *IV. International Caucasus-Central Asıa Foreign Trade And Logistics Congress*.

Denholm, M. (2019, October 11). Leaked report reveals 'unhealthy' workplace culture at tourism Tasmania. *The Australian*. Retrieved from https://www.theaustralian.com.au/travel/leaked-report-reveals-unhealthy-workplace-culture-at-tourism-tasmania/news-story/06e6fbdd33e5d06abaadccd21d2c0f86

Denzin, N. (1984). *The research act*. Prentice Hall.

Department of Justice. (2013, August 22). *Justice and education departments announce new research showing prison education reduces recidivism, saves money, and improves employment*. Office of Public Affairs.

Dierksmeier, C. (2011). Reorienting Management Education: From Homo Oeconomicus to Human Dignity. In W. Amann, M. Pirson, C. Dierksmeier, E. Von Kimakowitz, & H. Spitzeck (Eds.), *Business Schools Under Fire. Humanistic Management Education as the Way Forward* (pp. 19–40). Palgrave Macmillan. doi:10.1057/9780230353855_2

Dishman, L. (2016, May). These Are The Biggest Skills That New Graduates Lack. *Fast Company*. Retrieved from https://www.fastcompany.com/3059940/these-are-the-biggest-skills-that-new-graduates-lack

Disterheft, A., Ferreira da Silva Caeiro, S. S., Ramos, M. R., & de Miranda Azeiteiro, U. M. (2012). Environmental Management Systems (EMS) implementation processes and practices in European higher education institutions. Top-down versus participatory approaches. *Journal of Cleaner Production*, *31*, 80–90. doi:10.1016/j.jclepro.2012.02.034

Dolan, C. (2018, March 22). LGH loses emergency medicine training accreditation. *The Examiner*. Retrieved from https://www.examiner.com.au/story/5299459/lgh-loses-emergency-medicine-training-accreditation/

Done, A. (2011). *Supply Chain Knowledge Management: A Conceptual Framework* (Working Paper WP-900). https://www.iese.edu/research/pdfs/DI-0900-E.pdf

Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.

Douglas, S., & Gammie, E. (2019). An investigation into the development of non-technical skills by undergraduate accounting programmes. *Accounting Education*, *28*(3), 304–332. Advance online publication. doi:10.1080/09639284.2019.1605532

Doyle, A. (2017). *List of Soft Skills.* https://www.thebalance.com/list-of-soft-skills- 2063770

Dreyfus, S. E., & Dreyfus, H. L. (1980). *A five-stage model of the mental activities involved in directed skill acquisition*. Operations Resaerch Center. doi:10.21236/ADA084551

Driver, J. (2014). The History of Utilitarianism. *Stanford Encyclopedia of Philosophy.* Retrieved from https://plato.stanford.edu/entries/utilitarianism-history/

Dunley, S., & Abey, D. (2016, March 11). Federal Government cuts to create $1.1 billion black hole in health budget. *The Mercury*. Retrieved from https://www.themercury.com.au/news/politics/federal-government-cuts-to-create-11-billion-black-hole-in-health-budget/news-story/9b61aa1d262cf62dd2d3a9a43cf3e792

Dunn, A. L., & Odom, S. F. (2019). The motivation and intent toward leadership and entrepreneurship of undergraduate students enrolled in academic leadership programs. *Journal of Leadership Education*, *18*(4). Advance online publication. doi:10.12806/V18/I4/R10

Durose, M. R., Cooper, A. D., & Snyder, H. N. (2014, April). *Recidivism of prisoners released in 30 states in 2005: Patterns from 2005 to 2010*. Bureau of Justice Statistics Special Report. Retrieved from https://www.nij.gov/topics/corrections/recidivism/pages/welcome.aspx

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532–550. doi:10.5465/amr.1989.4308385

Eizaguirre, A., Alcaniz, L., & García-Feijoo, M. (2020). How to Develop the Humanistic Dimension in Business and Management Higher Education? In R. Aguado & A. Eizaguirre (Eds.), *Virtuous Cycles in Humanistic Management* (pp. 3–20). Springer. doi:10.1007/978-3-030-29426-7_1

Elliot, J. (1993). *El cambio educativo desde la investigación-acción*. Morata.

Engle, R. L., Schlaegel, C., & Delanoe, S. (2011). The role of social influence, culture, and gender on entrepreneurial intent. *Journal of Small Business and Entrepreneurship*, *24*(4), 471–492. doi:10.1080/08276331.2011.10593549

Engler, S., & Weisstanner, D. (2020). Income Inequality, Status Decline and Support for the Radical Right. In R. Careja, P. Emmenegger, & N. Giger (Eds.), *The European Social Model under Pressure*. Springer VS. doi:10.1007/978-3-658-27043-8_22

Ennis, M. R. (2008). *Competency Models: A review of literature and the role of the employment and training administration.* https://www.careeronestop.org/COMPETENCYMODEL/info_documents/OPDRLiteratureReview.pdf

Enterprize. (2019). Tasmanian startups, prepared for global success. *Enterprize*.

Eren, E. (1998). *Stratejik Yönetim*. Anadolu Üniversitesi Açık Öğretim Fakültesi Yayınları.

Erisman, W. (2015, June). *Reentry education model implementation study: Promoting reentry success through continuity of educational opportunities*. USDE. Office of Career, Technology, and Adult Education.

Erzurumlu, S. S., & Rollag, K. (2013). Increasing student interest and engagement with business cases by turning them into consulting exercises. *Decision Sciences Journal of Innovative Education*, *11*(4), 359–381. doi:10.1111/dsji.12019

Euler, D., & Seufert, S. (2011). "Reflective Executives" - A Realistic Goal for Modern Management Education. In W. Amann, M. Pirson, C. Dierksmeier, E. Von Kimakowitz, & H. Spitzeck (Eds.), *Business Schools Under Fire. Humanistic Management Education as the Way Forward* (pp. 212–226). Palgrave Macmillan. doi:10.1057/9780230353855_14

Evers, F., Rush, J., & Berdrow, I. (1998). *The bases of competence*. Jossey-Bass.

Eversole, R. (2013). Social enterprises as local development actors: Insights from Tasmania. *Local Economy*, *28*(6), 567–579. doi:10.1177/0269094213496753

Falicific. (n.d.). In *Merriam-Webster*. Retrieved from https://www.merriam-webster.com/dictionary/felicific

Fantin, E. (2017, August 9). Royal Hobart Hospital loses psychiatry training accreditation. *ABC News*. Retrieved from https://www.abc.net.au/news/2017-08-09/hobart-hospital-psychiatrist-training-accreditation-stripped/8789890

Federal Interagency Reentry Council. (2016, April 25). *National Reentry Week Fact Sheet*. Retrieved from https://csgjusticecenter.org/nrrc/publications/federal-interagency-reentry-council-fact-sheet/

Feldstein, M. S. (2008). *Did Wages Reflect Growth in Productivity?* National Bureau of Economic Research. Working Paper 13953.

Ferguson, M. (2019). Powering up energy entrepreneurs. *Tasmanian Liberals*. Retrieved January 20, 2020, from https://www.tas.liberal.org.au/news/powering-energy-entrepreneurs

Fernández Cruz, F. J., Egido Gálvez, I., & Carballo Santaolalla, R. (2016). Impact of quality management systems on teaching-learning processes. *Quality Assurance in Education*, *24*(3), 394–415. doi:10.1108/QAE-09-2013-0037

Fernández, F. (2002). El análisis de contenido como ayuda metodológica para la investigación. *Revista de Ciencias Sociales*, *96*(2), 35–53.

Fernández-Núñez, L. (2006). ¿Cómo analizar datos cualitativos. *LaRecerca*, *6*, 1-13. Recuperado de https://bit.ly/29CPQE4

Fien, J. (2002). Advancing sustainability in higher education: Issues and opportunities for research. *Studies in Higher Education*, *15*, 143–152.

Figueras-Moreno, M. M. (2013). *Model de competències personals per a l'empleabilitat internacional dels alumnes de postgrau*. Universitat Rovira i Virgili.

Filho, W. L. (2011). About the Role of Universities and Their Contribution to Sustainable Development. *Higher Education Policy*, *24*(4), 427–438. doi:10.1057/hep.2011.16

Fırat, S. Ü., & Fırat, O. Z. (2017). Sanayi 4.0 devrimi üzerine karşılaştırmalı bir inceleme: Kavramlar, küresel gelişmeler ve Türkiye. *Toprak İşveren Dergisi*, *114*, 10–23.

Fisher, A. G. (1935). *The Clash of Progress and Security*. MacMillan & Co. Ltd.

Flick, U. (2009). *An Introduction to Qualitative Research*. Sage.

Ford, R., Williams, K., Bishop, I., & Webb, T. (2009). A value basis for the social acceptability of clearfelling in Tasmania, Australia. *Landscape and Urban Planning*, *90*(3-4), 196–206. doi:10.1016/j.landurbplan.2008.11.006

Forehand, G. A., & Gilmer, V. H. (1964). Environmental variation in studies of organizational behaviour. *Psychological Bulletin*, *62*(6), 361–382. doi:10.1037/h0045960 PMID:14242590

Fortin, A., & Legault, M. (2010). Development of Generic Competencies: Impact of a Mixed Teaching Approach on Students' Perceptions. *Accounting Education*, *19*(1–2), 93–122. doi:10.1080/09639280902888195

Free Reentry that Works. (2013, July). Retrieved from Who is free? Retrieved from www.freereentry.org

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Frey, C. B., & Osborne, M. A. (2016). The Future of Employment: How Susceptible are Jobs to Computerization? *Technological Forecasting and Social Change*, *114*, 254–280. doi:10.1016/j.techfore.2016.08.019

Fuchs, V. R. (1968). *The Service Economy*. Columbia University Press.

Gaikwad, P. (2017). Including rigor and artistry in case study as a strategic qualitative methodology. *Qualitative Report*, *22*(13), 3431–3446.

Gallup. (2020). *CliftonStrenghts Assessment.* Retrieved March 11, 2020, from https://www.gallup.com/cliftonstrengths/en/strengthsfinder.aspx

Garimella, S. (2005). Positional competencies: A checklist for product and brand managers. *HRM Review,* 47–51.

Gayef, A. (2006). *Özel hastanelerde uygulanan liderlik yaklaşımlarının üst düzey yöneticilerin takım çalışması ve örgüt iklimi algılamaları üzerindeki etkisi* (Master Thesis). İstanbul Üniversitesi, Sosyal Bilimler Enstitüsü, İstanbul.

Geldhof, G. J., Weiner, M., Agans, J. P., Mueller, M. K., & Lerner, R. M. (2014). Understanding entrepreneurial intent in late adolescence: The role of intentional self-regulation and innovation. *Journal of Youth and Adolescence*, *43*(1), 81–91. doi:10.100710964-013-9930-8 PMID:23430563

George, R. A. (2019). *Modeling Automation and Augmentation*. Sydney: Faethm.

Giesecke, J., & Mcneil, B. (2010). *Fundamentals of library supervision* (2nd ed.). American Library Association.

Giles, S. (2016). The most important leadership competencies, according to leaders around the world. *Harvard Business Review*, 15.

Gök, S. (2009) Örgüt ikliminin çalışanların motivasyonuna etkisi üzerine bir araştırma. *Uluslararası İnsan Bilimleri Dergisi/Journal of Human Sciences, 6*(2), 587-605.

Goldberg, J. S., & Cole, B. R. (2002). Quality Management in Education: Building Excellence and Equity in Student Performance. *The Quality Management Journal*, *9*(4), 8–22. doi:10.1080/10686967.2002.11919033

González, J., & Wagenaar, R. (Eds.). (2003). *Tuning educational structures in Europe. Final report. Phase one*. Bilbao: University of Deusto.

González, J., Wagenaar, R., & Beneitone, P. (2004). Tuning-América Latina: Un proyecto de las universidades. *Revista Iberoamericana de Educación*, *35*(1), 151–164.

Goodrick, D. (2014). *Estudios de caso comparativos, Síntesis metodológicas: evaluación de impacto n.º 9*. Centro de Investigaciones de UNICEF.

Görçün, Ö. F. (2017). *Dördüncü Industry devrimi Industry 4.0*. Beta Yayıncılık.

Gowdy, L. (2013, November 25). *Consequential ethics*. Retrieved from http://www.ethicsmorals.com/consequentialistethics.html

Gracia, L. (2010). Accounting students' expectations and transition experiences of supervised work experience. *Accounting Education*, *19*(1–2), 51–64. doi:10.1080/09639280902886033

Graham, J. (2020, March 26). Coronavirus crisis: Victorian Premier Daniel Andrews leads the charge for a Stage 3 lockdown. *Canberra Times*. Retrieved from https://www.canberratimes.com.au/story/6698303/vic-premier-andrews-finds-an-ally-in-charge-for-a-stage-3-lockdown

Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information and Libraries Journal*, *26*(2), 91–108. doi:10.1111/j.1471-1842.2009.00848.x PMID:19490148

Gubrium, J., & Holstein, J. (2003). *From the individual interview to the interview society*. Sage. doi:10.4135/9781412985437.n2

Güçlü, N. (2003). Stratejik Yönetim. *Gazi Eğitim Fakültesi Dergisi*, *23*(2), 61–85.

Guile, D., & Griffiths, T. (2001). Learning through work experience. *Journal of Education and Work*, *14*(1), 113–131. doi:10.1080/13639080020028738

Guillot, C.W. (2003). Strategic leadership: Defining the challenge. *Air & Space Power Journal*, *17*(4), 67-75.

Guimarães, J. A. Ch.; Moraes, J. B. E. de; Guarido, M. D. M. (2007). Análisis documental de contenido de textos narrativos: bases epistemológicas y perspectivas metodológicas. *Ibersid: Revista de sistemas de información y documentación*, *1*, 93-99.

Gürdoğan, A., & Yavuz, E. (2013). Turizm işletmelerinde örgüt kültürü ve liderlik davranışı etkileşimi: Muğla İli'nde bir araştırma. *Anatolia: Turizm Araştırmaları Dergisi*, *24*(1), 57–69.

Halkovic, A. & Fine, M. (2013, November). *Higher education and reentry: The gifts they bring*. Prison Reentry Institute. John Jay College of Criminal Justice. New York, NY.

Halkovik, A., & Fine, M. (2013). *Reentry Research in the First Person: Higher education and Reentry: The gifts They Bring*. John Jay College of Criminal Justice.

Hall, R. E., & Schulhofer-Wohl, S. (2018). Measuring Job-Finding Rates and Matching Efficiency with Heterogeneous Job-Seekers. *American Economic Journal. Macroeconomics*, *10*(1), 1–32. doi:10.1257/mac.20170061

Halpin, A. W. (1966). *Theory and tesearch in administration*. The MacMillan Company.

Halpin, A. W., & Croft, D. B. (1963). *The Organizational Climate of Schools*. Midwest Administration Center.

Hanaysha, J. R., & Majid, M. (2018). Employee motivation and its role in improving the productivity and organizational commitment at higher education institutions. *Journal of Entrepreneurship and Business*, *6*(1), 17–28. doi:10.17687/JEB.0601.02

Hankock, P., Howieson, B., Kavanagh, M., Kent, J., Sturt, C., Tempone, I., & Segal, N. (2009). *Accounting for the future: more than numbers: A collaborative investigation into the changing skill set for professional accounting graduates over the next ten years and strategies for embedding such skills into professional accounting programs* (Vol. 1). Australian Learning and Teaching Council. Retrieved from https://eprints.usq.edu.au/6333/4/Hancock_Howieson_Kavanagh_etal_v2_2009_PV.pdf

Harder, C., Jackson, G., & Lane, J. (2014). *Talent is not enough: Closing the skills gap*. Academic Press.

Hardy, J. W., & Deppe, L. A. (1995). A competency-based, integrated approach to accounting education. *Accounting Education*, *4*(1), 55–75. doi:10.1080/09639289500000007

Harper, D. S. (2015, September 30). Correctional executives' leadership self-efficacy and their perceptions of emotional intelligence. *American Journal of Criminal Justice*, *41*(4), 765–779. https://link.springer.com/content/pdf/10.1007%2Fs12103-015-9319-1.pdf. doi:10.100712103-015-9319-1

Harper, D. S. (2016). Assessing the professional competencies of correctional executives' and senior-level leaders. *Journal of Competency-Based Education*, *1*(2), 90–97.

Hemingway, M. A., & Smith, C. S. (1999). Organizational climate and occupational stressor as predictors of withdrawal behaviours and injuries in nurse. *Journal of Occupational and Organizational Psychology*, *72*(3), 285–299. doi:10.1348/096317999166680

Heneman, H. G., & Judge, T. A. (2009). *Staffing Organisations*. McGraw Hill.

Heriot, K.C., Cook, R., Jones, R.C., & Simpson, L. (2008). *The use of student consulting projects as an active learning pedagogy: A case study in a production/operations management course*. Academic Press.

Hernadez-March, J., Del Peso, M. M., & Leguey, S. (2009). Graduates' Skills and Higher Education: The employers' perspective. *Tertiary Education and Management*, *15*(1), 1–16. doi:10.1080/13583880802699978

Hinterhuber, H. H., & Friedrich, S. A. (2001). Stratejik liderliğin teknolojik boyutu/üretim ekonomisinde liderliğin meydan okuması. *Science Direct İnternational Journal of Production Economic*, *77*, 191–203. doi:10.1016/S0925-5273(01)00160-8

Hitt, M. A., Ireland, D. R., & Hosisson, R. E. (1999). *Strategic management* (3rd ed.). South Western.

Hocaniyazov, A. (2008). *Ağırlama işletmelerinde örgütsel iklim ve liderlik* (Master Thesis). Dokuz Eylül Üniversitesi, Sosyal Bilimler Enstitüsü, İzmir.

Hodges, D., & Burchell, N. (2003). Business graduates' competencies: Employers' views on importance and performance. *Asia Pacific Journal of Cooperative Education*, *4*(2), 16–22.

Hofstede, G. (2011). Dimensionalising Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, *2*(1). Advance online publication. doi:10.9707/2307-0919.1014

Howcroft, D. (2017). Graduates' vocational skills for the management accountancy profession: Exploring the accounting education expectation-performance gap. *Accounting Education*, *26*(5–6), 459–481. doi:10.1080/09639284.2017.1361846

Hoy, W., Smith, P. A., & Sweetland, S. R. (2003). The development of the organizational climate index for high schools: Its measure and relationship to faculty trust. *High School Journal*, *86*(2), 38–49. doi:10.1353/hsj.2002.0023

HR- 1593-Second Chance Act (2007). 110th Congress. Retrieved from https://www.congress.gov/bill/110th-congress/house-bill/1593

Ibrahim, R., Boerhannoeddin, A., & Bakare, K. K. (2017). The effect of soft skills and training methodology on employee performance. *European Journal of Training and Development*, *41*(4), 388–406. doi:10.1108/EJTD-08-2016-0066

International Federation of Accountants Education Committee (IFAC). (2003). *Towards competent professional accountants IEP 2, April 2003. Education*. Retrieved from https://www.ifac.org/sites/default/files/publications/files/iep-2-towards-competent.pdf

International Integrated Reporting Council (IIRC). (2016). *Creating Value. The Value of Human Capital Reporting*. Retrieved from www.theiirc.org

Iqbal, A., & Zenchenkov, M. (2014). Market tested business education: Corporate sector perceptions of Saudi graduates. *Asia Pacific Journal of Cooperative Education*, *15*(2), 91–106.

Ireland, D., & Hitt, M. (2005). Achieving and maintaining strategic competitiveness in the 21st century: The role of strategic leadership. *The Academy of Management Executive*, *19*(4), 63–77. doi:10.5465/ame.2005.19417908

Isaacs, A. K. (2014). Building a higher education area in Central Asia: Challenges and prospects. *Tuning Journal for Higher Education*, *2*(1), 31–58. doi:10.18543/tjhe-2(1)-2014pp31-58

Isaacs, A. K. (2016). *Tuning Central Asia guidelines and reference points*. Dedizioni.

Isaacs, A. K. (2017). Tuning and History: A personal overview. *Arts and Humanities in Higher Education*, *16*(4), 403–409.

Ismail, R., Youssof, I., & Sieng, L. W. (2011). Employers' perceptions on graduates in Malaysian services sector. *International Business Management*, *5*(3), 184–193. doi:10.3923/ibm.2011.184.193

Jackling, B., & De Lange, P. (2009). Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence. *Accounting Education*, *18*(4–5), 369–385. doi:10.1080/09639280902719341

Jackson, D. (2009a). Profiling industry-relevant management graduate competencies: The need for a fresh approach. *International Journal of Management Education*, *8*(1), 85–98. doi:10.3794/ijme.81.281

Jackson, D. (2009b). Undergraduate management education: Its place, purpose and efforts to bridge the skills gap. *Journal of Management & Organization*, *15*(2), 206–223. doi:10.5172/jmo.837.15.2.206

Jackson, D. (2010). An international profile of industry-relevant competencies and skill gaps in modern graduates. *International Journal of Management Education*, *8*(3), 29–58. doi:10.3794/ijme.83.288

Jansen, J. D. (1998). Curriculum reform in South Africa: A critical analysis of outcomes-based education. *Cambridge Journal of Education*, *28*(3), 321–332. doi:10.1080/0305764980280305

Jensen, M. (2012). *Using unstructured questions to enhance critical thinking in an asynchronous, online, introductory financial accounting course*. University of Calgary. Retrieved from http://hdl.handle.net/11023/144

Jensen, M. C. (2002). Value maximization, stakeholder theory, and the corporate objective function. *Business Ethics Quarterly*, *12*(2), 235–256. doi:10.2307/3857812

Johnson, M. (2005). *Aristotle on teleology*. Oxford Aristotle Studies. Retrieved from https://www.oxfordscholarship.com/view/10.1093/0199285306.001.0001/acprof-9780199285303

Johnson, P., & Harris, D. (2002). Qualitative and quantitative issues in research design. In D. Partington (Ed.), *Essential Skills for Management Research* (pp. 99–115). Sage. doi:10.4135/9781848605305.n6

Jokinen, T. (2005). Global leadership competencies: A review and discussion. *Journal of European Industrial Training*, *29*(3), 199–216. doi:10.1108/03090590510591085

Jones, P., Selby, D., & Sterling, S. (2010). *Sustainability Education: Principles and Practices across Higher Education*. Earthscan.

Kaeble, D., & Glaze, L. E. (2016, December 29). *Correctional populations in the United States, 2015*. Bureau of Justice Statistics Office of Justice Programs. Retrieved from https://www.bjs.gov/index.cfm?ty=pbdetail&iid=5870

Kallioinen, O. (2010). Defining and Comparing Generic Competences in Higher Education. *European Educational Research Journal*, *9*(1), 56–68. doi:10.2304/eerj.2010.9.1.56

Kansal, J., Singhal, S., & Kumar, P. (2014). Integration of Quality and Knowledge Management in Indian R & D Organizations. Academic Press.

Kansal, J., & Singhal, S. (2017). Application and validation of DMAIC six sigma tool for enhancing customer satisfaction in a government R & D organization. *International Journal of Qualitative Research*, *11*(4), 931–944. doi:10.18421/IJQR11.04-13

Kansal, J., & Singhal, S. (2018). Development of a competency model for enhancing the organisational effectiveness in a knowledge-based organisation. *International Journal of Indian Culture and Business Management*, *16*(3), 287. doi:10.1504/IJICBM.2018.090909

Kara, E. (2018). Örgütlerde stratejik liderliğin önemi üzerine bir araştırma. *International Journal of Disciplines Economics & Administrative Sciences Studies*, *4*(9), 423–436.

Katz, D., & Kahn, R. L. (1977). *Örgütlerin toplumsal psikolojisi*. Doğan Basımevi.

Kaur, J., & Kumar, V. (2013). Competency Mapping : A Gap Analysis. *International Journal of Education and Research*, *1*(1), 1–9.

Kavanagh, M. H., & Drennan, L. (2008). What skills and attributes does an accounting graduate need? Evidence from student perceptions and employer expectations. *Accounting and Finance*, *48*(2), 279–300. doi:10.1111/j.1467-629X.2007.00245.x

Kee, J., Rodrigues, P., Kundu, S. & Racine, J. (2006). *Entrepreneurial Curriculum - Project Report for JIP Grant*. Academic Press.

Keleş, Ö. (2008). *Örgüt iklimi boyutlarının çalışanların güçlendirme algılarıyla ilişkilerinin değerlendirilmesi. Bir araştırma* (Master Thesis). Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü, Kocaeli.

Kelley, C. A., & Gaedeke, R. M. (1990). Student and Employer evaluation of hiring criteria for entry-level marketing positions. *Journal of Marketing Education*, *12*(3), 64–71. doi:10.1177/027347539001200309

Keynes, J. M. (1930). *Economic Possibilities for our Grandchildren*. Academic Press.

Kinzel, H. (2017). Industry 4.0 – where does this leave the human factor? *Journal of Urban Culture Research*, *15*, 70–83.

Kiran, R. S., Madarvalli, P., & Chandulal, J. A. (n.d.). Competency based Training and Development for Engineering Students. *International Journal of Engineering Research and Applications*, *1*(2), 246–250.

Knox, M., Crawford, J., & Young, S. (2020). Ecotourism Emergence in Tasmania through Social Entrepreneurs and Authentic Leaders. In Global Entrepreneurial Trends in the Tourism and Hospitality Industry. Hershey, PA: IGI Global. doi:10.4018/978-1-7998-2603-3.ch005

Knox, M., Crawford, J., & Kelder, J.-A. (2020). Developing authentic leadership and fostering social entrepreneurial innovation. In A. Ayandibu (Ed.), *Reshaping entrepreneurship education with strategy and innovation*. IGI Global.

Kolb, A. Y., & Kolb, D. A. (2009). Experiential Learning Theory: A Dynamic, Holistic Approach to Management Learning, Education and Development. In The SAGE Handbook of Management Learning, Education and Development (pp. 42–68). SAGE Publications Ltd. doi:10.4135/9780857021038.n3

Kolb, A. Y., & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning & Education*, *4*(2), 193–212. doi:10.5465/amle.2005.17268566

Kolbe, R. H., & Burnett, M. S. (1991). Content-analysis research: An examination of applications with directives for improving research reliability and objectivity. *The Journal of Consumer Research*, *18*(2), 243–250. doi:10.1086/209256

Kolibacova, G. (2014). The relationship between competency and performance. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, *62*(6), 1315–1327. doi:10.11118/actaun201462061315

Kotter, J. P., & Schlesinger, L. A. (1979). *Choosing strategies for change*. Harvard Business Review.

Kowarski, I. (2019). *Will an MBA Help You Become a Consultant?* Retrieved from: www.usnews.com/ education/best-graduate-schools/top-business-schools/articles/will-an-mba-help-you-become-a-management-consultant

Koys, D. J., & Decotiis, T. A. (1991). Inductive measures of psychological climate. *Human Relations*, *44*(3), 265–285. doi:10.1177/001872679104400304

Krippendorff, K. (1980). *Reliability*. John Wiley & Sons.

Krishna, A. (2013). *From OBE to CAPS: Educator's Experiences of the new Life Skills Curriculum in the Foundation Phase*. University of Kwazulu-Natal.

Kyburz-Graber, R. (2016). Case study research on higher education for sustainable development. Epistemological foundation and quality challenges. In M. Barth, G. Michelsen, M. Rieckmann, & I. Thomas (Eds.), *Routledge Handbook of Higher Education for Sustainable Development* (pp. 126–141). Routledge.

LEADX3M. (2020). *Grad Consulting invitation, company message to applying students, Winter 2019*. Author.

Leavitt, L., Wisdom, S., & Leavitt, K. (2017). *Cultural Awareness and Competency Development in Higher Education.* IGI Global.

Lehman, K., Ronald Fillis, I., & Miles, M. (2014). The art of entrepreneurial market creation. *Journal of Research in Marketing and Entrepreneurship*, *16*(2), 163–182. doi:10.1108/JRME-09-2013-0024

LeMaire, R., Fisher, K., & Watson, E. F. III. (2017). Delivering an MBA management consulting experience. *Decision Sciences Journal of Innovative Education*, *15*(2), 138–160. doi:10.1111/dsji.12124

Leonard, D., & Swap, W. (2005). Kıvılcımlar Uçuşurken. İstanbul: Optimist Yayınları.

Leonard, D., & Swap, W. (2005). Deep smarts. *Harvard Business Review*, *30*(2), 157–169. PMID:15449858

Leroy, H., Anseel, F., Gardner, W. L., & Sels, L. (2015). Authentic leadership, authentic followership, basic need satisfaction, and work role performance: A cross-level study. *Journal of Management*, *41*(6), 1677–1697. doi:10.1177/0149206312457822

Lidgren, A., Rodhe, H., & Huisingh, D. (2006). A systemic approach to incorporate sustainability into university courses and curricula. *Journal of Cleaner Production*, *14*(9-11), 797–809. doi:10.1016/j.jclepro.2005.12.011

Limón-Domínguez, D., Ruiz-Morales, J., & Torres Fernández, C. (2019). Una ciudadanía activa para conseguir el desarrollo de los objetivos de desarrollo sostenible. In *Retos de la educación ambiental ante los objetivos de desarrollo sostenible* (pp. 17–30). Ediciones Octaedro.

Lin, C.-T., & Lee, G. C. S. (1996). *Neural Fuzzy Systems*. Prentice Hall.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage. doi:10.1016/0147-1767(85)90062-8

Lindquist, C., Hardison, J., Rempel, M., & Shannon, C. (2003). *The National Institute of Justice evaluation of Second Chance Act Adult Reentry Courts: Program characteristics and preliminary themes from year one*. Retrieved from http://www.courtinnovation.org/sites/default/files/documents/Final_year%201.pdf

Lingston, J. (2011, March 14). Study proves education can stop recidivism. *The Louisiana Weekly*, *85*(26), 3.

Linville, D., Lambert-Shute, J., Fruhauf, C. A., & Piercy, F. P. (2003). Using participatory focus groups of graduate students to improve academic departments: A case example. *Qualitative Report*, *8*(2), 210–223.

Litwin, H. G., & Stringer, A. R. (1968). *Motivation and organizational climate*. Graduate School of Business Administration, Harvard University.

Lombardi, M., & Saba, J. (2010). *Talent Assessment Strategies: A Decision Guide for Organisational Performance*. Aberdeen Group.

Lozano R., Merrill M., Sammalisto K., Ceulemans K., Lozano F. J. (2017). Connecting Competences and Pedagogical Approaches for Sustainable Development in Higher Education: A Literature Review and Framework Proposal res. *Sustaintability, 9*(10).

Lozano, R. (2006). Incorporation and institutionalization of SD into universities: Breaking through barriers to change. *Journal of Cleaner Production*, *14*(9-11), 787–796. doi:10.1016/j.jclepro.2005.12.010

Lozano, R., Merrill, M. Y., Sammalisto, K., Ceulemans, K., & Lozano, F. J. (2017). Connecting competences and pedagogical approaches for sustainable development in higher education: A literature review and framework proposal. *Sustainability*, *9*(10), 1889. doi:10.3390u9101889

Lucia, A. D., & Lepsinger, R. (1999). *Art and Science of Competency Models*. Jossey-Bass.

Lunev, A., Petrova, I., & Zaripova, V. (2013). Competency-based models of learning for engineers: A comparison. *European Journal of Engineering Education*, *38*(5), 543–555. doi:10.1080/03043797.2013.824410

Luthans, F., & Avolio, B. J. (2003). Authentic leadership development. *Positive Organizational Scholarship, 241*, 258.

Lu, Y. (2017). Industry 4.0: A survey on technologies, applications and open research ıssues. *Journal of Industrial Information Integration*, *6*(1), 1–10. doi:10.1016/j.jii.2017.04.005

Lysaght, R. M., & Altschuld, J. W. (2000). Beyond initial certification: The assessment and maintenance of competency in professions. *Evaluation and Program Planning*, *23*(1), 95–104. doi:10.1016/S0149-7189(99)00043-9

Macionis, J. (2014). *Sociology: The basics*. Pearson.

MacMillan, R., McMorris, B. J., & Kruttschnitt, C. (2004). Linked lives: Stability and change in material circumstances and trajectories of antisocial behavior in children. *Child Development*, *75*(1), 205–220. doi:10.1111/j.1467-8624.2004.00664.x PMID:15015685

Mahadeven, R., Shivaprakash, N. C., & Bose, S. K. (2013). Quality assessment of technical education in Indian Engineering Institutions. *IEEE Global Engineering Education Conference, EDUCON*, (1), 973–977. 10.1109/EduCon.2013.6530225

Mahomed, H. 2004. Challenges in Curriculum Transformation in South Africa. *Fifth Annual Educationally Speaking Conference*.

Malcolm, J., & Seibler. (2017, March 7). Collateral consequences: Protecting public safety or encouraging recidivism. *Heritage Foundation Legal Memorandum.* Retrieved from https://www.heritage.org/sites/default/files/2017-03/LM-200.pdf

Management Charter Initiative (MCI). (1987). *National Occupational Standards in Management*. Management Charter Initiative.

Manyika, J., Lund, S., Auguste, B., Mendonca, L., Welsh, T., & Ramaswamy, S. (2011). *An Economy That Works: Job Creation and America's Future*. McKinsey.

Mariampolski, H. (2001). *Qualitative market research. A comprehensive guide*. Sage. doi:10.4135/9781412985529

Marquardt, M. J. (2011). *Optimizing the Power of Action Learning: Real-Time Strategies for Developing Leaders, Building Teams and Transforming Organizations*. Nicholas Brealey Publishing.

Marriner, D. (2017). Wave of the future: self-employed numbers on the rise. *Certica.* Retrieved March 27, 2020, from https://certica.com.au/wave-future-self-employed-numbers-on-the-rise/

Martensen, A., & Gronholdt, L. (2009). Quality in higher education: Linking graduates' competencies and employers' needs. *International Journal of Quality and Service Sciences*, *1*(1), 67–77. doi:10.1108/17566690910945877

Mason, G., Williams, G., Cranmer, S., & Guile, D. (2003). *How much does higher education enhance the employability of graduates.* Report to the Higher Education funding Council for England. Retrieved from http://heer.qaa.ac.uk/SearchForSummaries/Summaries/Pages/GLM171.aspx

Mastin, L. (2008). Virtue Ethics. *The Basics of Philosophy.* Retrieved from https://www.philosophybasics.com/branch_virtue_ethics.html

McCutcheon, D. M., & Meredith, J. R. (1993). Conducting case study research in operations management. *Journal of Operations Management*, *11*(3), 239–256. doi:10.1016/0272-6963(93)90002-7

McLaughlin, J. E., Bush, A. A., Rodgers, P. T., Scott, M. A., Zomorodi, M., Pinelli, N. R., & Roth, M. T. (2017). Exploring the Requisite Skills and Competencies of Pharmacists Needed for Success in an Evolving Health Care Environment. *American Journal of Pharmaceutical Education*, *81*(6), 116. doi:10.5688/ajpe816116 PMID:28970617

McMillan, J. H., & Schumacher, S. (2011). *Investigación educativa*. Pearson.

McQuade, E., Hogan, D., O'Donoghue, J., Maguire, T., & Murphy, E. (2005). *The competencies for next generation employability.* Ninth Quality in Higher Education International Seminar, Birmingham UK

Mehta, N., Verma, P., & Seth, N. (2013). Total quality management implementation in engineering education in India: An interpretive structural modelling approach. *Total Quality Management & Business Excellence*, *25*(1–2), 124–140. doi:10.1080/14783363.2013.791113

Melé, D. (2009). Current trends in humanism and business. In H. Spitzeck, M. Pirson, W. Amann, S. Khan, & E. Von Kimakowitz (Eds.), *Humanism in business* (pp. 123–141). Cambridge University Press. doi:10.1017/CBO9780511808395.009

Melé, D. (2016). Understanding humanistic management. *Humanistic Management Journal*, *1*(1), 33–55. doi:10.100741463-016-0011-5

Melé, D., & Schlag, M. (Eds.). (2015). *Humanism in Economics and Business. Perspectives of the catholic Social Tradition*. Springer. doi:10.1007/978-94-017-9704-7

Mellander, K. (1993). *The Power of Learning: Fostering Employee Growth*. McGraw-Hill.

Melles, G. (2019). Views on education for sustainable development (ESD) among lecturers in UK MSc taught courses. *International Journal of Sustainability in Higher Education*, *20*(1), 115–138. doi:10.1108/IJSHE-02-2018-0032

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass.

Miles, M., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Millar, C., Groth, O., & Mahon, J. (2018). Management Innovation in a VUCA World: Challenges and Recommendations. *California Management Review*, *61*(1), 5–14. doi:10.1177/0008125618805111

Miller, G. E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine*, *65*(9), 63–67. doi:10.1097/00001888-199009000-00045 PMID:2400509

Miller, L., Rankin, N., & Neathey, F. (2001). *Competency Frameworks in UK Organizations*. CIPD.

Mirabella, R., & Young, D. R. (2012). The development of education for social entrepreneurship and nonprofit management: Diverging or converging paths? *Nonprofit Management & Leadership*, *23*(1), 43–57. doi:10.1002/nml.21049

MIT Task Force. (2019). *Work of the Future: Shaping Technology and Institutions*. MIT.

Mitchel, W. (1918, June). Bentham's felicific calculus. *Political Science Quarterly*, *33*(2), 161–183. doi:10.2307/2141580

Mokhaba, M. (2005). *Outcomes-Based Education in South Africa Since 1994: Policy Objectives and Implementation Complexities*. University of Pretoria.

Moore, G. (2001). Corporate social and financial performance: An investigation in the U.K. Supermarket industry. *Journal of Business Ethics*, *34*(3/4), 299–315. doi:10.1023/A:1012537016969

Moore, M., & Recker, N. (2013, November 15). Social capital, type of crime, and social control. Crime and Delinquency. *Sage Journals.*, *62*(6), 728–747.

Moran, E. T., & Volkwein, J. F. (1992). The cultural approach to the formation of organizational climate. *Human Relations*, *45*(1), 19–47. doi:10.1177/001872679204500102

Morcke, A. M., Dornan, T., & Eika, B. (2013). Outcome (competency) based education: An exploration of its origins, theoretical basis, and empirical evidence. *Advances in Health Sciences Education: Theory and Practice*, *18*(4), 851–863. doi:10.100710459-012-9405-9 PMID:22987194

Morgan, S. T. (n.d.). *Epistemology and ontology*. Retrieved from www.stmorgan.co.uk/epistemology-and-oncology.html

Morgan, H. (2016). Skills New Graduates Need to Improve. *Top (Madrid)*, 4.

Morilla, M. F., Camacho, M. T. F., & Tiana, S. A. (2015). Sostenibilización curricular en la Educación Superior: Propuesta metodológica. *Opción*, *31*(6), 284–304.

Morpurgo, M. T. (2015). *Beyond Competency: The role of professional accounting education in the development of meta-competencies*. Retrieved from http://hdl.handle.net/10791/79

Morrill, R. L. (2007). *Strategic leadership: Intergrating strategy and leadership in coolages and universities*. American Council on Education and Praeger Publishers.

Morrison, A. J. (2000). Developing a global leadership model. *Human Resource Management*, *39*(2-3), 117–131. doi:10.1002/1099-050X(200022/23)39:2/3<117::AID-HRM3>3.0.CO;2-1

Morse, A., & McEvoy, C. D. (2014). Qualitative research in sport management: Case study as a methodological approach. *Qualitative Report*, *19*(31), 1–13.

Mourshed, M., Krawitz, M., & Dorn, E. (2017). *How to improve student educational outcomes: New insights from data analytics.* McKinsey & Company.

Mukhopadhyay, K. (2011). A Competency Based Management System for Sustainable Development by Innovative Organizations: A Proposal of Method and Too. *Vision (Basel)*, *15*(2), 151–160.

Murphy, K. (2020, March 25). It's not working: Scott Morrison's late-night coronavirus messages only sow confusion. *The Guardian.* Retrieved from https://www.theguardian.com/australia-news/2020/mar/25/its-not-working-scott-morrisons-late-night-coronavirus-messages-to-the-nation-only-sow-confusion

Nagel, T. (1986). *A view from nowhere*. Oxford University Press.

Naktiyok, A. (2004). *İç girişimcilik*. Beta Basım Yayın.

Natanson, H., & Xiao, D. G. (2019). The graduating class of 2019 in numbers. *The Harvard Crimson.* Retrieved from: https://features.thecrimson.com/2019/senior-survey/after-harvard/

Naughton, M. (2015). Thinking Institutionally about Business: Seeing its Nature as a Community of Persons and its Purpose as the Common Good. In D. Melé & M. Schlag (Eds.), *Humanism in Economics and Business. Perspectives of the Catholic Social Tradition* (pp. 179–199). Springer. doi:10.1007/978-94-017-9704-7_11

New Zealand Productivity Commission. (2016). *New models of tertiary education: Issues paper*. www.productivity.govt.NewZealand/inquirycontent/tertiary-education

Newman, G.R., & Marongiu. (2009). *On crimes and punishments: Cesare Beccaria Translation, Annotation, and Introduction*. New Brunswick, NJ: Transactions Productions.

Newstead, T., Dawkins, S., Macklin, R., & Martin, A. (2019). The virtues project: An approach to developing good leaders. *Journal of Business Ethics*. Advance online publication. doi:10.100710551-019-04163-2

NIH Human Subjects Research Training. (n.d.). Retrieved from http://phrp.nihtraining.com/users/login.php

Nováky, G. (2015). The same history for all? Tuning history. In D. Ludvigsson, & A. Booth (Eds.), *Enriching History Teaching and Learning: Challenges, Possibilities, Practice. Proceedings of the Linköping Conference on History Teaching and Learning in Higher Education* (pp. 101-119). Linköping: Linköping University.

Nováky, G. (2017). The yin and yang of Tuning History. *Arts and Humanities in Higher Education*, *16*(4), 410–414. doi:10.1177/1474022216686524

O'Shea, S. C. (2017). Characteristics and Skills Necessary in Accountancy. *International Journal of Business and Management*, *13*(1), 22. doi:10.5539/ijbm.v13n1p22

O'Driscoll, Humphries, & Henrik H.Larsen. (1991). Managerial activities, competence and effectiveness: Manager and subordinate perceptions. *International Journal of Human Resource Management*, *2*(3).

OECD. (2009). *Employment Outlook*. OECD Publishing.

OECD. (2011). *Divided We Stand: Why Inequality Keeps Rising*. OECD Publishing.

Office of Justice Programs. (1999, September). *Reentry Courts: Managing the transition from prison to community*. A Call for Concept Papers.

Öge, S. (2001). Örgüt iklimi. *Selçuk İletişim*, *1*(4), 132–143.

Oppenheim, A. (1992). *Questionnaire design, interviewing, and attitude measurement*. Pinter Publishers.

Orwell, G. (1937). *The Road to Wigan Pier.* Left Book Club.

Oxfam. (2019). *Public good or private wealth*. Retrieved from https://www.oxfam.org/en/research/public-good-or-private-wealth

Özdevecioğlu, M. (2003). Algılanan örgütsel destek ile örgütsel bağlılık arasındaki ilişkilerin belirlenmesine yönelik bir araştırma. *Dokuz Eylül Ünversitesi İktisadi ve İdari Bilimler Dergisi*, *18*(2), 113–130.

Özsoylu, A. F. (2017). Industry 4.0. *Çukurova Üniversitesi İİBF Dergisi*, *21*(1), 41-64.

Parfit, D. (1984). *Reasons and persons*. Clarendon Press.

Parry, S. B. (1998). Just what is a competency? (And why should we care?). *Training (New York, N.Y.)*, *35*(6), 58–64.

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Sage.

Pepsico. (2019). The Pepsico transformational leadership program. *Pepsico*. Retrieved March 27, 2020, from https://www.ceoaction.com/actions/the-pepsico-transformational-leadership-program-tlp/

Piketty, T. (2014). *Capital in the twenty-first century*. Belknap Press.

Pirson, M. (2011). What is Business Organizing for? The role of Business in Society over Time. In W. Amann, M. Pirson, C. Dierksmeier, E. Von Kimakowitz, & H. Spitzeck (Eds.), *Business Schools Under Fire. Humanistic Management Education as the Way Forward* (pp. 41–51). Palgrave Macmillan. doi:10.1057/9780230353855_3

Pirson, M. A., & Lawrence, P. R. (2010). Humanism in business–towards a paradigm shift? *Journal of Business Ethics*, *93*(4), 553–565. doi:10.100710551-009-0239-1

Pisapia, J. (2009). *The Strategic leader: New tactics for a globalizing world, charlotte*. IAP, Information Age Publishing.

Pisapia, J., Guerra, D. R., & Semmel, E. C. (2005). Developing the leader's strategic mindset: Establishing the measures. *Leadership Review*, *5*, 41–67.

Piza, V., Aparicio, J. L., Rodríguez, C., Marín, R., Beltrán, J., & Bedolla, R. (2018). Sustainability in Higher Education: A Didactic Strategy for Environmental Mainstreaming. *Sustainability*, *10*(12), 4556. doi:10.3390u10124556

Platske, L. M. (2017, December 20). Why we need authentic leaders. *Upside Thinking.* Retrieved January 21, 2020, from Accessed 2020, January 21. https://upsidethinking.com/2017/12/20/need-authentic-leaders/

Powell, D. (2019). Women-only ride –sharing startup Shebah bags $3 million in biggest-ever equity crowdfunding raise. *Smart Company.* Retrieved March 22, 2020, from https://www.smartcompany.com.au/startupsmart/news/shebah-3-million-equity-crowdfunding/

Preparation prisoners for reentry. (n.d.). *Prisoner Reentry Support. Prisoner Fellowship*. Retrieved from www.prisonfellowship.org/about/reentry-support

Prikshat, V., Kumar, S., & Nankervis, A. (2019). Work-readiness integrated competence model. *Education + Training*, *61*(5), 568–589. doi:10.1108/ET-05-2018-0114

Ramsay, J. E., Pang, J. S., Ho, M. H. R., & Chan, K. Y. (2017). Need for power predicts career intent in university students. *Journal of Career Assessment*, *25*(3), 389–404. doi:10.1177/1069072716639690

Rankin, N. (2002). Raising performance through people: The ninth competency survey. *Competency and Emotional Intelligence*, *3*, 2–21.

Rasiel, E., & Friga, P. N. (2001). *The McKinsey Mind: Understanding and Implementing the Problem Solving Tools and Management Techniques of the World's Top Strategic Consulting Firm*. McGraw-Hill.

Reichers, A. E., & Schneider, B. (1990). Climate and culture: an evolution of constructs. In B. Schneider (Ed.), *Organizational Climate and Culture*. Jossey-Bass.

Reid, S. T. (2012). *Crime and criminology* (19th ed.). Oxford University Press.

Reynolds, M., & Snell, R. (1988). *Contribution to development of management competence*. Manpower Services Commission.

Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M., & Autio, E. (2000). *Global Entrepreneurship Monitor: 2000 Executive Report*. Kauffman Center for Entrepreneurial Leadership.

Richter, A., & Schmidt, S. L. (2008). The effectiveness of university-level management courses. *Journal of Management Education*, *31*(1), 84–99. doi:10.1177/1052562907300809

Rieckmann, M. (2017). *Education for Sustainable Development Goals: Learning Objectives*. UNESCO.

Robinson, J. S., & Garton, B. L. (2008). An assessment of the employability skills needed by graduates in the College of Agriculture, Food and Natural resources at the University of Missouri. *Journal of Agricultural Education*, *49*(4), 96–105. doi:10.5032/jae.2008.04096

Rosenthal, A., Napier, E., Warth, P., & Weissman, M. (2015). *Boxed Out: Criminal History Screening and College Application Attrition*. Center for Community Alternatives and Education from the Inside Out. Retrieved from http://www.cflj.org/boxed-out-criminal-history-screening-and-college-application-attrition/

Rothwell, W. J., & Lindholm, J. E. (2002). Competency identification, modelling and assessment in the USA. *International Journal of Training and Development*, *3*(2), 90–105. doi:10.1111/1468-2419.00069

Rowan, J., & Zinaich, S. Jr. (2003). *Ethics for the professionals*. Wadsworth.

Rowe, W. G. (2001). Creating wealth in organizations: The role of strategic leadership. *The Academy of Management Executive*, *15*, 81–94.

Rowlands, J., Knox, M., Campbell, T., Cui, A., & De Jesus, L. (2020a). Leadership in Tourism: Authentic leaders as facilitators of sustainable development in Tasmania tourism. In Role of Tourism in Acheving the Susutainable Development Goals. Hershey, PA: IGI Global.

Rowlands, J., Knox, M., Cui, A., Campbell, T., & De Jesus, L. (2020b). Will they, or won't they? Understanding Nascent Entreprenurship and Creating New Ventures. In Challenges to Nascent Entreprenurship and Creating New Ventures. Hershey, PA: IGI Global.

Roy Morgan. (2015). *Eco-holidays still all too rare for Australian travellers*. Roy Morgan Research.

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing* (2nd ed.). Thousand Oaks, CA: *Sage*.

Rubin, R. S., & Dierdorff, E. C. (2009). How relevant is the MBA? Assessing the alignment of required curricula and required managerial competencies. *Academy of Management Learning & Education*, *8*(2), 208–224. doi:10.5465/amle.2009.41788843

Ruiz Morales, J. (2013). *Experiencias sociales y educativas en los procesos de participación con niñas, niños y jóvenes en la ciudad de Sevilla entre los años 2005-2008*. Sevilla: Universidad de Sevilla. Recuperado de http://fondosdigitales.us. es/tesis/tesis/2687/experiencias-sociales-y-educativasen-los-procesos-de-participacion-con-ninas-y-ninos-jovenes-en-la-ciudad-desevilla-entre-los-anos-20052008

Ryan, D., & Harvell, B. (2005). Internship: Testing ground for new recruits. *Consulting-Specifying Engineer*, *38*(4), 87–88.

Sagoe, D. (2012). Precincts and prospects in the use of focus groups in social and behavioral science research. *Qualitative Report*, *17*(15), 1–16.

Salamzadeh, A., & Kawamorita Kesim, H. (2015). *Startup companies: Life cycle and challenges*. In *4th International conference on employment, education and entrepreneurship (EEE*), Belgrade, Serbia.

Salmons, J. (2015). Qualitative online interviews: Strategies, Design, and skills. (2nd ed). Sage.

Sánchez Carracedo, F., Segalàs, J., Cabré, J., Climent, J., López, D., Martín, C., & Vidal, E. (2017). El proyecto EDINSOST: Inclusión de los ODS en la educación superior. *VII Congr. Univ. y Coop. al Desarro*.

Sánchez-Carracedo, F., Ruiz-Morales, J., Valderrama-Hernández, R., Muñoz-Rodríguez, J. M., & Gomera, A. (2019). Analysis of the presence of sustainability in Higher Education Degrees of the Spanish university system. *Studies in Higher Education*, *11*, 1–18. doi:10.1080/03075079.2019.1630811

Sandri, O., Holdsworth, S., & Thomas, I. (2018). Vignette question design for the assessment of graduate sustainability learning outcomes. *Environmental Education Research*, *24*(3), 406–426. doi:10.1080/13504622.2016.1263280

Sanghi, S. (2016). *The Handbook of Competency Mapping: Understanding, Designing and Implementing Competency Models in Organizations*. SAGE. doi:10.4135/9789353280352

Schaupp, L. C., & Vitullo, E. A. (2019). Implementing experiential action learning in the MBA: Use of an international consulting experience. *International Journal of Educational Management*, *34*(3), 505–517. doi:10.1108/IJEM-04-2019-0154

Schnieder, B., Brif, A. P., & Guzzo, R. A. (1996). Creating a climate and culture for sustainable organizational change. *Organizational Dynamics*, *24*(4), 7–19. doi:10.1016/S0090-2616(96)90010-8

Schön, D. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning*. Jossey-Bass.

Schwab, K. (2016). Dördüncü sanayi devrimi. İstanbul: Optimist Yayınları.

Scott, K. J. (2016). Corrections and education: The relationship between education and recidivism. *Journal or Intercultural Disciplines.*, *15*, 147–169.

Scott, W., & Gough, S. (2007). Universities and sustainable development: The necessity for barriers to change. *Perspect. Policy Pract. High. Educ.*, *11*(4), 107–115. doi:10.1080/13603100701613947

Seemiller, C. (2013a). *The student leadership competencies dataset*. Unpublished raw data.

Seemiller, C. (2013). *The student leadership competencies guidebook: Designing intentional leadership learning and development*. John Wiley & Sons.

Segalàs, J., Ferrer-Balas, D., & Mulder, K. F. (2010). What do engineering students learn in sustainability courses? The effect of the pedagogical approach. *Journal of Cleaner Production*, *18*(3), 275–284. doi:10.1016/j.jclepro.2009.09.012

Segalàs, J., Ferrer-Balas, D., Svanström, M., Lundqvist, U., & Mulder, K. F. (2009). What has to be learnt for sustainability? A comparison of bachelor engineering education competences at three European universities. *Sustainability Science*, *4*(1), 17–27. doi:10.100711625-009-0068-2

Şener, S. (2019). *Örgüt ikliminin, çalışanların örgütsel bağlılık ve iş tatminlerine etkisinin incelenmesi: Adana-Mersin otel işletmeleri örneği* (Master Thesis). Çağ Üniversitesi, Sosyal Bilimler Enstitüsü, Mersin.

Serinikli, N. (2018). Industry 4.0'ın özel, kamu ve kooperatif sektörlerine etkisi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *23*, 1607-1621.

Sharma, R. R. (2002). *360 Degree Feedback, Competency Mapping and Assessment Centre*. McGraw Hill.

Shephard, K., & Furnari, M. (2013). Exploring what university teachers think about education for sustainability. *Studies in Higher Education*, *38*(10), 1577–1590. doi:10.1080/03075079.2011.644784

Shivoro, R. S., Shalyefu, R. K., & Kadhila, N. (2018). Perspectives on graduate employability attributes for management science graduates. *South African Journal of Higher Education*, *32*(1), 216–232. doi:10.20853/32-1-1578

SHRM Competency Model. (2012). *Society of Human Resource Management, Competency Framework*. https://www.shrm.org/LearningAndCareer/competencymodel/Documents/Full%20Competency%20Model%2011%202_10%201%202014.pdf

Shuayto, N. (2013). Management Skills Desired by Business School Deans and Employers: An Empirical Investigation. *Business Education & Accreditation*, *5*(2), 93–105.

Siegel, L. (2016). *Criminology: Theories, patterns, and typologies*. Cengage.

Sin, S., Jones, A., & Petocz, P. (2007). Evaluating a method of integrating generic skills with accounting content based on a functional theory of meaning. *Accounting and Finance*, *47*(1), 143–163. doi:10.1111/j.1467-629X.2007.00201.x

Siriw Ardane, H. P., & Durden, C. H. (2016). The communication skills of accountants: What we know and the gaps in our knowledge. Communication in Accounting Education.

Smith, C. J., Stinchcomb, J. B., McCampbell, & Mancini, C. (2011, June). *Identifying core competencies and required knowledge, skills, and abilities (KSA) for jails leaders: Methods and outcomes*. National Criminal Justice Reference Serviced.

Smith, C. J., Hoge, R., Andrews, D. A., & Leschied, A. (1996). An investigation of risk and protective factors in a sample of youthful offenders. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *37*, 419–424.

Snell, D., Gekara, V., & Gatt, K. (2016). Cross-occupational Skill Transferability: Challenges and Opportunities in a Changing Economy. Research Report. Adelaide: NCVER.

Solís-Espallargas, C., Ruiz-Morales, J., Limón-Domínguez, D., & Valderrama-Hernández, R. (2019). Sustainability in the University: A Study of Its Presence in Curricula, Teachers and Students of Education. *Sustainability*, *11*(23), 6620. doi:10.3390u11236620

Solis-Espallargas, C., & Valderrama-Hernández, R. (2015). La educación para la sostenibilidad en la formación de profesorado. ¿Qué estamos haciendo? *Foro Educación*, *13*(19), 165–192. doi:10.14516/fde.2015.013.019.008

Sosik, J. J., Jung, D. I., Berson, Y., Dionne, S. D., & Jaussi, K. S. (2005). Making all the right connections: The strategic leadership of top executives in high-tech organizations. *Organizational Dynamics*, *34*(1), 47–61. doi:10.1016/j.orgdyn.2004.11.003

Sparrow, P. R. (1997). Organizational competencies: Creating a strategic behavioural framework for selection and assessment. International Handbook of Selection and Assessment, 343-368.

Sparrow, P. R., & Bognanno, M. (1993). Competency requirement forecasting: Issues for international selection and assessment. *International Journal of Selection and Assessment*, *1*(1), 50–58. doi:10.1111/j.1468-2389.1993.tb00083.x

Spencer, L. M., & Spencer, S. M. (1993). *Competence at work*. Wiley.

Spreitzer, G. M. (1996). Social structural characteristics of psychological empowerment. *Academy of Management Journal*, *39*(2), 483–504.

Stake, R. E. (1995). *The art of case study research*. Sage.

Start Up Tasmania. (2019). About. *Start Up Tasmania.* Retrieved January 20, 2020, from https://startuptasmania.org.au/about/

Stinchcomb, J., Smith, C.J., McCampbell, S.W., & Mancini, C. (2011, June 6). *Identifying core competencies and required knowledge, skills, and abilities (ksa's) for jail leaders: Methods and outcomes*. Center for Innovative Public Policies.

Stinchcomb, J.B. (2011). The upcoming tsunami: Core leadership competencies. *American Jails, 25*(2), 17–24.

Stinchcomb, J.B., McCampbell, & Mancini, C. (2011, June). *Identifying core competencies and required knowledge, skills, and abilities (KSA) for jails leaders: Methods and outcomes*. National Criminal Justice Reference Serviced.

Strauss, K. (2016). *These Are The Skills Bosses Say New College Grads Do Not Have*. Retrieved December 2, 2017, from https://www.forbes.com/sites/karstenstrauss/2016/05/17/these-are-the-skills-bosses-say-new-college-grads-do-not-have/#513d48bc5491

Study International Staff. (2018). *What businesses want from graduates in 2018*. Retrieved from www.studyinternational.com/news/what-businesses-want-from-graduates-in-2018

Sullivan, G. R., & Harper, M. V. (1997). Umut bir yöntem olamaz. İstanbul: Boyner Holding Yayınları.

Suutari, V. (2002). Global leader development: An emerging research agenda. *Career Development International*, *7*(4), 218–233. doi:10.1108/13620430210431307

Swanson, C. G., Rohner, G., & Crow, M. S. (2010). Is criminal justice education ready for reentry? *Journal of Criminal Justice Education*, *21*(1), 60–76. doi:10.1080/10511250903496463

Swayne, L. E., Duncan, W. J., & Ginter, P. M. (2006). *Strategic management of health care organizations*. Blackwell Publishing.

Tabak, A., Sığrı, Ü., Eroğlu, A., & Hazır, K. (2009). Örgütlerde yöneticilerin dönüştürücü liderlik algılamalarının problem çözme becerilerine etkisi: Kamu sektöründe bir uygulama. *Ç.Ü. Sosyal Bilimler Enstitüsü Dergisi*, *18*(2), 387–397.

Tan, L. M., & Laswad, F. (2018). Professional skills required of accountants: What do job advertisements tell us? *Accounting Education*, *27*(4), 403–432. doi:10.1080/09639284.2018.1490189

Tataroğlu, E. K. (2017). *Örgüt ikliminin motivasyon ile ilişkisi üzerine bir araştırma* (Master Thesis). Kırklareli Üniversitesi, Sosyal Bilimler Enstitüsü, Kırklareli.

Tejedor, G., Segalàs, J., Barrón, Á., Fernández-Morilla, M., Fuertes, M. T., Ruiz-Morales, J., Gutiérrez, I., García-González, E., Aramburuzabala, P., & Hernández, À. (2019). Didactic strategies to promote competencies in sustainability. *Sustainability*, *11*(7), 2086. doi:10.3390u11072086

Telling, K., & Serapioni, M. (2019). The rise and change of the competence strategy: Reflections on twenty-five years of skills policies in the EU. *European Educational Research Journal*, *18*(4), 387–406. doi:10.1177/1474904119840558

Tellis, W. M. (1997). Application of a case study methodology. *Qualitative Report*, *3*(3), 1–19.

Teo, T. S. H., Lim, V. K. G., & Lai, R. Y. C. (1999). Intrinsic and extrinsic motivation in Internet usage. *International Journal of Management Sciences*, *27*(1), 25–37. doi:10.1016/S0305-0483(98)00028-0

The Law Society of Alberta. (2013). *Law Society of Alberta code of conduct*. Retrieved from https://www.lawsociety.ab.ca/lawyers/regulations/code.aspx

Thompson, A., & Strickland, A. (2001). *Strategic management: Concepts and cases* (12th ed.). McGraw-Hill.

Tilbury, D. (2012). Higher education for sustainability: a global overview of commitment and progress. In GUNI Higher Education in the World 4: Higher Education's Commitment to Sustainability from Understanding to Action. Palgrave Macmillan.

Tolbert, M., & Rasmussen Foster, L. (2016, January). Reentry Education Framework: Guidelines for providing high-quality education for adults involved in the criminal justice system. U.S. Department of Education. Retrieved from https://nicic.gov/reentry-education-framework-guidelines-providing-high-quality-education-adults-involved-criminal

Tolbert, M. (2012). *A Reentry Education Model: Supporting education and career advancement for low-skill individuals in corrections. Office of Vocational and Adult Learning*. U.S. Department of Education.

Tonon, G. (2011). La utilización del método comparativo en estudios cualitativos en ciencia política y ciencias sociales. *KAIROS. Revista de Temas Sociales*, *27*, 1–12.

Tossi, M. (2012). *Employment outlook: 2010–2020 labor force projections to 2020: A more slowly growing workforce. Labor force. Projections*. Bureau of Labor Statistics.

Totterman, H. (2013). A business school on a world mission. *New England Journal of Higher Education*. https://nebhe.org/journal/a-business-school-on-a-world-mission/

Totterman, H. (2019). Tackling executive challenges through graduate crowdsourcing. In N. Pfeffermann (Ed.), *New Leadership in Strategy and Communication: Shifting Perspective on Innovation, Leadership, and System Design*. Springer.

Tripathi, P., & Ranjan, J. (2010). A Competency Mapping for Educational Institution: Expert System Approach. *Int J of Computer and Communication Technology*, *2*(1), 75–93.

Tubbs, S. L., & Schulz, E. (2006). Exploring a taxonomy of global leadership competencies and meta-competencies. *The Journal of American Academy of Business, Cambridge*, *8*(2), 29–34.

Tumwesigye, G. (2010). The Relationship between perceived organisational support and turnover intentions in a developing country: The mediating role of organisational commitment. *African Journal of Business Management*, *4*(6), 942–952.

Türk, M., & Akbaba, M. (2017). Stratejik liderlik algılamalarının çalışan performansına etkisi: Konaklama işletmeleri üzerine bir araştırma. *Sosyal Bilimler Dergisi*, *4*(16), 182–196.

TÜSİAD. (2016). *Türkiye'nin küresel rekabetçiliği için bir gereklilik olarak sanayi 4.0 gelişmekte olan ekonomi perspektifi*. Yayın No: TÜSİAD-T/2016-03/576. http://www.tusiad.org/indir/2016/sanayi-40.pdf

Tymon, A. (2013). The student perspective on employability. *Studies in Higher Education*, *38*(6), 841–856. doi:10.1080/03075079.2011.604408

U.S. Department of Education. (2016). *Beyond the box: A U.S Department of Education Resource Guide for Increasing Access to Higher Education for Justice-Involved Individuals*. U.S. Department of Employment Opportunity Commission. U.S. Department of Housing and Urban Development, and the U.S. Department of Equal Opportunity. Retrieved from https://www2.ed.gov/documents/beyond-the-box/fact-sheet.pdf

U.S. Department of Education. (2016, May 9). *Education Department pushes for alternatives to criminal history questions in college admissions*. Author.

U.S. Department of Education. (n.d.). *Correctional Education. Adult Education and Literacy*. Office I Career, Technical and Adult Education. Retrieved from www2.ed.gov/about/list/ovae/pi/AdultEd/correctional-ed

U.S. Department of Justice. (2013, April). *Research on Reentry and Employment*. Office of Justice Programs and National Institute of Justice. Retrieved from www.nij.gov/topic/corrections/reentry/pages/employment.aspx

Ülgen, H., & Mirze, S. K. (2004). *İşletmelerde stratejik yönetim*. Literatür Yayınları.

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & Health Sciences*, *15*(3), 398–405. doi:10.1111/nhs.12048 PMID:23480423

Van Diemen Project. (2019). Incubators. *Van Diemen Project*. Retrieved January 20, 2020, from https://vandiemenproject.com.au/incubators/

Van Huyssteen, J. (2003). *Encyclopedia of science and religion*. Macmillan.

Van Kleef, G. A., Homan, A. C., Beersma, B., Van Knippenberg, D., Van Knippenberg, B., & Damen, F. (2009). Searing sentiment or cold calculation? The effects of leader emotional displays on team performance depend on follower epistemic motivation. *Academy of Management Journal*, *52*(3), 562–580. doi:10.5465/amj.2009.41331253

Vilches, A., & Gil Pérez, D. (2015). Ciencia de la Sostenibilidad: ¿Una nueva disciplina o un nuevo enfoque para todas las disciplinas? *Revista Iberoamericana de Educación*, *69*(1), 39–60. doi:10.35362/rie691152

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management*, *34*(1), 89–126. doi:10.1177/0149206307308913

Warn, J., & Tranter, P. (2001). Measuring quality in higher education: A competency approach. *Quality in Higher Education*, *7*(3), 191–198. doi:10.1080/13538320120098078

Wei, C., Sun, X., Liu, J., Zhou, C., & Xue, G. (2017). High Power Distance Enhances Employees' Preference for Likable Managers: A Resource Dependency Perspective. *Frontiers in Psychology*, *7*. Advance online publication. doi:10.3389/fpsyg.2016.02066 PMID:28119654

Weiss-Meyer, A. L. (2014). Case study: Consulting after college. *The Harvard Crimson*. Retrieved from: https://www.thecrimson.com/article/2014/11/6/consulting-after-harvard-fm/

Wells, P., Gerbic, P., Kranenburg, I., & Bygrave, J. (2009). Professional skills and capabilities of accounting graduates: The New Zealand expectation gap? *Accounting Education*, *18*(4–5), 403–420. doi:10.1080/09639280902719390

WetFeet. (2008). *Industries and careers for MBAs. In Wetfeet Insider Guide*. Universum.

Whitson, R., & Humphries, A. (2019, July 29). Royal Hobart Hospital staff warned to brace themselves for $50m cut to budget. *ABC News*. Retrieved from https://www.abc.net.au/news/2019-07-29/royal-hobart-hospital-budget-50m-cuts/11363310

Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: A reference framework for academic program development. *Sustainability Science*, *6*(2), 203–218. doi:10.100711625-011-0132-6

Wilkinson, S. (2014). Focus group methodology: A review. *International Journal of Social Research Methodology*, *1*(3), 181–203. doi:10.1080/13645579.1998.10846874

Willcoxson, L., Wynder, M., & Laing, G. K. (2010). A whole-of-program approach to the development of generic and professional skills in a university accounting program. *Accounting Education*, *19*(1–2), 65–91. doi:10.1080/09639280902886082

Wilson, R. M. S. (2011). Alignment in accounting education and training. *Accounting Education*, *20*(1), 3–16. doi:10.1080/09639284.2011.555940

Wolf, R. (2018). Self-Awareness: A Way to Promote Ethical Management. In Information Resources Management Association (Ed.), Business Education and Ethics: Concepts, Methodologies, Tools, and Applications (pp. 860-871). Hershey: IGI Global. doi:10.4018/978-1-5225-3153-1.ch045

Wongpinunwatana, N. (2019). Enhancing Students' Creative Thinking Skills through the Process of Teaching Business Research. *Journal of Management Policy and Practice.* doi:10.33423/jmpp.v20i2.2100

Wright, T. (2010). University presidents' conceptualizations of sustainability in higher education. *International Journal of Sustainability in Higher Education*, *11*(1), 61–73. doi:10.1108/14676371011010057

Wynn, K. (2020, February 13). Best workplaces revealed: Is yours in the top 100? *NZ Herald*.

Xu, L. D., Xu, E. L., & Li, L. (2018). Industry 4.0: State of the art and future trends. *International Journal of Production Research*, *56*(8), 2941–2962. doi:10.1080/00207543.2018.1444806

Yazan, B. (2015). Three approaches to case study methods in education: Yin, Merriam, and Stake. *Qualitative Report*, *20*(2), 134–152.

Yin, R. K. (2009). *Case study research: Design and method* (4th ed.). Sage.

Yin, R. K. (2018). *Case study research and applications: design and methods*. Sage.

Yüksel, M., & Genç, K. Y. (2018). Industry 4.0 ve liderlik. ISAS 2018-Winter *2nd International Symposium on Innovative Approaches in Scientific Studies.*

Yuvaraj, R. (2011). Competency Mapping : A Drive For Indian Industries. *International Journal of Scientific and Engineering Research*. Advance online publication. doi:10.1017/CBO9781107415324.004

Zammuto, R. F., & Krakower, J. Y. (1991). Quantitative and qualitative studies in organizational culture. *Research in Organizational Change and Development*, *5*, 83–113.

Zwartz, H. (2017, November 20). Specialist shortage in Tasmania drives patients interstate to avoid 'unacceptable' wait times. *ABC News*. Retrieved from https://www.abc.net.au/news/2017-11-20/patients-falling-through-cracks-due-to-shortage-of-specialists/9167618

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