

Confident Leaders— *by design*:

A case study of self-efficacy in educational leadership development

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“A thesis submitted in partial fulfilment of the requirements of the University
of the West of England, Bristol for the degree of Professional Doctorate in
Education”;

The Faculty of Arts, Creative Industries and Education (ACE).

April 2021

Word Count = 60061 words (main body)

Abstract

Effective leadership is second only to the quality of teaching as a lever for improving educational outcomes (National College of School Leadership, 2006) and is vital to the success of most school improvement efforts (Leithwood et al., 2019). Leadership development is challenging due to variance in role requirements, inequality of access to professional development, and mixed success in the design, delivery, and transfer of training.

This research aimed to explore self-efficacy (an individual's perceived level of confidence in completing a task or goal) within educational leadership across a range of leadership levels and contextual factors, something lacking in the current literature. The goal was that a greater understanding of what self-efficacy levels were and how they had been developed would lead to improvements in the design and delivery of leadership development programmes and result in leaders being confident by design rather than chance.

A mixed-methods case study approach was used to explore the self-efficacy levels of 138 leaders within a multi-academy trust of 20 schools in the South West of England. Participants came from primary education, secondary education, and the central team and spanned middle, senior, and principal leadership levels. A 10-point general rating scale was used within a questionnaire to assess levels of self-efficacy. Semi-structured interviews were subsequently used to explore the perceptions of self-efficacy development.

Questionnaire data showed the mean self-efficacy score to be $\mu=7.37$ ($sd=1.50$) with variance between leadership capabilities across all contextual factors and within each layer of the organisation's leadership framework. Correlational significance arose between levels of self-efficacy and time in leadership ($p=0.01$, $\eta^2=0.08$), time in role ($p=0.02$, $\eta^2=0.07$), and leadership level ($p=0.04$, $\eta^2=0.05$) but not between the different areas of leadership ($p=0.73$, $\eta^2=0.00$) and effect sizes only reached small to medium levels.

Thematic analysis of the qualitative data supported the influence of previously identified sources of self-efficacy information (mastery experience, vicarious Influence, social persuasion, and imaginal experiences, Bandura, (1977, 1997); Maddux (1995). Additional themes that emerged were the presence of internal antecedents such as gender, personality, and knowledge and external antecedents related to a leader's organisation, superiors, and subordinates.

The research concluded that experience is key for self-efficacy development, superiors have a significant impact on the self-efficacy of their subordinates, there are various internal factors that affect self-efficacy beliefs, and that leadership training and development design must be mindful of self-efficacy information sources and content must accurately reflect role requirements.

Dedication

To my wife, Emily for your unwavering support of my various physical and mental challenges. You are truly the better half of our partnership and I will be forever grateful for your support. To my children, Darcy, and Lawson, being a role model to you is what drives me through these challenges and your love is what keeps me motivated. To my Parents, Lyn, and Phil, making you proud and showing you the impact of the amazing childhood you gave me, is another driving force in challenges such as this. It would take me a thousand lifetimes to repay you.

Acknowledgements

I would first like to thank the members of the UWE EdD team and the dissertation committee for their time and support throughout this journey. In particular, I would like to thank Dr Dean Smart who I have been continuously indebted to both in friendship and academic supervision since my MA studies. I would like to thank Dr Paul Redford whose expertise in my chosen field has stretched my understanding and opened previously unknown doors. Thank you to all of the past leaders with whom I have worked with and for. It has been your belief in me that has afforded me opportunities through which my self-efficacy growth has been achieved. You have taken chances on me when enthusiasm has outweighed experience and given me the space and resources to achieve success.

Finally, I would like to thank my boss and friend Alison Fletcher. I could not have completed this challenge without your continued support and appreciation of the stresses and conflicts involved. To work in a team where I am equally valued and challenged is a true pleasure and I will always be thankful for your role in this.

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Structure

The structure of the thesis is as follows. Chapter one introduces the research context, problematises the research's focus, outlines the aims, significance, and research questions and finally describes the theoretical framework and assumptions.

Chapter two reviews the current literature on leadership, self-efficacy, and leadership self-efficacy within education. Each area is explored in terms of impact, development, and management with the aim of ensuring that the subsequent data collection tools accurately reflect the theoretical framework and established knowledge.

Chapter three explores established methodologies within the aforementioned literature domains and then describes the chosen methodology and its rationale.

Chapter four describes the methods. It begins with an exploration of the established methodological considerations before describing the chosen methods. The chapter continues by introducing the participants and exploring ethical considerations.

Chapter five focuses on the first quantitative phase, the questionnaire and contains the resulting data and the emerging discussion points. Chapter six follows the same aims but with a focus on the second subsequent interview phase.

Chapter seven brings together the results and discussion to a set of conclusions which in turn lead into a set of recommendations for professional practice.

Chapter eight concludes the thesis with an exploration of research limitations and possible avenues for further research.

Glossary of organisational terms

- **Central team:** a team of staff who work separately from the schools on elements such as human resources, finance, school improvement and professional development.
- **Federation:** a group of two or more schools that have made a formal commitment to work together under a single governing body.
- **Leadership area:** a term used in this research to describe where in the organisation a leader is employed. Leaders were either from the schools in the primary phase (4-10 years old), secondary phase (11-16 years old) or from the central team which consists of finance, human resources, project management.
- **Leadership level:** a term used in this research to describe the seniority of a leader (middle, senior, principal).
- **Middle leader:** an individual who is typically required to lead a subject, key phase, year group or other singular team with specific localised responsibilities.
- **Primary:** the phase of education spanning ages four to eleven.
- **Principal:** the highest leadership position within a single school, often called the headteacher.
- **Secondary:** the phase of education spanning ages eleven to sixteen.
- **Senior leader:** an individual that is typically required to lead on a single whole school responsibility such as curriculum, behaviour or teaching and who also line manages one or more middle leaders.

Chapter 1. Introduction

The following chapter constitutes an introduction to the research and begins with a description of the context within which it was completed. The chapter then explores the research problem by describing the importance of educational leadership and the challenge of effective leadership development. The purpose of the research is then described through the aim of using self-efficacy as a lever for improving the design and delivery of leadership development. The research questions are then introduced followed by the theoretical framework of self-efficacy. The chapter concludes with research assumptions.

1.1 Research Context

1.1.1 This research has a strong personal relevance

During my career as a teacher within secondary education, I have held a variety of leadership positions with progressively higher levels of responsibility and accountability. Each role has required an increasingly expansive skillset and thus created the need for further professional development and learning. The steepness of the learning curve and the frequency of new experiences has led me to often doubt my leadership ability and to suffer from low levels of perceived self-efficacy. It has also become apparent that my own self-efficacy levels have directly affected my thoughts, feelings, behaviour and ultimately my performance. Feelings of intellectual phoniness and doubt over achievements have been common and would now be described by the literature as imposter syndrome (Clance and Imes, 1978; Bothello and Roulet, 2019). The presence of self-efficacy variance during my career has been mirrored by a perceived absence of effective professional development. Attendance on internal and nationally accredited courses have not served to meet gaps in my knowledge and skill due in my opinion to an inappropriate curriculum and ineffective delivery methods. It is the combination of these experiences that have driven my desire to explore levels of self-efficacy within the leaders of my organisation. My goal is that a

greater understanding of which elements of leadership carry varying levels of efficacy and why leaders feel that way will contribute to the design and delivery of more accurate and effective leadership development.

1.1.2 Researcher Positionality

Throughout the design and completion of this research I was conscious of the often-unconscious impact that my guiding principles, belief systems, motives and constraints may have had on my decisions about research topic, questions, methodology and methods (Vanson, 2014). As someone in the initial stages of their research career I have proactively committed to the self-reflection and reflexivity required to identify, construct, critique and articulate my positionality and continue to engage with it as an ongoing process (Holmes, 2020).

My ontological beliefs continue to develop as I move away from my undergraduate focus on sports science and the positivist measurement of biological systems and towards my current focus on the professional development of individuals and groups and a more interpretivist viewpoint. This increase in the study of individuals and social systems has uncovered a leaning towards interpretivism and the belief that perspective is everything and that ‘truth’ is relative (Husdon and Ozanne, 1988).

I find particular alignment with the interpretivist view that social phenomena and their meanings are being continually revised through social interaction (Bryman, 2001) and that an individual’s truth is theirs and only for that moment. Neuman’s, (2000) suggestion that these multiple realities also interact with other systems for meaning, which in turn, further increases the difficulty of their interpretation also aligns with my views. This variability has particular relevance to my role as a provider of professional development and support for the ever-evolving needs of teachers and leaders. Interpretivism’s avoidance of rigid

structural frameworks (Carson et al., 2001) or the need to generalise and predict cause and effect (Neuman, 2000) still challenge my early positivist beginnings.

The influence of these evolving ontological beliefs can be seen in the foundations for the design of this research. The research questions and subsequent methodological choices for this study highlight an appreciation for deductive approaches through quantitative data as well a desire to inductively find the deeper truth through using more qualitative data (Saunders, Lewis, & Thornhill, 2007).

My epistemological beliefs also continue to evolve but for this study align even more deeply with the interpretivist rejection of absolute facts and the focus on perception over objective truth (Vanson, 2014). Self-efficacy beliefs are deeply personal, evolve over time and develop through interaction with others and thus are misaligned with a positivist viewpoint of knowledge creation. My desire to focus on specific and concrete perceived knowledge within a specific context aligns with Carson et al (2001)'s description of an interpretivist epistemology. Elements of this study which again point back towards positivist thinking are the strong presence of an existing theory, my desire to improve utility through generalisability and the presence of a quantitative data collection element. (Carson, 2001).

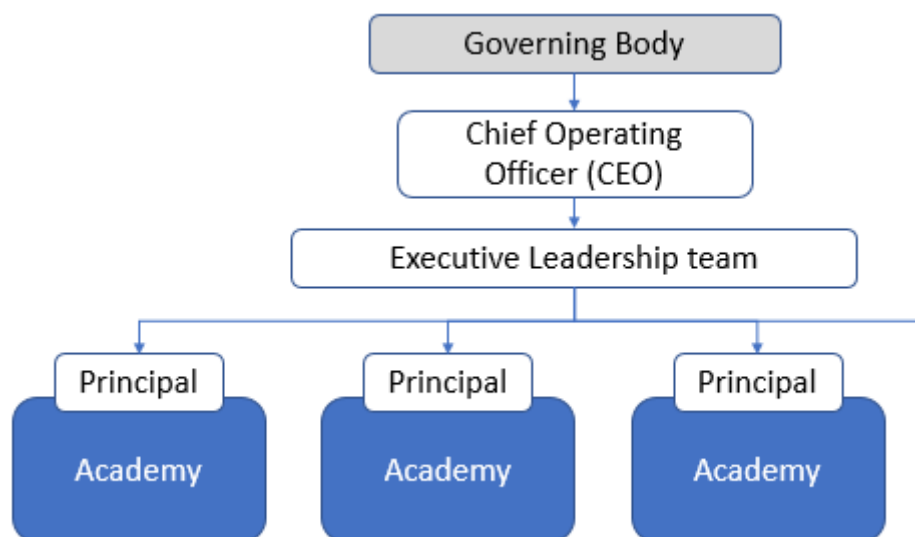
Other elements of my positionality relevant to this study were partially covered in the previous section highlighting the personal relevance of the research. My eighteen-year career as a teacher, leader and professional development provider within the organisation clearly defines me as an insider researcher. My own struggles with self-efficacy beliefs and ineffective leadership development need to be considered in the choice of research topic and the importance placed upon their impact. Despite my commitment to reflexivity around my positionality I am aware that this is still not a guarantee of more truthful,

honest, ethical, or good research (Delamont, 2018) and so the commitment must be ongoing.

1.1.3 The organisation under study is contextually relevant

The context within which this research took place presents a series of potential impacts and thus corresponding considerations. The research was completed within a federation of 20 academies, centrally employing over 1850 staff and serving 10,500 students. As a formal federation, all academies are contractually bound to its structures, processes and policies and it functions at the highest level as a single organisation. Overall leadership comes from a CEO, down through a central executive team and then down through the individual academy principals. All the schools hold academy status and are thus independent of local governmental control. Academy principals are line managed by a member of the executive team and expected to implement central processes within their academies. The figure below outlines the federal structure of the organisation.

Figure 1 - Structure of the case organisation



As the researcher I have been employed within the federation for 18 years, starting my career within it and subsequently holding middle and senior leadership roles within six of the 20 schools. For the past ten years, I have held a senior role within the central team

leading initial teacher training and am currently responsible for the professional development of teachers and leaders across the 20 schools. My length of service and previous roles within various schools within the organisation means I have a high level of familiarity with the staff and for many have been involved in their training and development as leaders. The main considerations raised by this context include self-report bias and data validity which emerge through a combination of insider researcher status and hierarchical power dynamics. At no point in the research is the organisation referenced by name but it is not possible to entirely promise anonymity due to the searchable links between myself and educational organisations. These concerns will be described in more detail within the following chapters.

1.2 Research problem

Effective leadership is pivotal to school improvement (Pont, 2008), but its complexity makes the development of it a challenging pursuit. My own personal experience of leadership development participation and programme delivery have highlighted the limited transfer of training that occurs between the learning environment and workplace. If schools are to fully benefit from leadership development and achieve successful training transfer, there must be improvements in the design and delivery of that training.

1.2.1 Improving the performance of leaders is key to school improvement.

Quality leadership is second only to the quality of teaching as a school-lever for improving educational outcomes (National College of School Leadership, 2006). Great leaders drive school improvement through their strategic, interpersonal, and operational capabilities. Student success is often linked to effective leadership (Leithwood, Louis, Anderson, and Wahlstrom, 2004; Pont, Nusche and Moorman, 2008) and some researchers have suggested that it is second only to classroom practice in terms of influence on learning and

achievement (Leithwood, Louis, Anderson, and Wahlstrom, 2004; Levin, 2008; Ponte, Nusche, and Moorman, 2008). Further work by Leithwood, (2006, p.5) concluded that 'there was not a single documented case of a school successfully turning around its pupil achievement trajectory in the absence of talented leadership. This was further supported by an analysis of Ofsted inspection results in England which highlighted that only 1% of schools with poor leadership were found to have good standards of pupil achievement (Barber et al. 2010).

McCormick (2001, p.28) describes leadership as a 'complex cognitive and behavioural task performed in a dynamic social context'. It requires persistent task-directed effort, effective task strategies, and the skill application of conceptual, technical, and interpersonal skills (House and Aditya, 1997; Yukl and Van Fleet, 1992). The challenge is raised further by requiring the effective leader to organise, direct and motivate the actions of others and to be a causal rather than reactive agent (Yukl and Van Fleet, 1992). Numerous approaches to educational leadership have emerged in the research e.g., Instructional, transformational, structural, and distributed each as either a critique, extension, or aggregation of previous theories. The complexity of educational leadership has increased due to the expansion of the role that ranges from visionary to change agent, instructor, curriculum and assessment expert, budget analyst, facility manager and, community builder (Davis, Darling-Hammond, Lapointe and Meryson, 2005; Acton, 2021). Butler (2008) supports this perception of increasing role complexity and questions whether leadership programmes are adequately preparing new principals to handle the ever-increasing responsibilities.

1.2.2 Improving leadership performance is difficult.

The growing body of literature about what effective educational leaders do far outweighs that concerned with how to develop leaders (Manzitto, 2016). Research that has been

completed has been critical of both the contents and structure of leadership development programmes (Tirozzi, 2000; Murphy and Vriesenga, 2004; Cambron-McCabe and McCarthy, 2005; Elmore, 2006; Hess and Kelly, 2007; Nelson et al., 2008;). Leadership development has a long history particularly within the military and gained real popularity during the 1970s. Since then the literature highlights a shift in focus from the development of self through concepts of leadership style to psychometric analysis and more recently into the field of authentic leadership. The difficulty of leadership development lies largely with the lack of consensus around definitions, effective practice, and delineation from other concepts such as management. Sociological perspectives of leadership add to the challenge by highlighting the contextual specificity of leadership across domains and between individuals and situations. Calls for further research into effective leadership development centre around a greater understanding of professional development needs, current development programme content and leaders' preferences of professional development activities (Daniels, 2019).

1.2.3 The ineffective design and delivery of leadership development leads to limited transfer of training.

A personal view acquired through the completion, facilitation, and quality assurance of leadership development programmes over the past seven years is that they vary in their ability to improve leadership performance. Research by Burke & Hutchins, (2007) showed that despite the acknowledged need for training and the provision of countless informal and formal interventions, studies still show variance in the application of learning gained through training. The research into the transfer of training suggests that the majority of training does not transfer into demonstrable improvements in work performance (Saks, Salas, and Lewis, 2014). Central to the research on the transfer of training is the positive impact of effective training design and delivery (Baldwin and Ford, 1988). Poor design can lead to incongruence between a delegate's role requirements or development needs and the

programme content, subsequently leading to reduced engagement and motivation due to a perceived lack of utility. Leaders are exposed to knowledge and skills that they don't need, and this negatively affects both their learning and improvements in performance. Poor delivery can fail to create the conditions for optimal learning and performance improvement. Programme activities may achieve improvements in knowledge but a lack of experiential elements, reflection, and feedback limit opportunities to develop understanding or put learning into practice.

1.2.4 Self-efficacy may be a useful measure of professional development needs.

If a key aim of professional development is to enable delegates to improve their workplace performance, then a key first step is to identify the areas in which they are currently underperforming. If this is a self-assessment, then often delegates will use levels of confidence as a proxy for perceived strengths and weaknesses. Identifying task-specific levels of confidence (self-efficacy) may be a useful method for identifying what content should form individual and group professional development initiatives. Another possible lever is the established knowledge on how self-efficacy is developed. The importance of experience, vicarious influence, and social persuasion are clearly highlighted in the self-efficacy literature and yet not guaranteed amongst leadership development programmes. Ineffective leadership professional development does not provide delegates with models of successful performance, opportunities for practice, or feedback on current performance. Understanding the what and why of leadership self-efficacy may be a key step in effective leadership development.

1.3 Purpose statement

The aim of the research was to explore educational leadership self-efficacy within a bounded case study to gain a greater understanding of the construct. The goal is that a greater understanding of how self-efficacy levels relate to different leadership capabilities

will lead to improvements in the design of development programmes and greater insight into how those perceptions were developed will lead to improved programme delivery and leadership support.

1.4 Significance

The findings of the research deepened the understanding of self-efficacy beliefs within the educational leaders of the bounded case. This information will primarily be used to influence the design and delivery of the organisation's leadership development programmes but may extend to leadership recruitment and support and also have findings beneficial to wider audiences. Although the inventory of leadership tasks used within the measurement tool is organisationally specific, there is a level of generality that may make the findings useful to leadership developers across the educational domain. The research will add value to the current literature by widening the focus of leadership self-efficacy to include different levels of leadership and expanding the methodological approach by incorporating a multi-methods approach. Personally, the research is significant as a greater insight into self-efficacy beliefs may contribute to improvements in my own performance as an educational leader.

1.5 Research questions

1. What are leaders' current perceptions of their levels of self-efficacy?
2. Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?
3. How have leaders' perceived levels of self-efficacy been developed?
4. What are the implications of the findings for leadership training and development?

1.6 Theoretical Framework

Within the search of key levers for leadership development lies confidence or more specifically self-efficacy. Self-efficacy is a key theory within the study of the self and describes an individual's perceived level of confidence in completing a task or goal (Bandura, 1977; Pajares, 1996; Paglis and Green, 2010; Petridou et al., 2017). Self-efficacy beliefs have a high degree of specificity which differentiates the construct from other similar items such as self-esteem or self-concept. Self-efficacy's importance as a construct is supported by the volume of research studies into it and the variety of domains across which its impact has been observed. Since its introduction in 1977 by Albert Bandura self-efficacy theory has been applied across a diverse body of empirical research and a wide array of performance domains. These include organisational functioning (Bandura, 1997), career choice (Hackett, 1995), pain tolerance (Lit, 1988), athletic performance (Feltz, 2008), academic achievement (Pajares, 1996), teacher performance (Skaalvik and Skaalvik, 2010) and of particular relevance to this research, leadership success (Hannah, 2008).

Efficacy beliefs are significant in the study of human functioning as they are believed to predict a person's thoughts, feelings, motivations, and actions (Bandura, 1986). Below are a set of self-efficacy related behaviours collated for this research from the literature.

Individuals with high levels of self-efficacy typically:

- Accept challenges
- Demonstrate intrinsic interest and deep engagement with activities
- Show resilience during difficult tasks
- Recover quickly from setbacks and disappointments
- Experience lower levels of stress

Individuals with low levels of self-efficacy typically:

- Have low aspirations
- Avoid challenging tasks
- Lessen their efforts during difficulties
- Demonstrate weak commitment to goals
- Focus on personal failings and negative outcomes

Efficacy beliefs are developed through the interplay between cognition, behaviour, and environment. Information for self-efficacy appraisal comes primarily from past experiences, vicarious experiences, verbal persuasion, and physiological / emotional states (Bandura, 1977; Maddux 1995). Efficacy beliefs are developed over time through childhood and into adulthood and yet in the present, they are intensely specific and dynamically changeable. When faced with a choice or new challenge individuals utilise a variety of efficacy information to calculate at their perceived level of competence which then directs their thoughts and behaviours.

Self-efficacy has emerged as a priority for those engaged in professional development because of a number of its core attributes and specifically its classification within the literature as a developable attribute. Longitudinal studies and those centred around short-term interventions highlight its malleability and appropriateness for professional development initiatives. Luthans et al. (2015) include self-efficacy within their Psychological Capital (PsyCap) construct of which the entry requirements are that items can be measured, developed, and effectively managed for performance improvement in today's workplace. Luthans et al., conceptualise the malleability of various psychological characteristics and resources on a trait-state continuum. Pure states like emotions are at one end where they are deemed momentary with state-like items next which have increased stability but remain developable. Moving down the continuum trait-like characteristics

such as personality and character strength are relatively fixed and lose their malleability during adulthood. The continuum is completed by elements such as intelligence and heritable physical characteristics.

Literature directly linking levels of self-efficacy with leadership performance is rare but if we view the word confidence as a related, albeit more colloquial term then the research opens up. McCormick, (2001) in his research highlighted one of the most reported findings in the literature on effective leadership to be the relationship between levels of self-confidence and successful leadership. Major reviews of leadership literature cite self-confidence as an essential element of effective leadership (Bass, 1990; Yukl and Van Fleet, 1992; House and Aditya, 1997; Northouse, 2001) and Locke, (1991) suggests that the idea that self-confidence is a necessary trait for successful leadership is undisputed. Maurer, (2001) found that effective leaders share many of the characteristics of efficacious people in that they are motivated, persistent, goal-directed, and resilient. The discrete leadership self-efficacy research also highlights its importance in effective leadership and power to improve performance. Hannah et al. (2008) found that positive psychological states such as efficacy directly promote effective leader engagement, flexibility, and adaptability. Lord and Brown, (2004) suggested that higher levels of leadership self-efficacy provide the internal guidance, drive and agency required to pursue challenging opportunities and persist with difficult tasks.

Despite its growing prominence within leadership and professional development literature, self-efficacy research in educational leadership settings is still in its infancy. The specificity of the construct and the dynamism of educational settings mean that there is limited cross over value from non-educational studies. In their review of Leadership efficacy literature, Hannah et al. (2008) were critical of the limited domain coverage of studies and highlighted a need to explore additional contexts. Studies within the field are

dominated by a focus on principal level leadership and isolated to secondary and higher education settings. This limited perspective fails to acknowledge the current trend for distributed leadership within schools and the importance of not only different phases of education but also the role that leaders within central teams such as human resources and finance play in the provision of effective education. The result is a limited view of the structure of self-efficacy beliefs within educational leadership, a subsequent lack of assessment of leadership self-efficacy and, thus the potential for poorly designed and delivered leadership development and support initiatives.

1.7 Assumptions

During the research, several assumptions have been made.

- Participants clearly understood the expectations of each of the leadership capabilities prior to assessing their associated level of self-efficacy.
- The participants' answers in both the questionnaire and interview elements were candid and complete.

Chapter Summary

This chapter has served to introduce the research study by first highlighting the strong personal significance that it has and how its context adds both relevance and challenges. In addition to personal relevance, my own positionality as a researcher was explored highlighting an emerging shift away from a positivist viewpoint and towards interpretivism. Specific references to the possible impact of these beliefs as well as the impact of my position as an insider researcher with senior leadership status within the organisation were also included.

The chapter strengthened the rationale for the research by introducing the research problem and highlighting the important role that leadership development plays in school

improvement and the complexity of improving it. Additional support was added through the acknowledgement that training is not guaranteed to transfer into the workplace and that the effective design and delivery of training are crucial factors in this success.

After highlighting the significance of the research to leadership development designers both within the case organisation and possibly more widely across the sector, the chapter then outlined four research questions. A combination of what, why and how questions were set out as guides to explore leadership self-efficacy beliefs and their implications for leadership training and development.

The chapter then introduced self-efficacy as the theoretical framework, outlining its importance to human functioning, its application across domains and its potential for improving the design and delivery of professional development. The chapter concluded by highlighting the lack of literature in educational leadership self-efficacy below the level of school principal and qualitative approaches to self-efficacy measurement, both which this research serves to address.

Chapter 2. Literature Review

The following chapter constitutes a review of the literature surrounding the core foci of this research, educational leadership, and the core theoretical framework: self-efficacy.

The review initially explores the importance of leadership in organisational functioning and school improvement thus supporting the rationale of the research. The next section explores what constitutes effective leadership with the aim of informing the design of the research's measurement tool and Research Questions #1&2. The chapter then provides a review of the literature on leadership development to highlight challenges and agreed practices within its design and delivery and support Research Questions #3&4.

The literature review then shifts focus to self-efficacy, beginning with its importance and impact on human functioning. The review then explores how self-efficacy beliefs are developed and managed, adding more insight into the effective design and delivery of professional development and Research Questions #3&4. The literature review then explores self-efficacy at increasing depth and relevance to this research highlighting gaps and opportunities for original contribution. The literature on self-efficacy measurement which informed the design of the measurement tools is reviewed in the methodology and methods chapters.

2.1 Leadership Literature

Understanding the literature on leadership was key to supporting the importance and rationale for this research.

2.1.1 The study of leadership

Many organisations view leadership as a source of competitive advantage and the past eighty years have seen a concerted attempt to explain the concept and practice, which in

turn has generated a complex web of theories, frameworks, skill sets, and dispositions. Leadership has been called a seminal applied skill for the 21st century and important for every member of the workforce to develop (The Conference Board, 2006).

Reviews of leadership literature often highlight the key debate of whether leadership is a psychological or sociological construct and these two categories emerge as streams of research study. Studies focused on the psychological perspective are often associated with the dominant or mainstream paradigm and focus primarily on individuals and their internal dynamics (Collinson, 2012). They address questions such as ‘what makes an effective leader?’ and attempt to create taxonomies and models with which generalisations can be made. Methodologically these studies tend to utilise quantitative approaches and large-scale data collection techniques. In contrast, sociological focused studies embrace the idea that leadership is subjective, socially, and discursively constructed and dynamic (Edwards et al., 2013). They address questions such as ‘how do leaders, followers- and other social actors interact?’ and attempt to explore the significance of context and dynamism. These studies typically take a qualitative approach to methodology and do not seek generalisability. One area of leadership research which engages with both psychology and sociology is the social identity theory of leadership. Hogg (2001) describes it as the view that leadership is a group process generated by social categorisation and the adoption of cognitive and behavioural norms associated with those categories. The theory builds on the work of Tajfel (1972) who introduced the idea of social identity to explore how people conceptualise themselves within groups. Leaders may emerge or be selected because of levels of prototypicality with the group's perceptions of leadership. Perceptions of leadership credibility may be based on the perceived levels of congruence with the agreed characteristic norms of effective leadership.

Adding to the complexity of leadership development has been the emergence of a wide range of different sub-domains with increasing levels of specificity. Sub-domains that have gained interest within educational leadership research include servant leadership where the primary motivation is to help others; situational leadership where the skill is in modifying responses to match situational and contextual factors and transactional leadership which focuses on supervision, organisation, and performance (Bass, 1985). Instructional and transformational models of leadership are additional sub-domains and have been deemed to be the most important contributors to educational leadership success and improved student outcomes (Klump and Barton, 2007). These two models are also the ones that have received the most attention within studies of the effect of leadership on student achievement and school effectiveness (Hallinger and Heck, 1996).

Instructional leadership is a term born out of research associated with the effective school movement of the 1980s which highlighted the importance of the role of the school principal. Hallinger and Murphy (1985) proposed a conceptual model that included three dimensions: defining the school mission; managing the instructional programme and promoting a positive a school's learning culture. Over time additional dimensions have been highlighted including the development of a supportive work environment (Murphy, 1988), staff development, resource acquisition and allocation (Duke, 1982), and effective communication (Andrews, Basom, and Basom (1991). Instructional leadership was identified as an attractive attribute of an educational leader by Leithwood, Louis, Anderson and Wahlstrom, (2004) and praised for its clearly defined and focused leadership expectations unlike the broad remit of transformational leaders. Studies of effective instructional leadership in schools showed that those leaders reserved time for classroom observations (Klump and Barton, 2007), focused more on student's work than teacher's behaviour and closely monitored classroom instruction and curriculum design.

Instructional leadership has been criticised for focusing too much on the individual role of the school principal and researchers have moved towards sub-domains like transformational leadership which embraces the role of the wider school community.

Transformational leadership can be observed most clearly when leaders inspire their followers to modify their expectations, perceptions, motivations, and behaviours towards a common goal. This mutual stimulation and elevation contrasts with the focus on authority, reward and punishment that can be seen in transactional leadership (Marzano, Waters and McNulty, 2005). Bass and Avolio, (1993) identified four components of transformational leadership; Idealised influence (being a role model), Inspirational motivation (Motivating others), Individualised consideration (concern for others), and intellectual stimulation (challenging others). It is the respective levels of these components that enable transformational leaders to inspire, empower and stimulate followers to exceed normal levels of performance. Transformational leaders in education realise that they cannot be successful without the talents of the teachers, leaders, and office personnel whom they lead. Judge and Bono (2002) identified five personality traits that facilitate transformational leadership behaviours, extroversion; a lack of neuroticism; openness; agreeableness, and conscientiousness. The emergence of these different conceptualisations of leadership highlights the complexity of the domain and is problematic for leadership development designers. This complexity and need for congruence between leadership context, assessment tools and programme design played a key role in the design of this research.

2.1.2 Leadership is contextually variable.

Research into the question of whether effective leadership enhances school performance is firmly answered in the affirmative and we have increasing confidence that school leaders do make a difference to outcomes (Wallace and Poulson, 2006). What constitutes an

effective school leader is more contentious and has been problematised multiple times alongside each new era of education reform (Farkas, et al., 2001; Marzano et al., 2003; Darling-Hammond et al., 2007).

The literature does however make the point that this influence is indirect as it is through leader's impact on school and classroom process where they add their value. This point links back to the suggestion that transformational leadership (inspiration of others) is one of the most prevalent leadership styles within schools. Wallace and Poulson, (2006) paint the picture of an effective leader being someone who works with and through staff to create a culture of improvement.

Improving leadership performance is a common lever for school improvement and RAND (2009) found that 60% of a school's impact on student achievement was attributable to leaders. An analysis of Ofsted inspection results in England highlighted that only 1% of schools with poor leadership were found to have good standards of pupil achievement (Barber et al. 2010). Leithwood's work in 2006 concluded that 'there was not a single documented case of a school successfully turning around its pupil achievement trajectory in the absence of talented leadership. Oagwa and Hart's (1985) research also adds to this through their findings that 8% of the variance in student performance can be attributed to the school principal.

Studies into the specific impact of effective leadership in schools have found links between the positive impact of leadership on staff motivation and commitment (Leithwood, 2006); the creation of safe and orderly environments (Cotton, 2003); positive staff culture (Morris et al., 2020); increased stakeholder involvement (Rea et al., 2002); higher expectations of student performance (Teddle and Reynolds, 2000); and the quality of professional development provision (Deal and Peterson, 1999). The literature also however highlights

agreement around the indirect nature of leadership effects and the difficulty of their measurement (Hallinger and Heck, 1996; Leithwood and Jantzi, 2000). Criticism has also been aimed at the lack of research into the area and the poor quality of completed studies (Murphy, 1988).

One element of originality in this research is the exploration of self-efficacy across varying levels of educational leadership as opposed to the typical focus on the principal. The development of distributed leadership in schools and acknowledgement of its effectiveness by researchers and Government agencies (Harris, 2004; Hoyle and Wallace, 2005; Gronn, 2006) add values to its exploration. In his article titled ‘the seven strong claims about successful school leadership’ (Leithwood et al., 2006) goes as far as to suggest that school leadership has a greater impact when it is widely distributed. Despite principals occupying a significant position within schools, Wallace, and Poulson, (2006) state that it would be foolish to think that school leadership comes only from the principal and call for a need to investigate educational leadership more broadly.

One element still missing from the reviewed literature on effective leadership is the acknowledgment that different levels of leadership may require different attributes. In pursuit of increased generalisability, it seems that lists of characteristics and capabilities have not attempted to address the differentiation between levels of leadership or embraced the contextuality inherent to effective practice. There is evidence of studies that have started to differentiate by focusing on principal level leadership with the view that this is where responsibility and thus impact are at their highest. It is when we move away from principal level that we find a noticeable reduction in the volume of literature regarding effective practice. This highlights the prevailing perspective of ‘great man’ school leadership that has driven most early research (Murphy, 2000) but has positively led to an

emerging body of research interested in ‘distributed leadership’ as a powerful engine for change (Harris, 2003).

Senior leaders within schools typically hold positions as deputy headteachers, assistant headteachers, special needs coordinators or other roles that have whole school responsibilities. These roles are however evolving alongside the changing landscape of education. Increased levels of cooperation between schools has led to headteachers accepting responsibilities beyond their schools and so in turn has increased the importance of senior leadership roles as they assume more responsibility. Senior leaders are expected to make a major contribution to the strategy of the school, its internal quality assurance process, and its external partnerships. An exact definition of the role is elusive and possibly unachievable due to the variety of contexts found in different schools. Research by Price Waterhouse Cooper (2007) suggested that there was no generic function of a senior leader yet common tasks included curriculum planning, timetabling, staff liaison, deputisation and day to day management.

One role which is common amongst the literature in terms of its importance is the professional development of others. Sustainable leadership in schools relies on regular renewal and the preparation of the next generation (Hill, 2006). Senior leaders place more influence in the hands of the experts and through this develop additional leadership capacity (Elmore, 2006). Additional literature highlights the need for senior leaders to protect their well-being (Heifetz and Linsky, 2002) and to receive support in developing coping strategies to deal with the strains and pressures. (Cooper and Kelly 1993; Southworth 1995).

In their report on effective middle leadership (Baars et al., 2016) highlight that middle leaders are often described as ‘the engine room’ of the school and it is at this level where

we find the bulk of additional literature on effective educational leadership. Middle leaders in schools are typically those who are required to lead subjects, key phases, pastoral care and have specific localised responsibilities (National College of Teaching and Leadership, 2013). The specific challenges of leadership at this level include being caught between hierarchical expectations, balancing contributions, implementation of policy, splitting resources between administration and teaching (NCSL, 2003), and maintaining loyalty to both school and department (Bennet et al., 2007).

A review of remarks on leadership within Ofsted school inspection reports (Cladingbowl, 2011) highlighted five common features of effective middle leadership. Effective middle leaders accurately evaluated group needs, had a clear, ambitious, and well-communicated vision, were knowledgeable about their field, encouraged exploration and innovation and confidently led through collegiality. A 2016 study by Baars et al. found that effective middle leadership practice fell into the three broad categories of team and interpersonal, organisational planning and resources and information and innovation. Within these groups, they identified communication, diplomacy, consultation, collaboration, team development, systems and procedures, innovation, resourcing, and professional knowledge are key features.

2.2 Effective Leadership

Understanding what constitutes effective leadership was key to the design of the measurement tool and Research Questions #1&2.

A review of the general leadership literature is out of the scope of this research and the contextual specificity required for accurate self-efficacy measurement also limits its relevance. A focus on effective leadership within education was deemed to be a more relevant and achievable pursuit.

2.2.1 Educational leadership Literature

In the pursuit of a more contextual view of effective leadership, a basic discourse analysis was completed on a selection of governmental frameworks aimed at educational leaders. The selection included those from within the United Kingdom due to the location of this research and extended beyond England to enable comparison. The selection was made on the basis of availability and included the English National Standards for Headteachers (DfE, 2015); Scottish standards for Headship (GTC, 2006); Welsh Professional standards for teaching and leadership (HWB, 2019) and the Irish Professional Learning Continuum for School Leadership (CSL, 2015). The analysis was completed using NVivo, a qualitative data analysis package produced by QSR international designed for textual analysis. The table below contains the output of that analysis highlighting the common characteristics of effective educational leadership contained within those frameworks.

Table 1 - Common characteristics of educational leadership frameworks

<ul style="list-style-type: none">• Setting vision• Role modelling behaviour• Acquiring and sharing knowledge• Communicating clearly• Identifying talent• Ensuring accountability• Maintaining Organisational processes• Providing professional development• Building Partnerships• Developing Culture	<ul style="list-style-type: none">• Overseeing recruitment• Maintaining Relationships• Managing resources (Finance, buildings)• Delegating effectively• Monitoring / Evaluating• Ensuring legal compliance• Managing change• Managing performance• Driving innovation
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The common elements listed above that emerged through the governmental leadership frameworks reflect an emphasis on effective leadership involving other people. There is a focus on relationships, partnerships, modelling and managing performance. Other common elements include the creation of vision and culture a task that may have its genesis as an individual mental construct but quickly requires people for enactment and maintenance. The governmental frameworks did provide an overview of what constitutes effective

educational leadership but also raised some concerns which make them unsuitable for use within the measurement tool for this research. Investigating the evidence base behind the frameworks or testing their congruence with leadership role requirements was again out of scope and so questions around the validity of the elements still exists. The frameworks also fail to sufficiently describe the variance if there is any in leadership capabilities across different levels. O’Neil and Glasson, (2019) acknowledge the overwhelming focus on principal-level leadership within the literature which may defended by the impact of principals on school improvement, a view that seemingly conflicts with the adoption of distributed leadership. A key element of this research is the exploration of self-efficacy across middle, senior, and principal level leadership and thus strengthens its claims to original contribution.

2.2.2 Role Specific Educational Leadership Development

To address the concerns around the limited leadership level coverage found in the previously reviewed sources, my focus switched to the assessment criteria of England’s National Professional Qualifications for Leadership (NPQ). The NPQ courses form the standardised provision for school leaders within the UK and focus specifically on isolated levels of leadership. Hierarchically organised courses start with the NPQML (National Professional Qualification for Middle leadership) and progress up through the NPQSL (Senior leadership), NPQH (Headship) and NPQEL (Executive Leadership). Each course is structured around the same core modules (strategy and improvement, teaching, and curriculum excellence, leading with impact, working in partnership, managing resources and risks, and increasing capability). Assessment criteria for each module are then focused on specific leadership tasks within each of those modules.

The common leadership characteristics identified above highlight a continuing focus on a leader’s impact on others and the important role that followers play in effective leadership.

There is also the acknowledgement that effective leadership requires a combination of hard and soft skills, a view shared by Truong, (2020). Items such as change management, relationship, and partnership building, providing professional development and managing resources continue to be prominent. An increased focus on the leaders themselves appeared through the inclusion of items such as adapting leadership and communication style and drive own development. Absent from the NPQ assessment criteria are however items such as setting vision and role modelling, items that have been prevalent in all other literature sources. My own critical view of the above criteria as a practicing educational leader and previous NPQSL delegate is around the frequency at which the above capabilities are required. Descriptions of effective leadership must accurately reflect the role and the requirements if they are to be accurate and of use.

Revised NPQ Qualifications

During the final editing of this research it was announced that in September 2021 a new set of National Professional Qualifications for Educational Leadership will be launched. Initial details show that courses for senior leaders, headteachers and executive leaders will continue to be provided but changes will be made at the middle leadership level. Courses at this level will now be more role-specific and cater for specific foci such as leading behaviour and culture, leading teaching, and leading teacher development. These changes could be seen to support the increased specificity of training requested by this literature review.

2.2.3 Localised Agreement – Case Organisation

Despite the increased granularity provided by the level-specific descriptions of effective practice offered by the NPQ qualifications, the literature in my view still does not go far enough to address the extreme contextuality that affects leadership in specific schools. This lack of specificity is core to this research's argument that the impact of leadership

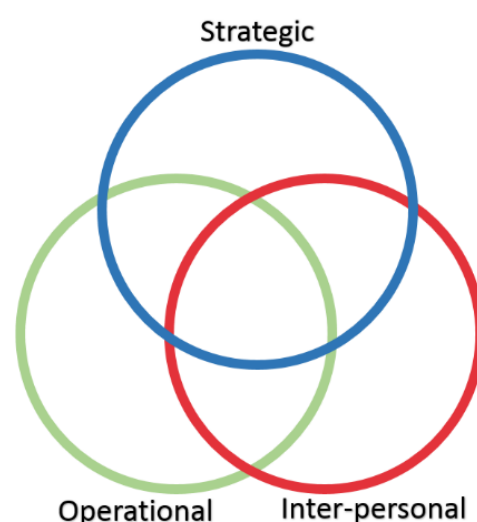
development is sub-maximal due to the incongruence between the content of professional development programmes and the realities of participant's leadership roles. A potential source of information that may reach this enhanced specificity and contextual alignment is the leadership frameworks of individual schools or organisations.

The organisation used within the research has a leadership framework adapted from the work of David Pendleton and his primary colours model of leadership (Pendleton and Furnham, 2012). Pendleton's model is predicated on the notion that leadership can be best understood through the use of broad domains. This view aligns with the literature where categorisation and grouping of capabilities are common. Pendleton specifically references Hogan and Warrenfletz (2003) who identified Intra-personal, inter-personal, business and leadership as their key domains and Ancona (2007) who suggested four capabilities (Sense-making, relating, visioning, and inventing). Although not specifically used by Pendleton in his description of the model, this research uses the terms Macro, Meso and Micro to describe the increasingly granular layers of the model. Figures 2,3 and 4 describe these layers.

Figure 2 - The macro structure of the case organisation's leadership framework

Macro structure

The primary colours model uses strategic, interpersonal, and operational as its macro structure and equates the strategic domain to being like the head which makes sense of what is going on, interpersonal as the heart where feelings lie, and operational as the hands and legs which get things done. This core categorisation is similar to



the Future-Engage-Deliver construct suggested by Radcliffe (2012) where he posits that

leading always starts in the future and requires engagement from others to then deliver and make things happen.

Figure 3 - The meso structure of the case organisation's leadership framework

Meso Structure

The primary colours model adds an additional layer of complexity and depth by introducing six sub-domains of which three make up the core tasks in each circle and the others work interdependently across circles of influence. The model then completes the Venn diagram by adding the 'leading' domain to the centre.



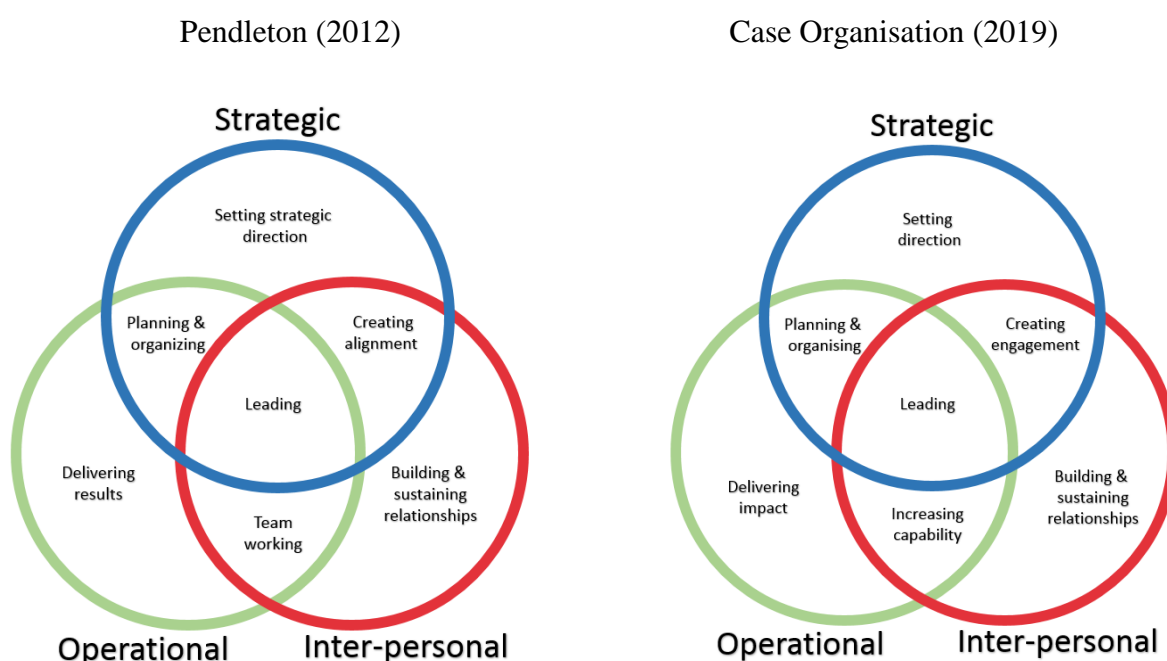
Setting strategic direction involves the

definition of purpose and identification of the activities that will enable that goal to become reality. It requires accurate contextual analysis combined with inductive or deductive reasoning to highlight organisational issues. ***Creating alignment*** involves securing understanding and commitment to the organisation's vision from staff and ensuring complementarity with existing systems and processes. Influence and persuasion within and between teams are key in this process. ***Building and sustaining relationships*** involves the creation and maintenance of trust, credibility, and goodwill between all stakeholders. It is a dynamic and continuous process that left untended quickly erodes. ***Team working*** involves working well but also getting things done within hierarchical groups of superiors, subordinates, and peers. At a senior level, this involves the creation, organisation, and management of team units. ***Delivering results*** involves meeting goals by overcoming opposition and injecting pace and urgency into performance. This area holds a hard edge of insistence and assertion to succeed. ***Planning and organising*** involve the introduction of

structures, plans and processes to maintain focus on priorities and goals. Review processes are key to balancing the integrity of plans with flexibility in the face of potential treats. Leading sits at the centre of the primary colours model and contains what Pendleton describes as ‘enablers’ of leadership (Pendleton and Farnham, 2012). These enablers create the conditions for all individuals and teams within the organisation to succeed and are described as inspiring, focusing, enabling, reinforcing, and learning.

Accepting Pendleton’s model into the organisation was not a passive process and to develop a sense of organisational contextuality and stakeholder engagement the model was exposed to staff groups where feedback was collected on relevance, accuracy, and semantic suitability. The model remained largely intact with changes made to the meso structure due to organisational preferences and the inclusion of already established language. Care was taken not to lose the model’s structural integrity during these changes and alignment between semantic phrasing remained high. The decision was also made to not reference the ‘enablers’ described by Pendleton in the ‘leading’ centre to reduce complexity. Figure 4 below highlights the changes made to the original model.

Figure 4 - Case leadership framework Vs Pendleton's original framework



Micro structure

One element missing from the Primary Colours model which seemed important to its operational use within the organisation was the presence of a micro-structure where specific leadership capabilities were outlined. The organisation's leadership model is used as the basis for the curriculum of professional development courses, the structure of support resources and the criteria against which leaders assess themselves and others. It was therefore deemed important to have a contextually specific list of tasks or capabilities through which this could be achieved.

The process through which these were selected is not an element of this research and was completed prior to its inception and not led by me. Intelligence collected from individuals involved in the process highlighted the creation process in more detail. The range of capabilities was chosen iteratively from a range of sources including the assessment criteria for the UK National Professional Qualifications for Leadership (NPQ), previous organisational leadership frameworks and the lived experiences of the organisation's current leaders. The initially large set of tasks were systematically reduced and categorised using Pendleton's Meso level criteria. The final list can be seen in table 2 on the following page.

Table 2 - Micro structure of Case Organisation's Leadership framework

Setting Direction
Use contextual information to inform decisions
Seek out and utilise research and best practice to inform decisions
Collect, manage, and analyse data to inform decisions
Accurately define vision, values, and strategy
Purposefully develop and maintain the desired culture
Planning and Organising
Manage time and tasks effectively
Manage resources and risk effectively
Manage financial matters effectively
Effectively deploy change management tools and techniques
Monitor, evaluate and adapt plans
Creating Engagement
Seek out and utilise stakeholder voice to inform decisions
Clearly articulate vision and ensure stakeholder understanding
Role model desired attitudes, behaviours, and practices
Remove barriers to success
Keep stakeholders appropriately informed
Building and Sustaining Relationships
Seek out, understand, and respond to stakeholder needs
Actively build trust between yourself and others
Recognise and reward performance
Adapt or tailor Leadership and communication styles to suit needs
Anticipate and manage conflict
Increasing Capability
Identify, understand, and respond to professional development needs
Administer effective performance management processes
Proactively build and contribute to external partnerships
Delegate tasks and devolve responsibilities as appropriate
Review own practice, set personal targets, and engage in deliberate practice
Delivering Impact
Monitor performance and ensure accountability
Challenge underperformance
Effectively plan and lead meetings
Maintain high levels of visibility and interaction
Make calculated decisions

The framework documented here constitutes this organisation's conceptualisation of effective leadership and was important to the design of the research's self-efficacy assessment tool. Organisational leadership inventories should be treated with caution however as they may not accurately represent effective leadership due to there being no guarantee that their authors utilised established leadership literature or contextual factors during their design.

2.3 Leadership Development

Understanding the literature on leadership development was key to addressing Research Questions #3&4.

2.3.1 The design and delivery of leadership development

The previous section highlighted the importance of effective leadership both generally and within educational settings and the challenges that its complexity produces. Developing leaders is a key pursuit of those wishing to leverage its benefits and the following section reviews the literature on leadership development from its history to characteristics of effective practice.

Leadership development has been defined as expanding the collective capacity of organisational members to engage effectively in leadership roles and processes (McCauley, 2000). Numerous studies centre leader development around the growth of human capital through the development of intrapersonal competence and skills such as self-awareness, self-regulation, and self-motivation (Manz and Sims, 1989; Neck and Manz, 1996; Stewart et al., 1996; McCauley, 2000; Reichard and Johnson, 2011).

Leadership development programmes have a long history within the military (Adair, 2005) and during the mid-1970s gained popularity within other organisations (Edwards et al., 2002; Van Velsor et al., 2010). Early leadership development focused on ideals of self-awareness, self-control, and self-realisation in conjunction with experiential methodologies (Kolb, 1984; Mainemelis et al., 2002). During the 1990s concepts such as transformational and transactional leadership gained popularity (Bass, 1985; Edwards and Gill, 2012) as did the use of psychometric behaviour analysis (Bass and Avolio, 1995). More recently the focus has shifted towards authentic leadership (Cooper et al., 2005) where participants are encouraged to reflect on and develop ethical awareness alongside leadership skills.

Another recent shift in the research has been an increased focus on the particular leadership skills that can and should be acquired through the development process (Lord and Hall, 2005; Kim, 2020)

The design of leadership development initiatives is as varied and sensitive to change as pedagogical approaches used with students in education. The continuing evolution and redesign of leadership development programmes is partly due to increasing levels of complexity within the field and dissatisfaction with the current programme offers. At its core, the complexity stems from the contextual and temporal nature of leadership which changes between groups and individuals (Osborn, Hunt, and Jauch, 2002; Porter and McLaughlin, 2006) and its need to evolve over the course of a career and lifetime (Kegan, 1994; Lord and Hall, 2005; Kegan and Lahey, 2010; Day, 2012). The organisational landscape has added further complexity through globalisation, technological revolution, strategic discontinuity, and general unpredictability (Martin, 2007; Uhl-Bien, Marion, and McKelvey, 2007; Drath et al., 2008)

Within the literature, there has been some correlation between studies around the most common levers for the development of leadership. Studies by Bently and Turnball, 2005; McCall, 2010 and Gill, 2011 found the following to be important factors

- Early leadership experience
- Learning from others
- Mentoring and coaching
- Professional qualifications
- Hardship

Central to this research is the alignment between these items and Bandura's sources of self-efficacy development (Mastery experiences, Vicarious experiences, Social persuasion,

Physiological and emotional states). This apparent alignment may add weight to the notion that self-efficacy is an interesting lens through which to view leadership development.

2.3.2 Effective Leadership Development

Less prevalent in the leadership development literature is reference to the specific topics, knowledge and skills incorporated into each programme or initiative. This is not a surprise due to the aforementioned complexity and contextuality of effective leadership or the lack of consensus between researchers on what constitutes effective leadership practice. The danger this presents then is the possibility for extreme variance between development experiences and a resulting variance in the quality of leadership development. Participants of the training are left to hope that programme designers have both the core understanding of leadership theory and the contextual expertise to ensure programmes have the optimal content validity. The pursuit of effectively designed leadership development is the core driving factor for the genesis of this research.

Literature addressing the effectiveness of general leadership development has been limited and Hannum and Craig (2010) and Edwards and Turnbull (2013) highlight the paucity of scholarly literature in their reviews. The literature again highlights the complexity of leadership because of its contextuality and the variance between development approaches. This contextualised environment creates difficulties in gaining comparison groups, environmental instability, and contamination of performance criteria over time (Hannum and Craig, 2010). Where effective leadership development is evident, the literature suggests that integrated frameworks are most effective (The Conference Board, 2006; Day and Harrison, 2007; Pearce, 2007). Within an integrated system, the overall approach is synergistic with development opportunities seamlessly adding value to each other. Programmes must connect with the organisation's environmental challenges, balance global and local needs, ensure that there is a culture fit and apply a blended methodology

(Weis and Molinaro 2006). Participant selection is another key lever for effective leadership development and pertains to both delegates and providers. Groves (2007) encourages a flexible and fluid delegate identification process that avoids their apparent selection and maintains a diverse pool of potential. Groves (2007) also promotes the creation of a supportive and sustainable developmental environment by involving managers in all aspects of the programme, especially mentoring.

2.3.3 Ineffective leadership development

Negative opinion or discourse surrounding leadership development within the literature centres around several core themes. One area of criticality is the view that participants typically have a largely cognitive experience and that programmes lack experimentation and dedicated practice. This is echoed in the literature through the desire for a renewed focus on experiential learning (Waldman et al., 2006; Stead and Elliott, 2009). The lack of reverence given to context and situational learning by some development programmes is also an area of concern in the literature. There is a suggestion that operational context plays a critical role in the effectiveness of leadership development and a view that participants should be learning from their work, not be taken away from their work to learn (Moxley and O'Connor Wilson, 1998). Allio (2005) was critical of the superficiality within programmes where participants acquire a vocabulary that implies leadership literacy which allows them to act with more authority but there is limited demonstrable improvement in their leadership ability. He concludes his critique by highlighting that true leadership is more than just sleek packaging and that leadership is not a craft that can be taught but must be learnt through organisational experience.

2.3.4 Educational Leadership development

The following section draws the literature closer to this research by reviewing the current thinking on leadership development within educational settings. Leadership education has

become the educational reform strategy of the twenty-first century (Orr, 2007). A key focus of the literature has been the proposed connection between the effectiveness of the school principal and the quality of their training and development. (Cunningham and Sherman, 2008; Orr, et al., 2010; Anast-May, Buckner, and Geer, 2011). This has been further fuelled by the suggestion that the academic struggles of schools are connected to poor leadership preparation (Hoachlander, Alt, and Beltranena, 2001; Levine, 2005; Green, 2010) and complicated by another often overwhelming range of roles that the training must prepare leaders for (Darling-Hammond, Meyerson, LaPointe, and Orr, 2009). Koch (2017) highlights the need for both pre-service development and the often more powerful in-service, job embedded training.

The importance and complexity of educational leadership are not in question but what still divides researchers is what knowledge and skills are required to lead staff and schools. (Fry, O'Neil, and Bottoms, 2006; Darling-Hammond, Lapointe, Meyerson and Orr, 2007; Oprhanos and Orr, 2014). Also emerging is the desire to create deliberately designed programmes that actively and effectively develop the knowledge, understanding and skills to deal with the complexities of educational leadership (Bush, 2009, 2012).

A review of the content in leadership development programmes in nine countries by Bush (2012) highlighted the following common themes: (a) instructional leadership, (b) law, (c) finance, (d) managing people, and (e) administration. Similar themes were identified by Moorosi and Bush (2011) in their study of programmes in ten commonwealth countries: (a) leadership for learning, (b) team leadership, (c) managing people, (d) financial management, and (e) educational policy. Activities involved in the delivery of educational leadership training typically align with those of general leadership training with mentoring, coaching, direct instruction, and reflection used in varying amounts and with varying success.

2.3.5 Effective Educational Leadership development

Combining the agreed importance of leadership development with the lack of time that is associated with an increasingly complex role is the need to find the most efficient and effective forms of development. Much like the wider leadership literature, a common theme of effective practice is the presence of practical, school-based experience (The Conference Board, 2006; Fry et al., 2006; Orr and Barber, 2007; Stevenson, Cooner, and Fritz, 2008; Thessin and Clayton, 2013). Studies comparing principal preparation between different countries found a congruence within the perceived importance of experience, mentorship, motivation, and collaborative study environments (Gurr et al., 2011; Ylimaki and Jacobson, 2011). Research particularly linked to this research include Tschannen-Moran and Gareis (2007) and Versland (2016) who asserted that principal training programmes should contain experiences designed to build delegate's sense of self-efficacy alongside the development of skills and knowledge.

In line with the literature on effective leadership, there is an apparent lack of literature focused on the effective development of leadership below principal level. Within the emerging literature there are indications of what constitutes effective leadership at lower levels but no apparent studies that explore the distinctions between development needs. Muijs and Harris (2007) found that mentoring and coaching play a significant role in helping middle leaders gain confidence and knowledge. A study into senior leadership development by Cliffe, Fuller and Moorosi (20018) found networking, coaching, mentoring, peer support and formal qualifications to be sources of effective leadership development described by leaders.

2.3.6 Ineffective Educational Leadership development

Despite the wide range of activities and approaches used within training and development, there has been a common perception that programmes have been ineffective in their goal

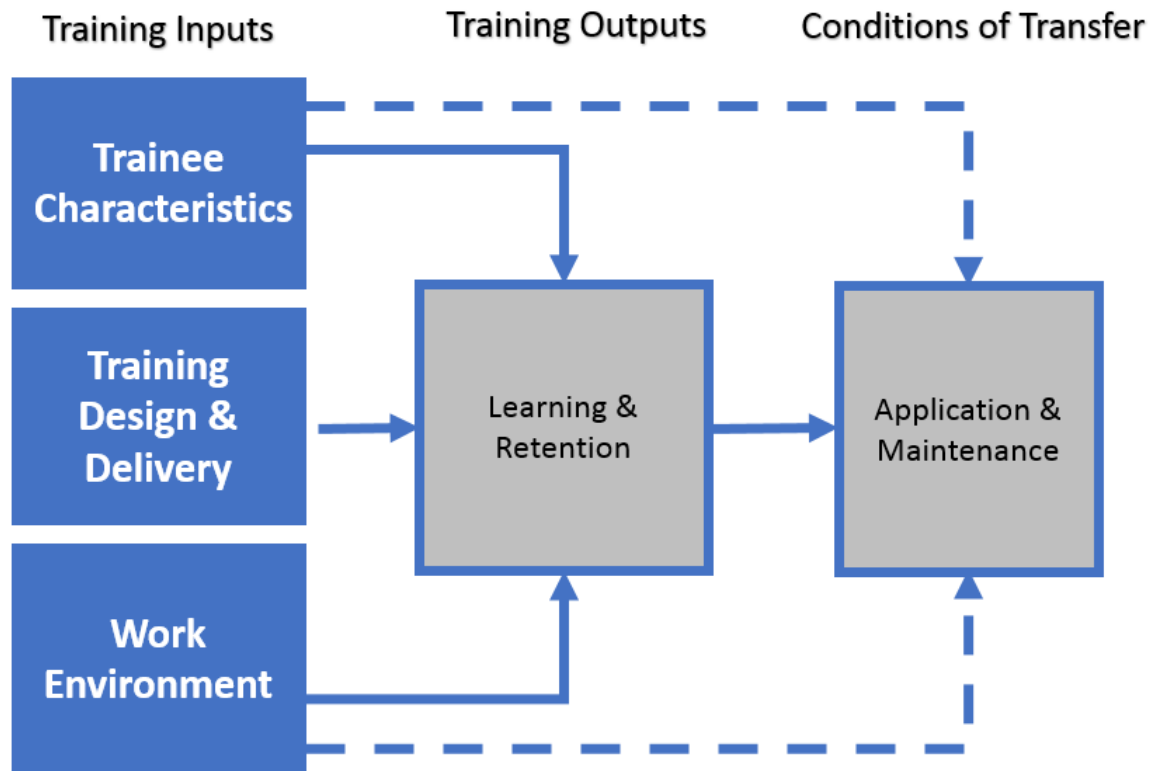
(Murphy, 2001; Farkas et al., 2001; Lashway, 2002;). Early critique of these programmes was received with caution due to a lack of empirical evidence, but subsequent studies have continued to show dissatisfaction from programme participants (Levine, 2005, Darling-Hammond, 2007). The literature highlights a lingering perception that there is a misalignment between the content and delivery of traditional programmes and the realities of leading in the current educational landscape. The complexity and pace of change within educational sectors add to this difficulty and programmes may find themselves quickly out of date and lacking relevance and credibility.

2.3.7 The Transfer of Training

A key element of successful leadership development is the effective transfer of training from the learning environment into the workplace and despite the acknowledged need for training and the provision of countless informal and formal interventions, studies still show variance in the application of learning gained through training (Burke & Hutchins, 2007). The degree to which individuals effectively apply the knowledge, skills, and attitudes gained in training to the job has been termed the transfer of training (Wexley & Latham, 1981). Research into the transfer of training has suggested that the majority of training does not transfer into demonstrable improvements in work performance (Grossman & Salas, 2011). Although employees gain additional knowledge, understanding and skills during the training, learning alone is not sufficient enough to deem the training effective. Early research by Baldwin and Ford (1988) reviewed the training transfer literature and produced one of the first and most widely accepted conceptual models of the process. Further research explored and expanded the concept (Burke, 2007; Blume et al., 2010; Grossman & Salas, 2011). Recent training transfer research has focused on a dynamic view of the transfer process (Blume et al., 2019). Common to all of the research is the notion

that there are factors that both precede, exist within, and follow training that impact its effectiveness. The following model highlights the most prevalent of those.

Figure 5 - Transfer of training process. Adapted from Baldwin and Ford (1986)



The above model suggests that the successful transfer of training is measured by the ability to apply the learning from training to job performance and to maintain it. Transfer is directly affected by the levels of learning and retention of training content and indirectly affected by trainee characteristics and the trainee's work environment. Levels of learning and retention are then directly affected by the characteristics of the trainee, the design and delivery of the training and the trainee's work environment. The three core inputs highlighted in the model (1. trainee characteristics, 2. training design and delivery and 3. work environment) are now be described in more detail.

Trainee characteristics

It is widely accepted that a variety of attributes, specific to the individual play a powerful role in the transfer process (Burke & Hutchings, 2007). **Cognitive ability** has been shown to be a strong predictor of transfer outcomes and an individual's trainability. Cognitive ability has been shown to reflect an individual's ability to understand complexity, adapt to the environment, learn from experiences, and engage in reasoning (Neisser et al., 1996). Perceptions of ability drive levels of **self-efficacy** which in turn affect confidence to learn and be resilient. **Motivation** emerges from the literature as another significant contributor to the transfer process as it directs levels of intensity, direction, and persistence. (Blume et al., 2010). The final characteristic that has consistently shown a strong relationship to training transfer is the trainee's **perceived utility of training**. Learning and retention are rarely successful without first attaching value to the content and foreseeing a desirable use for it. Below are possible questions for professional development designers wishing to address the trainee characteristic antecedents of training transfer:

1. Do individuals have the required knowledge and skills to access the training?
2. How confident are individuals that they can successfully access and transfer the training?
3. What can be done to generate the required motivation for training?
4. How can the motivation for training application and maintenance be sustained?
5. What can be done to clearly communicate the use and impact of the training?

Training design and delivery

Training that is purposefully designed and expertly delivered has a dramatic impact on the success of training transfer. Studies have shown **content relevance** to be important to the

transfer process with successful training accurately replicating behaviours, challenges, and scenarios. The effective use of **learning principles** such as direct instruction, modelling, practice, and feedback have been given particular importance within the descriptions of successful training delivery (Grossman and Salas, 2011). The use of **error management** activities during training supports transfer by enabling individuals to anticipate what can go wrong and providing them with problem-solving strategies. Finally, **trainer characteristics** such as job level, educational background and professional certification have also been shown to impact directly on levels of learning and retention (Burke & Hutchins, 2007).

Below are possible questions for professional development designers wishing to address the training design and delivery antecedents of training transfer:

1. Have we included all of the required content and ensured its relevance?
2. Do the planned activities accurately replicate job requirements and scenarios?
3. How are we leveraging learning principles during training design?
4. How are we preparing individuals to deal with expected and unexpected challenges?
5. Is the right person delivering the training? (expertise, motivation, capacity)

Work environment

A potentially ignored element of training transfer is the individual's work environment which affects both the learning and application stages. The **transfer culture** of an organisation has been shown to have an impact through normative messages around expectations, recognition, and remediation of training outputs (Grossman & Salas, 2011). **Support** from both superiors and peers has been shown to positively influence the process through encouragement, goal setting and feedback. Common amongst the literature is the

need for organisations to provide individuals with **opportunities to practise and perform**.

These opportunities should be sufficiently resourced (time, equipment, people) and occur with minimal delay after training completion. The final factor in successful transfer is post-training **follow up** where outcomes are reflected on and transfer is tracked, measured, and evaluated. The use of job aids such as manuals, scripts, and checklists as well as coaching have also been shown to support transfer.

Below are possible questions for professional development designers wishing to address the work environment antecedents of training transfer:

1. Does our culture expect and support the transfer of training?
2. How will we recognise or remediate transfer success?
3. How will we support individuals after they have completed training?
4. Are there opportunities for individuals to practice and perform what they have learned?
5. How will we track, measure, and evaluate training transfer?

Despite the emergence of clear guidance for designers of professional development wishing to improve levels of transfer Blume's 2010 study concluded with the view that there were still no 'magic bullets for leveraging transfer' (Blume, 2010, p.1096) and that further study was required. Since then further transfer of training studies have focused on the motivation to transfer (Gegenfurtner et al., 2009; Islam, 2019), the dynamism of transfer (Blume et al., 2019) and the specificity of transfer (Brearley and Bishop, 2019).

2.4 Self-efficacy

Understanding the general literature on self-efficacy was key to supporting its impact as a possible lever for leadership development.

This section of the literature review focuses on the self-efficacy literature with the initial aim of defending the importance of the construct through an exploration of its impact. The next section focuses on how self-efficacy beliefs are developed with the aim of supporting Research Question #3 - *How have leaders' perceived levels of self-efficacy been developed?* The literature on self-efficacy management is then reviewed also with the aim of supporting Research Question #4 - *What are the implications of the findings for leadership training and development?* The section then concludes by looking at self-efficacy literature closer to the context of this research, educational leadership self-efficacy to further inform the effective design and discussion elements of this research.

2.4.1 The study of self-efficacy

Self-efficacy is defined as 'one's beliefs in one's capabilities to organise and execute the courses of action required to produce given attainments', Bandura (1997). Separated from more global constructs such as self-esteem or self-worth by its high levels of specificity, it could be described as 'task-specific confidence.' Efficacy beliefs are significant in the study of human functioning as they predict a person's thoughts, feelings, motivations, and actions (Bandura, 1986). 'Among the mechanisms of self-influence, none is more focal or pervading than belief in one's personal efficacy' (Bandura, 2009, p.179). Efficacy beliefs are developed through the interplay between cognition, behaviour and environment and information for self-efficacy appraisal comes from past experiences, vicarious experiences, verbal persuasion, and physiological / emotional states (Bandura, 1977). Since its introduction in 1977 self-efficacy theory has been applied across a diverse body of empirical research and a wide array of performance domains. These include organisational

functioning (Bandura, 1997), career choice (Hackett, 1995), pain tolerance (Lit, 1988), athletic performance (Feltz, 2008) and most relevant to this research academic achievement (Pajares, 1996), teacher performance (Skaalvik and Skaalvik, 2007) and leadership success (Hannah, 2008). Challenges to self-efficacy theory have included the subjective nature of perception, (Tschannen-Moran, M. and Woolfolk Hoy, A. (2007), its reliance on self-report measurement, muddled definitions (Takahashi (2011) and the pre-supposed causal link between beliefs and performance (Marzillier and Eastman, 1984; Biglan, 1987; Wyatt, 2014).

2.4.2 The Impact of self-efficacy beliefs

The volume and breadth of literature surrounding self-efficacy support the view that it is a key construct and important to the understanding of human functioning. Two thousand published studies reviewed by Bandura (1997) highlighted its role as a causal variable in performance and achievement. Studies have consistently shown efficacy beliefs to impact on core human behaviours such as choice, motivation, resilience, and problem solving (Bandura, 1977, 1997), Zimmerman, 2000), (Bandura and Locke, 2003), Federici, and Skaalvik, (2011).

Cognition

Efficacy beliefs affect thought patterns which contribute to the anticipation of impending events, perception of current experiences and the foresight of future capabilities.

Individuals with high levels of self-efficacy view situations as realizable opportunities in which they visualize success and produce guides for positive performance. Kruegar and Dickson, (1994) suggested that individuals with low self-efficacy perceive uncertain situations as a risk and typically visualize failure.

Motivation

Efficacy beliefs play a key role in the regulation of motivation (Bandura, 1997) and are used to help to form anticipatory views about what an individual can or cannot achieve. Self-efficacious individuals typically view failure as a lack of effort or situational challenges whilst those with low self-efficacy attribute it to a lack of ability. Forethought and expectancy are influenced by efficacy beliefs and expectancy-value theory and Atkinson and Birch, (1970) suggested that motivation is enhanced when individuals have a high expectancy of achieving success and they hold value in those successes.

Affective processes

The literature also highlights the positive and negative influence of self-efficacy on affective processes such as feelings and emotions. Feelings of low self-efficacy have been linked to increased anxiety, stress, and depression (Bandura, 1997). Individuals with low levels of self-efficacy are predisposed to view events negatively and challenges as risky and unsurmountable due to decreased outcome expectancy. In contrast, Matsui and Onglatco, (1992) found that highly efficacious people are stressed when there is a perceived underload, lack of challenge, or when their potentialities are underutilised.

Selective processes

Beliefs of personal efficacy play a key role in shaping the direction lives take by influencing the choices individuals make and the type of environments they inhabit and produce (Bandura, 1997). Individuals typically select activities in which they have strong levels of efficacy and anticipated success and avoid those that they perceive could end in failure. In academic settings self-efficacy beliefs have been shown to impact student's selection of subject focus and higher education establishment (Hackett, 1995).

Resource Allocation

Within the self-efficacy literature, there is a strong suggestion that people use self-efficacy perceptions when determining the amount of time, effort, and resources to expend on a given task (Vancouver and Kendall, 2006; Schmidt and DeShon, 2010). When self-efficacy levels are high, the perception is that fewer resources are required and if time is limited then individuals are motivated to conserve resources. Beck and Schmidt, (2018) have predicted therefore that under scarce time conditions, self-efficacy is negatively related to resource allocation and the opposite is true when time is abundant. The positive and performance-resource function described by Norman and Bobrow, 1975; Kanfer and Ackerman, 1989 indicate that allocating more time and effort to a task will often result in increased performance. The researchers are clear to highlight however that the relationship is not necessarily linear and better described as curvilinear with a point of diminishing returns.

2.4.3 The development of self-efficacy beliefs

Understanding how self-efficacy beliefs develop was central to addressing Research Questions #3&4.

The impact of self-efficacy beliefs can be very immediate, impacting moment to moment on the decisions that individuals make. The immediacy of their impact lies in contrast to the lengthy and dynamic processes involved in their development. The process of constructing efficacy beliefs makes them both perpetual and perishable. Different periods of life present certain prototypic competency demands and changes in aspirations, time perspectives and social arrangements alter how people structure, regulate, and evaluate their lives, Bandura (1997). This leads to a diverse range of self-efficacy beliefs within individuals which in turn contributes to the diverse ranges of behaviour that are displayed.

Early Childhood

New-borns arrive without any sense of self and thus it must be socially constructed through transactional experiences with the environment, (Bandura, 1997). The acquisition of agency begins as new-borns gain behavioural capabilities and understand agent causation by observing the results of action. Early childhood efficacy development is further affected by parental overprotection, (Levy 1943), siblings, (Zajonc and Markus, 1975), (Bandura, 1997), Mother-Father bias, (Felson and Reed, 1982) and externally communicated expectations, (Harter, 1999).

Adolescence

As children age self-efficacy appraisals become more accurate, with an increased understanding that effort can compensate for ability and increased use of inference rules and heuristics in processing efficacy information, (Bandura, 1997). As children start to gain more mastery of the self-efficacy appraisal process it is further complicated by the increased use of social comparisons and vicarious experiences for efficacy information. The increasing role of peers during childhood has a broadening and validating impact on self-efficacy development in both positive and negative ways. The literature on child development highlights a common observation that children tend to choose associates with attributional similarities as well as shared interests and values which subsequently has a positive impact on efficacy levels, (Ellis and Lane, 1963; Krauss, 1964; Bullock and Merrill, 1980).

Adulthood

Young adulthood provides another temporal junction for self-efficacy development where demands arising from relationships, parenthood, career progression and financial resourcing cause impact. Vocational choice and length of tenure are affected by a person's beliefs about their capabilities (Betz and Hackett, 1986) as often drives the decision to

apply for positions or promotions, (Wheeler, 1983). By the middle years, people settle into established lifestyles that stabilise their sense of efficacy in major areas of functioning yet remain dynamic because of the unremitting nature of life. Suls and Mullen, (1982) note that as we progress into adulthood, changes such as occupational advancement, declining opportunities and the arrival of positional incumbents may force the reappraisal of efficacy levels.

Advancing age

The loss of physicality, sensory functioning, intellectual faculty, and memory during the later stages of life drive continuing self-efficacy appraisals often resulting in reduced beliefs. This declining perception of efficacy with advancing age can result in a spiral of self-debilitating appraisals that result in a loss of cognitive and behaviour functioning. Individuals can however sustain a high sense of efficacy through social comparisons (Bandura and Jourden, 1991); skill maintenance (Frey and Rubble, 1990); Memory aids (Kotler-Cope and Camp, 1990) and activity selection (Baltes and Baltes, 1990).

2.4.4 The appraisal of self-efficacy beliefs

Within the aforementioned stages of life and self-efficacy development lies a more immediate and dynamic process of belief appraisal and adjustment. The frequency of task completion within human life drives the need for individuals to be almost constantly assessing their capabilities to make decisions about appropriate responses. The cognitive appraisal stage of efficacy belief development is a pivotal crossroads of the process where raw information is transformed into capability judgements through a process of selection, perception, and attribution (Bandura, 1986). Seemingly identical information reaching different individuals or the same individual in a different situation can produce very different appraisal outcomes. Bandura (1977) proposed four categories of efficacy information used in efficacy development: past experiences; vicarious influences; verbal

persuasion and physiological and emotional states. The following section outlines Bandura's suggested influences and how they impact on the dynamic self-efficacy appraisal process.

Past Experiences

Past experiences have been shown to be the most influential source of efficacy information (Bandura, 1977) with experiences viewed as successful serving to increase and the contrasting attribution of failure serving to reduce efficacy levels. The influence of past experiences is however complex, and the literature cites contributory factors such as perceived task difficulty, levels of guidance and expended effort (Bandura, 2009). Feltz (2008) found that past performances with high levels of difficulty, little external assistance and limited failures contributed more to efficacy development than those which were easily achieved with external support. The literature highlights that caution should be applied when using past experiences for efficacy appraisal as they are only raw data, subject to attribution and cognitive processing (Pajares and Shunk, 2002) as well as biases in self-monitoring (Bandura, 1997).

Vicarious Influences

Gould, (1981) and Maddux, (1995) found that comparisons with others can have a powerful influence on self-efficacy beliefs, providing comparisons against one's own performances and the message that skills are learnable and difficult tasks are surmountable. Vicarious influences particularly impact on individuals with less direct knowledge of their own capability as they rely more on the modelled behaviour of others; (Feltz, 2008). Vicarious experiences are particularly powerful when observers see similarities in some attribute and subsequently assume that the model's performance is diagnostic of their own capability. Pajares and Shunk (2002) note that the impact is diminished when people perceive attributes such as gender, physicality, experience, or ability as divergent to their

own. For this reason, George (1992) suggests that the use of vicarious sources of efficacy information can be improved by increasing the perceived similarities between participants.

Verbal Persuasion

Individuals develop self-efficacy beliefs from the social messages they receive from others typically in the form of persuasion, feedback, and appraisal. Verbal persuasion presents itself typically as feedback from others and is strongly influenced by the perceived prestige, credibility, expertise and trustworthiness of the persuader, (Feltz and Lirgg, 2001). The positive impact of persuasion is also limited when there is a lack of consensus between multiple sources (Bandura, 2009). Feedback's influence is due to its attributional focus and most effective when success is linked to internal factors such as ability and failure attributed to external, unstable factors such as luck or skill acquisition; (Feltz, 2008). Self-talk is another form of verbal persuasion defined as an individual's ability to regulate their own thought processes and in efficacy terms, convince themselves that they can achieve a task (Feltz, 2008). The two efficacy information sources conflict when internal confidence leads to an ignorance of persuasion or dismissal when feedback conflicts with self-talk.

Physiological and emotional states

Physiological and emotional states such as fear, anxiety, increased heart rate, sweating and pain provide additional information for efficacy appraisals and become self-talk about the ability to meet future task demands. Attribution is a key factor in the use of this type of information (Bandura, 1997) and sources of physiological and emotional states are easily mis-attributed. Social cognitive theory extends that view by suggesting that attribution of bodily states is acquired through social labelling connected to experienced events. (Bandura, 1977). The repeated social linkage of environmental elicitors and public

reactions condition people to assume that “he must be anxious because he is speaking quickly.”

Imaginal Experiences

Bandura’s initial set of efficacy influences was extended by (Maddux, 1995) to include ‘imaginal experiences’ defined as the envisioning of success in anticipated performance situations. Bandura referred to a similar construct in his earlier research as ‘cognitive self-modelling’ or ‘cognitive enactment’ (Bandura, 1997). Studies by Callow (2001) and Tsang et al. (2012) reinforce the developmental power of imaginal experiences by highlighting how cognitive simulation techniques such as mental rehearsal enhances efficacy and performance. The positive impact of mental rehearsal on performance has been demonstrated in a variety of domains including athletics (Feltz, 2008); business (Gordon, 2007); Mathematics teaching (Ginns, 2005) and physical therapy (Warner and Mc Neill, 1988).

2.4.5 The management of self-efficacy beliefs

Understanding the established techniques for the successful management of self-efficacy levels was important to research’s professional development recommendations and Research Questions #3&4.

The previous section outlined the developable nature of self-efficacy beliefs and the importance of their impact. Individuals have naturally sought out knowledge and understanding around the process of improving or managing self-efficacy beliefs where links have been made to reduced functioning or performance. The following section highlights the strategies for self-efficacy management prevalent in the literature.

Prior to describing tangible strategies employed by individuals and organisations it is worth highlighting the largely reactive and unconscious process that is self-efficacy appraisal. The frequency of self-efficacy appraisals and subtly of their immediate impact

means that individuals are rarely aware that the process of belief management is occurring. Limited understanding of the impact of these appraisals and the subsequent links to performance means that individuals rarely manage their efficacy appraisals consciously or proactively create opportunities to manage them. The generality and centrality of self-efficacy within human functioning and links to increased performance and well-being (Bandura, 1997) suggest that management of self-efficacy is an area worthy of study. The key role that efficacy information plays in the capability appraisal process directly points in that direction for management strategies. Recommendations for the management of self-efficacy within the literature centre on the manipulation of Bandura's four sources of efficacy information: mastery experiences; vicarious influences; verbal persuasion and physiological/emotional.

Mastery Experiences

Past experiences that individuals view as successful serve to increase self-efficacy and the contrasting attribution of failure serves to reduce efficacy levels (Bandura, 1977). It therefore seems logical to suggest that a key strategy for improving efficacy beliefs is to increase the frequency of successful experiences individuals encounter. The purposeful provision of mastery experiences has been shown to improve self-efficacy levels in business organisations (Saks, 1994, 1995) and educational settings.

Vicarious Influences

Bandura states that 'People partly judge their capabilities in comparison with others' (1988, 143). Observational learning occurs when observers display new behaviours that previously had no probability of occurrence (Bandura, 1986; Schunk, 1989). Observation of successful performance by others helps to create the perception that tasks are surmountable and thus increase levels of self-efficacy. An important form of observational learning which promotes learning and self-efficacy is cognitive modelling, which

incorporates modelled explanations and demonstrations with verbalizations of the model's thoughts and reasons for performing the actions (Schunk, 1989). Modelling breaks down complex skills into smaller tasks, or subskills, that can be learned easily by watching someone else perform the skills. Then these subskills can be applied to novel situations and used in complex situations with a variety of applications.

Much of the literature on vicarious influence as a means for managing levels of self-efficacy comes from educational studies with students. Modelling has been shown to be one of the most frequent approaches to improving self-efficacy and helping students to complete difficult cognitive tasks, (Murphy, 2015). Seeing peers achieving a task can provide a valuable model for students and can increase efficacy and ultimately increase performance on a task. Modelling has been shown to help teach autistic children (Charlop and Milstein 1989, Nikopoulos and Keenan 2004), discourage teens from drinking alcohol (Ary et al. 1993), increase tolerance and moral engagement (McAlister et al. 2000), and increase community involvement (Houlihan et al. 1995)

A note of caution within the literature centres around the influence of model suitability and the positive or negative effects that using an appropriate model can have. It is important that there is a perceived similarity between model and observer in attributes such as age, gender, ethnicity, and competence for the vicarious influence to be optimized. The more alike observers and models are, the greater the probability that modelling will produce an aligning effect between task requirements and perceived capability. For this reason, it has been suggested that peer models may be more effective for students than teacher modelling.

Verbal Persuasion

Persuasion from both external social sources and internally through self-talk and imagery makes up a large proportion of the evidence individuals have for their efficacy appraisals. The provision of positive persuasion through feedback is a key method for developing and strengthening efficacy beliefs. Feedback is information given to the learner or teacher about the learner's performance relative to learning goals or outcomes. It should aim towards (and be capable of producing) improvement in students' learning (Education Endowment Foundation, 2019). Feedback may affect performance by imposing often subconscious psychological expectations on the recipient.

A general finding in the literature is that individuals who receive positive feedback on their performance experience higher levels of success in subsequent activities and vice versa (Dupret, 2016). Verbal persuasion through the medium of coaching has long been associated with the domain of sports and is often the basis of team talks and time outs. Cautionary notes within the literature include the often-significant discrepancy that exists between perceptions and actual capabilities (Dupret, 2016). Positive information may increase levels of self-efficacy to a threshold where participation is initiated but if the subsequent performance leads to failure due to a lack of capability then efficacy will be damaged. The value of future persuasion may also be limited as the credibility of the source falls into question.

Self-Talk

Cognitive strategies such as self-talk have featured in psychological research for a considerable time (Peale, 1952) and have been consistently linked to improved performance in a wide variety of disciplines. Self-talk has been simply described as covertly what we tell ourselves (Ellis, 1962) and more expansively as the syntactically recognisable articulation of an internal position that can be expressed either internally or

externally, where the sender is also the intended receiver (Van Raalte et al., 2016). Self-talk is synonymous with terms such as inner dialogue; covert speech; private speech; self-communication; verbal thinking, auditory imaging and has been studied in domains such as sports psychology (Andre and Means, 1986; Lee, 1990), clinical psychology (Bonadies and Bass, 1984); and education (Swanson and Kozleski, 1985).

Conceptually self-talk has been aligned to dual-process theories and envisaged as having multiple interacting elements where current experiences are reactively brought into awareness and described emotionally and subsequently self-talk then becomes conscious dialogue used for planning, motivational and distraction purposes (Hatzigeorgiadis et al., 2011; Van Raalte et al., 2016). Self-talk can be categorised as either positive or negative and thus has an associated impact on motivation, self-worth, and particularly relevant to this research, self-efficacy.

The purposeful management of self-talk has been suggested as a tool for improving performance through the controlling of emotional states and internal dialogue (Neck and Manz, 1992). The process requires the participant to recognise the impact of their self-verbalisations on their emotions and behaviour, identify their lack of logic or evidence and then convince themselves of an alternate truth. The hope is that if individuals repeatedly succeed in reversing negative dialogue then over time new constructive ways of thinking become habitual.

Mental Rehearsal

Another cognitive strategy used to improve performance is mental rehearsal which involves imagining the successful completion of a task before it has been completed. Finke (1988) describes it as the mental invention of an experience without direct sensory stimulation, a view supported by Neck and Manz, (1996) who suggests that we can create

and symbolically experience imagined results of our behaviour before we perform. Much of the research in this area has been focused within sports psychology, counselling education and clinical psychology and a meta-analysis by Feltz and Landers (2007) discovered 146 effect-size measures with an average size of 0.48 suggesting a positive relationship between mental rehearsal and performance. Studies linking the term to organisational performance reference the ‘organisational trajectory image’ (Sims and Gioia, 1986) which represents a mental projection of what the organisation hopes to be and achieve. This link to the actions of vision and direction setting directly relate to this research as these have been shown to be key capabilities of educational leaders. Studies into the effective use of mental imagery have found agreement in the suggestion that the content of the imaginary is pivotal to the successful impact on performance. It was found that mental rehearsal effects were enhanced by rehearsing cognitive abilities (Feltz and Landers, 2007) and by having high levels of congruence between image and reality (Lee, 1990). Although hypothesised, the rate of rehearsal did not affect the effectiveness of the process (Andre and Means, 1986) nor did the personality type of the individual (Turner et al., 1982).

Goal Setting

Goals are an important part of learning, motivation, and self-efficacy development. Goals motivate individuals to increase levels of effort and persistence. They focus attention on task-relevant features and strategies that will help to accomplish the task (Locke and Latham, 2013). Prior to activities, individuals set goals to direct resources and create outcome expectancies. During activities individuals compare their performances with their set goals and make judgements about progress (Locke and Latham, 2013). Self-evaluations that result in perceptions of progress result in increased self-efficacy and sustained motivation with the opposite serving to create dissatisfaction and raise effort.

Using goal setting to enhance self-efficacy is not however a simple or guaranteed process. Goals themselves do not enhance learning, motivation, or self-efficacy, it is the proximity, specificity and difficulty of the goal that hold the influence. Goals have the greatest influence when they incorporate specific performance standards which in turn enable individuals to make more accurate self-evaluations and leverage greater self-efficacy increases (Schunk, 2002). Proximal short-term goals can be achieved quickly and so result in more immediate changes in motivation and self-efficacy. Proximal goal setting is particularly effective with young people who typically have problems representing distant outcomes in their thoughts. The difficulty of the goal impacts on self-efficacy development by moderating the amount of effort that individuals expend which in turn is often linked to levels of success. This too is complicated though as individuals rarely attempt tasks that they deem impossible or those so easy that they are seen as unworthy of their attention. Moderately difficult tasks serve to produce the highest levels of motivation, success and thus efficacy increases.

Physiological and affective states

Bandura's final category of efficacy information also provides possible methods for managing efficacy beliefs as affective states can have generalized effects on personal efficacy in diverse spheres of functioning. Additional ways of managing efficacy beliefs include enhancing physical status, reducing stress levels and negative emotional proclivities, and correcting misinterpretations of bodily states. (Bandura, 1997). Efficacy appraisals occur in narrow temporal windows and so there is a danger that the emotional or physical state felt at that time may skew the accuracy of the assessment. Individuals suffering from stress, anxiety or low mood will arrive at different efficacy conclusions than those in positive states when all other appraisal components are the same.

Studies into the manipulation of physiological and affective states for the management of self-efficacy include Cognitive Behavioural Therapy (CBT) (Nash et al., 2013), mindfulness (Firth et al., 2019), and growth mindset (Dweck and Master, 2009). Dweck and Master, (2009) suggested that students with more of a growth mindset also had higher levels of self-efficacy than individuals with a fixed mindset. Additional studies have also found that those with a growth mindset demonstrated many of the characteristics of high self-efficacy in that they were willing to participate, persevered during difficulties and showed increased effort (Urdu and Turner, 2005). Balancing the positive results of these studies is more recent research on the impact of growth mindset on the self-efficacy on adolescent special education participants where it had a greater influence on motivation than self-efficacy (Rhew et al., 2018).

To conclude this section on the literature relating to techniques for managing self-efficacy, it is worth recognising the presence of guided mastery as a method that leverages many of the aforementioned techniques. Research into the effective management of self-efficacy belief and organisational professional development has projected the process of guided mastery to the forefront of effective practice because it utilises all four sources of efficacy information (Bandura, 1997; Feltz, 2008). During guided mastery activities, skills are firstly modelled to highlight the rules and strategies (vicarious influence). Individuals then practice the skills under simulated conditions to reduce anxiety with guidance, feedback, and additional practice (verbal persuasion/experience/affective states). Finally, skills are transferred gradually into performance conditions through additional practice and feedback. The process of gaining mastery through repeated guided practice enables individuals to achieve the ideal-reality conception-matching that is key to strong efficacy beliefs (Bandura, 1997).

2.5 Leadership Self-efficacy

Understanding the specific nature of leadership self-efficacy was key to deepening the understanding of the construct and exploring any implications for the design of this research.

2.5.1 The study of leadership self-efficacy

Research has demonstrated a clear relationship between self-efficacy and work-related performance but a limited number of studies have extended this to leadership. A meta-analysis by Stajkovic and Luthans (1998) found that 28% of an employee's performance improvements could be attributed to their self-efficacy yet none of the studies involved directly focused on leadership performance. The lack of extension into leadership is additionally surprising as leadership is cited as the most investigated organisational behaviour (Bass, 1990) and effective leaders share many of the characteristics of efficacious people; motivated, persistent, goal-directed, resilient (Maurer, 2001). There is a clear reference to the importance of a leader's self-confidence in the literature (Yukl and Van Fleet, 1992; House and Aditya, 1997; Northouse, 2001) and a feeling that "self-confidence being a necessary trait for successful leaders is undisputed" (Loke, 1991: 26).

The challenge of defining leadership and the lack of a universally agreed definition (Bass, 1990) have subsequently made it difficult to agree on a uniform structure and measurement of leadership self-efficacy. Definitions of leadership self-efficacy have followed a theme of it being a leader's judgment of their confidence in their ability to carry out the behaviours that constitute the leadership role (Chemers et al., 2000, Kane et al., 2002). The lack of consensus around the identification of these specific behaviours is one of the drivers for continued research into leadership self-efficacy and a key stimulus for this research's exploration of the construct in an educational setting.

2.5.2 The impact of leadership self-efficacy

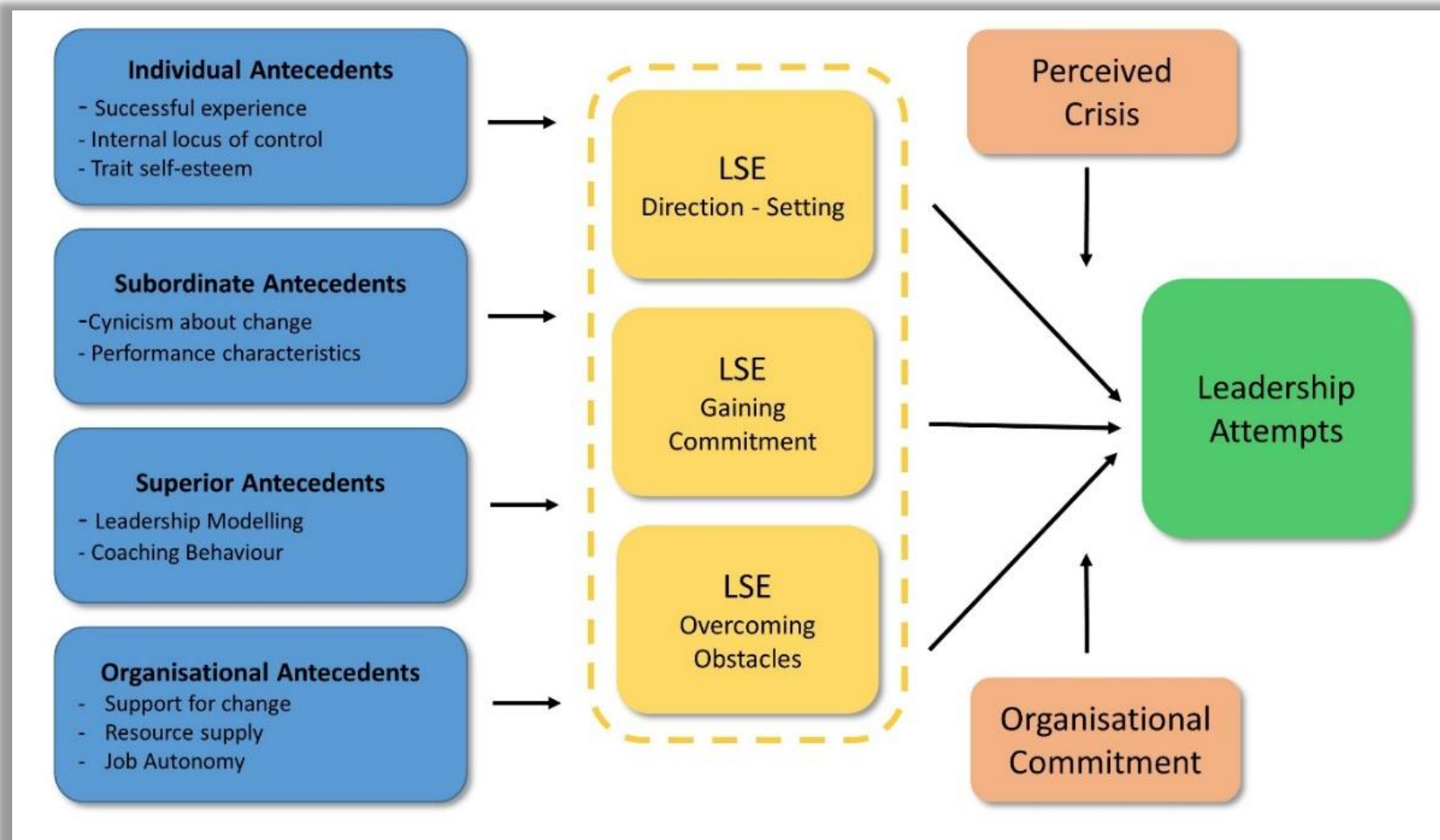
Self-efficacy has been listed as an essential characteristic for effective leadership in numerous reviews (Bass, 1990; Yukl and Van Fleet, 1992; Northouse, 2001). Hannah et al. (2008) found that positive psychological states such as efficacy directly promote effective leader engagement, flexibility, and adaptability. Higher levels of leadership self-efficacy have been said to provide the internal guidance, drive, and agency required to pursue challenging opportunities and persist with difficult tasks (Lord and Brown, 2004).

A range of practical applications and additional research avenues has emerged from the leadership self-efficacy research literature. The identification of key determinants such as extroversion (Judge and Ilies, 2002); conscientiousness (Hendricks and Payne, 2007); sociability and assertiveness (Ng et al., 2008) have provided possible guidance for the selection of leaders. Paglis (2010) recommends that organisations incorporate leadership self-efficacy assessment into their leadership selection processes alongside an individual's locus of control, emotional intelligence and learning goal orientation. Understanding the antecedents of leadership self-efficacy has received relatively little interest within the literature (Paglis and Green, 2002) and yet has utility within creating high leadership self-efficacy climates within organisations. Paglis and Green, (2002) and Ng et al., (2008) found that levels of perceived job autonomy to be a significant leadership self-efficacy correlate. Other organisational characteristics found to be facilitators of leadership self-efficacy were the availability of resources (e.g. funds, staff, equipment) and openness to change (Paglis and Green, 2002). A practical application directly linked to the genesis of this research is the impact of leadership self-efficacy research on the professional development of leaders.

A greater understanding of Bandura's (1986, 1997) sources of efficacy information could result in development programmes which, provide low-risk challenges that delegates can incrementally build into successfully perceived *past experiences*. Leaders would be exposed to successful modelling and *vicarious experiences* whilst also receiving feedback and *verbal persuasion* from credible experts. Programmes would also provide delegates with support to effectively deal with *physiology and emotional* states such as anxiety and stress. McCormick, Tanguma and Lopez-Forment (2002) support the significance of leadership self-efficacy research for leadership educators and propose measuring changes in leadership self-efficacy as a criterion for evaluating the success of leadership development interventions.

The model below was presented by Paglis and Green (2002) in their study of leadership self-efficacy. Differing from previous models it incorporated the notion of antecedents that combine with Bandura's original sources of efficacy information when making self-efficacy judgements. The proposed antecedents were grouped into the following categories: individual; subordinate; superior and organisational. The introduction of factors governing self-efficacy beliefs above Bandura's well-established efficacy sources is a key point in this literature review and of particular relevance to this research. Identifying the levers of self-efficacy management is a key focus for professional development designers and the potential presence of factors which precede strategies such as modelling and feedback may be an important consideration. Figure 6 highlights the aforementioned presence of self-efficacy antecedents .

Figure 6 - Leadership self-efficacy – adapted from Paglis and Green, (2002)



The literature on the influence of the individual shows that stable individual characteristics such as neuroticism have been shown to negatively link with self-efficacy (Judge and Ilies, 2002) whilst extroversion and conscientiousness were positively related (Chan and Drasgow, 2001; Hendricks and Payne, 2007; Ng et al., 2008). Further positive correlations were found with an internal locus of control (Paglis and Green, 2002), emotional intelligence (Villanueva and Sanchez, 2007) and learning goal orientation (McCormick, 1999). It was Paglis and Green's recommendation that individual leadership self-efficacy antecedents be considered during leadership recruitment.

In addition to dispositional characteristics there is a suggestion that interpersonal elements may act as antecedents of self-efficacy judgements. Leadership is dependent on the ability to motivate collective effort towards performance objectives (Paglis, 2010) and so it is understandable to include the influence of those above and below in an individual's efficacy appraisals. Paglis and Green (2002) found that leaders with subordinates who demonstrated initiative, cooperation and a high quality of work had higher levels of leadership self-efficacy than those with lower performing staff. The same study also found that a subordinate's overall attitude contributed to their leader's self of self-efficacy. e.g., employees who demonstrated cynicism or distrust reduced their leaders' levels of leadership self-efficacy. Individuals partly evaluate their own capabilities by observing others and from receiving verbal persuasion (Bandura, 1986). Working under a superior who demonstrates effective behaviours can provide a model for success and a belief that it is possible (Gist and Mitchell, 1992; Wood and Bandura, 1989). Coaching and verbal persuasion can come in the form of specific performance feedback or in more general expressions of encouragement, both of which feed into a leaders' perceptions of their capability.

An additional interpersonal consideration is the impact of groups and the notion of collective self-efficacy (Bandura, 1997; Watson et al., 2001). Leadership involves a great deal of social influence and its impact can be measured by its effects on followers' behaviours and attitudes. For this reason, leadership self-efficacy researchers have been interested in the relationship between leadership self-efficacy and group collective efficacy, with group collective efficacy modelled as a predictor of group performance.

The literature on collective efficacy in education has however been largely focused on teachers and the phenomenon that describes the relationship between networks of teachers and student achievement (Goddard et al., 2001; Tschannen-Moran and Barr, 2004; Moolenaar et al., 2012). Where the literature does include school leaders, it is with a focus on their impact on the collective efficacy of those below them rather than on leaders' self-efficacy beliefs. Recent studies have explored the impact of instructional leadership on collective teacher efficacy (Cansoy and Parlar, 2018) and transformational leadership (Ninkovic and Floric, 2018).

Another consideration raised by Paglis and Green (2002) involves the influence of the environment in which the leader operates. Organisations that are open to change and encourage creative thinking, risk-taking, diversity of opinion and problem solving contribute more positively to leaders' levels of leadership self-efficacy (Siegel and Kaemmerer, 1978; Kanter, 1983, 1999; Howell and Higgins, 1990; Scott and Bruce, 1994; Bandura and Wood, 1989). The availability of resources in the form of people, time, money, or equipment can influence a leader's perception of their ability to complete a task. Leaders who perceive available resources to be inadequate for the task experience diminished levels of leadership self-efficacy. Levels of job autonomy have also been cited as a potential antecedent for efficacy appraisals with a positive correlation attributed to situations where the leader has some choice over what to do and how to do it

(Stewart, 1982; Yukl, 1994). For leadership self-efficacy levels to remain high, leaders need to be able to set direction, build relationships, gain commitment, and take action to overcome obstacles (Paglis and Green, 2002).

Paglis (2010) highlights the potential for a “dark side” to enhancing leadership self-efficacy within organisations and suggests that there may be an optimal level beyond which it becomes deleterious. Literature on the effects of excessive levels of self-efficacy is limited but studies have focused on a similar construct, self-confidence. Overconfidence has been linked to the explanation for wars, industrial strikes, and stock market bubbles (Camerer and Lovallo, 1999; Odean, 1998; Glaser and Weber, 2007). Plous (1993) goes as far as to suggest that over-confidence can cause serious issues with judgement and decision-making. Descriptions of over-confidence commonly include an inflated perception of one’s ability to complete a task, (Shipman and Mumford, 2011) and effects include the denial of flaws (Yukl, 2002); overly optimistic beliefs (Dorner and Schaub, 1994); ignorance of disconfirming evidence (Klayman and Ha, 1989) and the failure to consider realities that don’t match idealized views (Kohut, 1966). Leadership hubris is another common term within the literature and linked to leaders having unrealistic self-evaluations (Judge, Piccola and Kosalka, 2009) and to them pursuing personalised objectives at the expense of others (Conger, 1990; Christie and Geis, 1970).

2.5.3 The development of leadership self-efficacy

The limited literature that does exist on the development of leadership self-efficacy broadly aligns itself with the original research conducted by Bandura citing the influence of his four efficacy information sources and supporting past experience as the key determinant. McCormick, Tanguma and Lopez-Forment (2002) posit that because of this, the more leadership role experiences a person has had, the higher will be their leadership self-efficacy. In their study into leadership self-efficacy, they hypothesize that the number of

leadership role experiences will be positively associated with leadership self-efficacy but I would challenge by suggesting that the volume of experience only serves to affect the *depth* of leadership self-efficacy development not the *value* of that development. A lifetime of unsuccessful leadership experiences would not contribute positively to levels of leadership self-efficacy.

The development of leadership self-efficacy and self-efficacy in general is affected by the volume and type of efficacy information an individual is exposed to and this in turn can be affected by social and situational factors. Gender is one of the most influential of these factors (Bandura, 1997) with cultural and societal expectations driving perceptions of acceptable behaviours and roles for men and women. Families, peers, education systems and the media further strengthen these messages and affect what activities individuals choose to engage in (Hackett, 1995). One study of gender variance within self-efficacy found substantially lower leadership self-efficacy beliefs for females over men (McCormick, Tanguma and Lopez-Forment, 2002). Of particular interest in the McCormick study was the finding was that the gender differences were not due to the volume of past experience but thought to be linked to the attributional bias of females towards luck or the help of others rather than their own capabilities. A bias towards the attribution of success to external factors leads to a restrained sense of self-efficacy and therefore re-attribution training could be a key ingredient to leadership self-efficacy development programmes.

Little research exists on how formal preparation and training programmes contribute to the development of self-efficacy or how instructional practices and program experiences could positively influence its development (Versland, 2016). Preparation programmes have received criticism for a variety of reasons including their recruitment process, lack of rigour, disconnect between theory and practice and a lack of clinical practice (Creighton

and Jones, 2001; Levine, 2005; Young, 2002). It could be suggested that additional criticism should be directed towards these programmes for not purposefully facilitating the growth of self-efficacy. Versland's 2016 study of principal preparation programmes demonstrated that effective professional development can inherently influence self-efficacy development. The research posited that developments in self-efficacy were primarily achieved through authentic practice and collaboration with others. The first recommendation was to create instructional activities that function as mastery experiences. This is aligned to Bandura's (1986) view that mastery experiences are the greatest contributor to self-efficacy perceptions. Darling-Hammond et al. (2007) and Fry et al., (2006) cite practice as an important element of preparation programmes. They highlight that practice not only facilitates skill development and mastery but also enables improvements in relationship-building, communication, and social systems. Versland's 2016 study also recommends that preparation programmes included internships of sufficient length to enable delegates to build relationships and benefit from mentoring and support systems. This aligns with Bandura's (1986) view that social persuasion and vicarious influence are key contributors to self-efficacy perceptions. Fry (2006) and Fisher (2011) also found that purposeful experiences and fieldwork positively affected the self-efficacy of aspiring principals through vicarious influences and peer support. Social support is again cited as a positive aspect of preparation programmes by Darling-Hammond et al. (2007) in their study of eight exemplary programmes where formal mentoring was highlighted as best practice.

2.5.4 The management of leadership self-efficacy

The following section aims to review the literature surrounding the management of leadership self-efficacy and the identification of effective and ineffective practice. Prior to commencing with the description of specific practices it is worth noting the difficulty that

researchers have found in isolating antecedents of successful leadership self-efficacy development. Studies by Holmberg et al. (2016) and Evans et al., (2017) both showed significant increases in leadership self-efficacy but were unable to conclusively identify the specific programme elements responsible for the increase. The two most commonly identified strategies are assessment and mentoring / coaching.

Assessment

The use of assessment is critical to leadership development as it serves to highlight performance weaknesses and enables progress appraisal once training is completed (Solansky, 2010). The quality of assessment information is pivotal to the accuracy of self-efficacy beliefs as it forms the basis of capability perceptions. It is important for individuals to have access to external assessment information to balance their own self assessments of performance. A lack of external assessment information leaves self-efficacy appraisals based on internal perception which due to a variety of response biases is often lacking in validity. The use of 360-degree assessment is prevalent within the literature and is becoming a popular method within leadership development programmes as providers seek to increase the accuracy and utility of assessment data. 360 assessments extended the assessment process to external observers, such as managers, peers, and subordinates. Growth in this form of assessment is due to a variety of factors including ease of administration, (Waldman et al., 1998), the methodological strengths of triangulated data (Solansky, 2010) and the increased accuracy of observer data (Harris and Schaubroeck 1988; Borman, 1991; Van Velsor, Taylor, and Leslie, 1993).

Coaching / Mentoring

Mentoring and coaching have long been key components of leadership development programmes (Solansky, 2010) and provide valuable persuasory information for self-efficacy appraisals and growth. Both processes are complex interpersonal pursuits aimed at

increasing role comfort (Reiss, 2007), engagement (Boyer, 2003) and competence (Messmer, 2003). More specific to this research, coaching and mentoring have been championed within educational leadership development programmes (Southworth and Doughty (2006) and linked with a range of positive impacts. Leadership coaching has been used to identify strengths (Reiss, 2007); develop routines (Lochmiller and Silver, 2010); create vision (Meddaugh, 2014) and facilitate positive thinking (Daresh, 2010). Coaching occupies a greater status within the literature on leadership self-efficacy development and is thought to be more closely aligned because of its inherent focus on specific performance outcomes. (Dwyer, 2019). Studies by Moen and Skaalvik, (2009), Ladegard and Gjerde, (2014), and Grant, (2014) all found positive relationships between the provision of executive coaching and the growth of leadership self-efficacy. The specific attributes of coaching provision such as frequency and the quality of coach-coachee relationship have been studied with again positive relationships being found for both (Baron and Morin, 2009). Further study by the same researchers found that the coachee's perceptions of the programme effectiveness and their affective organisational commitment also positively associated with leadership self-efficacy increases, Baron and Morin, (2009).

Other management strategies highlighted within the literature include cognitive modelling, where leaders are guided to monitor their thought patterns during performance and substituting self-defeating messages with self-corrections. (Prussia et al., 1998, Hannah et al. 2008). Machida and Schaubroeck (2011) highlighted the role that positive self-talk can play in reducing efficacy decline after receiving negative performance feedback.

Additional management techniques come to the surface when self-efficacy is re-conceptualised into two elements: the belief that one has the skills for success and the belief that these skills will have the desired effect. (McDaniel and DiBella-McCarthy (2012). In this situation interventions that enhance a leader's appraisal of their contextual

resources may in turn improve self-efficacy (Hannah et al. 2012). Altering leaders' perceptions of the controllability of their work environments may also yield benefits in leadership self-efficacy growth (McDaniel and DiBella-McCarthy, 2012). A review by Hannah et al. (2008) was critical of the general leadership self-efficacy related literature due to limited domain coverage and suggested a need to explore additional leadership contexts.

2.6 Educational Leadership Self-efficacy

Understanding the literature on educational leadership self-efficacy was key to defending the original contribution of this research.

2.6.1 The study of educational leadership self-efficacy

Definitions of educational leadership self-efficacy are broadly aligned with those of general self-efficacy in that it is a personal belief about capability. Definitions include 'The principal's belief that what he or she does impact student achievement' (Lyons and Murphy 1994, p.3), "A principal's self-perceived capability to perform the cognitive and behavioural functions necessary to regulate group processes in relation to goal achievement"(McCormick, 2001, p.30), 'A judgement of his or her capabilities to structure a particular course of action to produce desired outcomes in the school he or she leads'. (Tschannen-Moran and Gareis (2007, p. 90) and as "a leader's estimate of his or her ability to fulfil the leadership role" (Murphy and Johnson, 2016, p.74). Many of the definitions above highlight the prominence of principal level studies into educational leadership self-efficacy and the absence of perspectives of leadership levels below that. As previously mentioned, the exploration of self-efficacy across different contextual factors was a source of original contribution for this research.

2.6.2 The Impact of Educational Leadership Self-efficacy

The impact of self-efficacy levels within education leaders is broad and studies have shown its effect on school performance, student achievement, adaptive functioning, motivation, burnout, and the generation of collective efficacy.

School Performance

Literature directly linking principal self-efficacy to school improvement is scarce and understandably so due to the complex nature of the school environment and the myriad of factors that contribute to its effectiveness. Where the literature does make links, they are typically indirect through the acknowledgement that principals are typically the highest level of leadership within a school, that the effectiveness of their leadership is pivotal to a school's performance and that self-efficacy is an established element of individual performance. Lyons and Murphy (1994) suggested that principal self-efficacy is a critical factor in their performance as an effective school leader. DeMoulin (1993) conducted an eight-year study examining the correlation between principal self-efficacy and performance and found that efficacy levels can determine how the school functions and its effectiveness.

Student achievement

In the current climate student achievement and outcomes are a key indicator of a school's performance and provide an additional lens through which to assess the impact of self-efficacy. Numerous researchers have explored the relationship between principal self-efficacy and student achievement and the outcomes are mixed. Williams (2012) found a correlation between student success in state tests and levels of principal self-efficacy. Costa-Hernandez (2010) also found a significant relationship between high levels of instructional leadership self-efficacy within principals and student test scores. In contrast,

Williams (2008) did not find a statistically significant relationship between Mississippi high school principals' levels of self-efficacy and their school's performance classification. Williams (2008) also failed to find significance between self-efficacy and school growth status or student Math, Biology, English, or History scores. The uncertainty within the literature regarding direct links between principal self-efficacy and student or school performance may point to its power being elsewhere in its influence over group behaviour.

Impact on others

Another common thread within the literature is the impact of principal self-efficacy on others and the creation of collective efficacy. Bandura (1986) believed that a group's strength lay within its belief it could solve problems or its sense of 'collective efficacy'. Numerous studies have examined how principal self-efficacy influences specifically the collective efficacy of teachers (Brinson and Steiner, 2007; Walker and Slear, 2011; Horton, 2013; Rew, 2013; Reddick, 2014, Salazar, 2014; Gallante, 2015). These studies have found that collective efficacy is increased when an inspiring vision for the school is articulated, goals are attainable, standards of teacher and pupil performance are clear, and where teachers are clear about how their actions impact learning. Lucas (2003), Tschannen-Moran and Gareis, (2004) and Leithwood and Jantzi, (2008) suggested that leaders with high levels of self-efficacy communicated and modelled higher performance expectations to other leaders, teachers, and students and over time these contribute to increased organisational commitment and collective efficacy (Ross and Gray, (2006) and Aydin et al., (2013). Principal self-efficacy has also been shown to facilitate group attainment (Tschannen-Moran and Gareis, 2007), and help build effective relationships (Seashore-Louis et al., 2010).

Adaptive functioning

A range of studies has suggested links between a principal's sense of self-efficacy and their levels of adaptive functioning. Efficacious principals tend to be more persistent in pursuing goals and more adaptable to change (Osterman and Sullivan, 1996). They experience lower levels of work alienation (Tschannen-Moren and Gareis, 2004) and positively impact on the quality of teaching and learning (Smith et al., 2006). DeMoulin (1993) found positive correlations between self-efficacy and principals' perceptions of decision making, delegation, communication, and organisational effectiveness. Inefficacious principals tend to use external power sources to manage problems (Lyons and Murphy, 1994), are controlled by symptoms of stress, have limited flexibility, a negative outlook, and an inability to accept personal limitations (DeMoulin 1993).

Burnout

Federici and Skaalvik (2011) studied the relationship between principal self-efficacy and burnout, job satisfaction and motivation to quit. In their study of 1,818 Norwegian principals they found positive relationships between self-efficacy and job satisfaction and between burnout and motivation to quit. They found negative relationships between Job satisfaction and burnout and motivation to quit. The negative relationship between self-efficacy and burnout and the positive relationship to job satisfaction have also been highlighted by Evers et al. (2002); Friedman (2002) and Skaalvik and Skaalvik (2007). A 2018 study by Steinmetz highlighted broken trust, administration turnover, lack of funding, lack of acknowledgement or recognition and a lack of self-preparation as some of the factors affecting self-efficacy related burnout.

2.6.3 The Development of Educational Leadership Self-efficacy

The literature on the development of self-efficacy within education leaders is limited and rarely moves past the assessment stage. Where guidance is provided it cites aforementioned strategies that serve to facilitate the collection and attribution of Bandura's

sources of efficacy information. Walker and Carr-Stewart (2006) recognised the positive impact that mastery experiences can have on self-efficacy development and utilised an appreciative enquiry design to encourage newly appointed principals to reflect on past success prior to appointment. In the same study researchers also highlighted the positive impact that observing the successful performance of sitting principals gave to those newly appointed. Aligning their response to Bandura's efficacy information sources Kelleher (2016) recommends principals wishing to increase their levels of self-efficacy to focus on their past successes, identify appropriate role models, seek out encouragement and remain relatively stress free.

Outside of the established sources of efficacy information identified by Bandura, researchers have identified a number of external influences that may contribute to a principal's sense of self-efficacy.

Governmental influence

Kelleher (2016) highlights how governmental changes to the way principals are evaluated may affect the confidence and levels of self-efficacy. The move towards linking principal effectiveness to student performance has for some influenced the way they perceive their role and destabilised existing confidence bases. Smith (2003) also cited policy changes and education reform as influences on principal's confidence. The multiple and often simultaneous implementation of reforms stops principal from settling and gathering mastery experience. Smith and Guarino (2006) also highlighted the shift away from instructional leadership felt by many principals during education reforms as a trigger for self-efficacy changes. The typically emergent nature of a principal's career path from classroom teacher up through the leadership levels may leave many ill-equipped for the new landscape and thus susceptible to decreases in self-efficacy. McCullers and Bozeman (2010) found that where accountability expectations were unclear or perceived to be unrealistic, levels of self-efficacy within principals were lower.

Role requirements

The conceptualization of self-efficacy as a task-specific capability judgment (Paglis, 2002) leads to potential changes in the development of self-efficacy levels both between leaders and within leaders as roles differ or change. As leaders encounter different role requirements efficacy levels will initially fluctuate and then develop through the acquisition of experience, feedback, and modelling. One example within the literature is the balance between leadership and management that school leaders face. Spillane and Hunt (2010) studied school leaders' daily tasks and found 70% of their time was spent performing tasks such as planning budgets, schedules, human resources and building management. This progressive increase in managerial requirements as individuals enter and progress through leadership roles is a source of frustration for some (Hallinger and Murphy (2013) as their preferred role is as an instructional leader focusing on teaching and learning. Extending this line of enquiry is a recent study by Skaalvik (2020) who explored relations between principal self-efficacy for instructional leadership, emotional exhaustion, engagement, and motivation to quit. The study found positive relationships between self-efficacy and engagement and negatively related to emotional exhaustion and motivation to quit.

Contextual factors

Tschannen-Moran and Gareis (2007) studied 558 principals in Virginia, USA in order to identify the antecedents of their self-efficacy beliefs. The research showed that interpersonal support structures within the school in the form of teachers, support staff, students, and parents were the strongest predictors of a principal's self-efficacy levels. They found no significant relationship between efficacy levels and contextual factors such as school level, setting or the proportion of low-income students. In contrast, Smith et al. (2006) studied 294 principals across 12 states and found higher levels for self-efficacy in principals of larger schools and those with a high percentage of students in free lunch

programmes. They suggested that these factors led to increased complexity within the schools and that only individuals with already well-established levels of efficacy would self-select for such a role. Bucher (2010) found that teaching and leadership experience contributed significantly to the variance in self-efficacy levels.

Professional Development

Professional development has been cited within the literature as a strategy for developing principals' self-efficacy. Smith and Guarino (2003) recommend placing principals in real-world scenarios where opportunities for success exist and the attendant sources of self-efficacy are present. Further research has explored the impact of principal preparation programmes on levels of self-efficacy. Versland (2016) found that despite the agreement that self-efficacy is an essential ingredient of effective leadership there was little evidence that training programmes incorporated efficacy-building experiences. Kelleher (2016) raises caution over the blunt use of professional development citing Leithwood et al. (2004) and Zimmerman (2011) and reinforcing the need for the purpose intended outcome and resource needs to be completely clear before completion. Leaders must be ready to absorb change and participate in authentic problem solving to develop useful, robust, situated knowledge. DeMoulin (1993) suggested that the periodic measurement of principal self-efficacy is key to its management. Zimmerman (2011) recommends a 360-degree evaluation of strengths and weaknesses by leaders, superiors and subordinates resulting in invaluable knowledge for growth. 360-degree evaluations are completed by the superiors and subordinates of an individual in addition to their own self-assessment to provide a more complete data set and view of performance.

There have been several studies that have expanded the research scope including DeMoulin (1993) who carried out research into principal self-efficacy across different types of schools and Tschannen-Moran and Gareis (2007) who studied the construct across

a variety of contextual school variables. A criticism of the literature base could be that studies are largely restricted to principal level leadership with only a limited attempt to study the construct at lower leadership levels and no apparent attempt to explore differences in self-efficacy between levels, both key aims of this research. There are studies where the term ‘school leaders’ is used but the focus continues to be on that of the principal. Another critical observation is the limited focus of research into educational leadership self-efficacy within different school systems. The majority of key studies have been carried out in the United States of America with additional work coming from Norway and Iran. A recent study by (Fisher, 2020) highlighted the paucity of existing literature on educational leadership self-efficacy and cited the need for additional longitudinal studies and a greater use of qualitative approaches strengthening the potential contribution of this study.

2.6.4 The management of educational leadership self-efficacy

Specific literature relating to the management of educational leadership self-efficacy is extremely limited. This may however be due to a decreased need to differentiate management techniques at a domain level. As the previous literature review sections indicate, many of the responses to a desire to improve self-efficacy levels work on the well-established sources of efficacy information identified by Bandura and are thus domain generic.

Chapter summary

This chapter has served to review the literature on both leadership and self-efficacy in order to inform the design of the research and the subsequent discussion. The following key points emerged:

- The study of leadership is an important pursuit if we are to fully understand organisational functioning and become more effective in its development. The literature presents the construct as contextually variable and suggests the need for it to be explored within specific domains to fully improve understanding, a point that strengthens the rationale for this research and in particular Research Question #2.
- The educational literature highlights leadership as a key lever for school improvement further supporting the research focus and the view that a better understanding of its effective development may hold organisational and sector value.
- The leadership and educational literature fail to agree on what constitutes effective leadership with some commonality amongst themes such as strategic thinking and leading others but no definitive list of capabilities. The educational literature starts to address the need for domain specificity by introducing specific leadership level inventories but still seeks generality at the expense of contextual relevance.
- This lack of agreement creates a challenge for Research Question #1 and the design of its measurement tool. To address this a description of the organisation's leadership model was provided, and the decision made to utilise it in order to provide a contextually relevant view of effective leadership.

- The literature on leadership development highlighted it as complex and again without agreement on what constitutes effective practice. The literature did however cite experience, learning from others, mentoring, and coaching as positive influences and was critical of off-site training, a primary focus on cognitive experience and the lack of focus on demonstrable improvement in action. These elements alongside those emerging from the literature on the transfer of training highlighted an established knowledge base for Research Questions #3 and 4 but also provided scope for original contribution.

- The self-efficacy literature supported its impact on human functioning and research relevance, citing its influence on an individual's thoughts, feelings, motivations, and behaviours. Key to this study and Research Questions #3 and 4 was the literature on self-efficacy development which described a conflicted process where efficacy beliefs develop over long periods of time and yet change dynamically in the presence or absence of efficacy information. Much of the literature references the impact of experience, vicarious influence, verbal persuasion, physiological and emotional states as influences on the development of self-efficacy.

- These sources of information continued to be important within the literature as much of the reference to effective self-efficacy management centred around the manipulation of these factors. The mechanisms for self-efficacy development are widely acknowledged and also provide key information for Research Questions #3 and 4. This section of the review also highlighted challenges to self-efficacy theory in the form of its subjective nature, reliance on self-report measurement, muddled definitions and the pre-supposed causal link to performance.

- The literature on leadership self-efficacy highlighted it as an emerging field of research with the dominant focus being on its impact and measurement and limited literature addressing its development. A key discovery within the literature was the work of Paglis and Green (2002) who suggested the presence of individual, subordinate, superior and organisational antecedents which may precede Bandura (1997)'s sources of efficacy information. This has particular relevance to Research Questions #3 and 4 as it introduced additional considerations for professional development designers wishing to improve self-efficacy. The leadership self-efficacy literature also introduced the view that self-efficacy levels can be too high and have a deleterious effect similar to overconfidence.

- The literature surrounding educational leadership self-efficacy was limited and very little literature focused below the level of the principal, strengthening this research's original contribution. The literature also strengthened the rationale for the research by highlighting leadership self-efficacy's impact on school performance, student achievement, collective efficacy, and adaptive functioning. References to the development of educational leadership self-efficacy focused primarily on the impact of government evaluation, role changes and context with limited suggestions of specific self-efficacy development strategies.

Chapter 3. Methodology

The following chapter introduces the research design of the research through a description of its methodology. It builds on the previous chapter where the leadership and self-efficacy literature was reviewed by utilising that knowledge in the research design decisions of this research. The chapter briefly explores the methodological history of self-efficacy research before describing and defending the rationale for the choices made during this research.

3.1 Self-efficacy research methodologies

Exploring the methodologies of past self-efficacy studies was key to making decisions about the methodology for this research.

Quantitative methodologies dominate the literature on self-efficacy studies and are evident across domains such as education, healthcare, and organisational studies. Gardner (1996) proposes this may be due to the construct's psychological nature where quantitative approaches are common due to their ease-of-use and transferability. Glackin and Hohenstein (2018) suggest that the socio-cognitive framework that informs self-efficacy presents the construct as measurable and so leads researchers towards a positivist approach. The early preference for quantitative approaches was called into question for creating a narrow conceptualisation of the construct (Wheatley, 2002) alongside concerns around reliability and validity (Pruski et al. 2013). The benefits of quantitative research are well documented and include the ability to have large sample sizes, to efficiently collect and analyse data, and typically achieve higher levels of generalisability. Research Question #1 is aimed at better understanding the self-efficacy levels of leaders within the organisation. Ideally this will include the largest sample possible and produce data that is easily collected, collated, and analysed. For these reasons it seemed that this research would benefit from many of the aforementioned benefits of a quantitative approach. In

opposition to the benefits mentioned are the typical weaknesses of a quantitative approach. A lack of opportunity to explore meaning or to review answers would make it difficult to address Research Question #3 which aims to understand why individual's specific self-efficacy beliefs are and how they have been developed. For this type of information, it may be necessary to consider a qualitative approach.

Researchers, including Labone (2004), Wheatley (2005) and Klassen et al. (2010) have called for an increase in qualitative approaches to self-efficacy research, arguing that such approaches will offer a deeper understanding of how beliefs and self-efficacy operate. This is a view shared by Wyatt, (2012) who thought it was crucial to develop in-depth qualitative pathways for self-efficacy research. Self-efficacy beliefs are an individual's perceptions of task-specific confidence and as such align with a primary aim of qualitative research, to understand the participants' perspective of how they make sense of their world (Turner, 2013). As with the quantitative approach, the strengths and weaknesses of qualitative research are well documented. Typically, smaller sample sizes lead to quicker research processes, a greater level of insight due to increased contextual awareness, biases are often reduced, research design is flexible to change, and results are often more applicable in real-world settings. As previously mentioned, Research Question #3 is aimed at exploring self-efficacy at a deeper level through the perceptions and lived experiences of participants thus leaning towards a qualitative approach. The research is also aimed at contributing to a better understanding of the organisation and the related phenomenon, an aspiration linked to qualitative approaches by Yin (2018). It is also important however to recognise the associated limitations including increased subjectivity, increased data collection, and analysis workload and the need for the research to have established knowledge to process the data accurately. The desire to ask both what and why questions

regarding self-efficacy levels led me towards methodologies that supported both qualitative and quantitative approaches.

3.2 Chosen methodology – Case Study

My desire to improve the design and delivery of leadership development within my own organisation above a desire to generalise for a wider audience drove my decision to adopt a case study approach to the research.

Case study has been described as a specific instance designed to illustrate a more general principle (Nisbett and Watt, 1984), the study of an instance in action (Alderman et al., 1980), an intensive, holistic description and analysis of a single instance, phenomenon or social unit (Merriam, 1998) or an empirical inquiry of a contemporary phenomenon within its real-life context with unclear boundaries and multiple sources of evidence Yin, 1984).

Case study is a frequently used methodology within educational research (Yazan, 2015) and yet its protocols are not fully defined or structured (Yin, 2002) and so further review of the literature was required and additional design decisions made. During this exploration I found myself moving regularly between three key case study methodologists; Merriam, (1998); Stake, (1995); and Yin, (2002).

During the introduction to this thesis I outlined my researcher positionality and in particular my evolving ontological and epistemological beliefs. I described my movement towards a more interpretivist viewpoint and yet still the presence of a previously embedded positivist experience of sports science focused research. In terms of my approach to the design of this case study, these evolving beliefs have directed me away from Yin's, (2002) more positivist approach and towards those of Stake, (1995) and Merriam, (1998). During the literature review I found close alignment with Stake's (1995) viewpoint that knowledge

is constructed rather than discovered and that case study researchers are interpreters and are involved in the collection of interpretations which then lead to the reporting of a rendition of that knowledge. (Stake, 1995). I also found alignment with Merriam's (1998) view that reality is constructed by individuals interacting with their social worlds and that there are multiple interpretations of reality. The challenge here of course is that as the researcher I bring my own interpretation of reality which then interacts with those of the participants which subsequently forms a further interpretation in the case study report.

During the exploration of whether my research met the characteristics of a case I was initially drawn to Merriam's (1998) view that the defining characteristic is the delimitation of the case and the presence of a single entity with boundaries. My exploration of self-efficacy within a single organisation meets this requirement and also that of Miles and Huberman's (1994) understanding of a case being a phenomenon occurring within a bounded context. This research study is also aligned with the following case study attributes outlined by Hitchcock and Hughes, (1995) and Merriam (1998):

- It is concerned with a rich and vivid description of events
- It blends a description of events with an analysis of them
- It focuses on individual actors or groups to understand their perceptions of events
- It highlights the specific events that are relevant to the case
- The researcher is integrally involved in the case
- Particularistic (it focuses on particular situation, event, program, or phenomenon);
- Descriptive (it yields a rich, thick description of the phenomenon under study);
- Heuristic (it illuminates the reader's understanding of the phenomenon under study).

Once I had established that my research did involve a case, I proceeded to focus on its design. Yin defines case study design as ‘the logical sequence that connects the empirical data to a study’s initial research questions and ultimately, to its conclusions.’ (Yin, 2002, p.20). In deciding on an approach to the case study design I was drawn to Yin’s comprehensive approach to the formation of case study research but uncomfortable with the constraints that this may impose on what may be a dynamic process. My desire for adaptability was more aligned with Stake’s, (1995) argument that case study design should be flexible and allow researchers to make changes even during the research. Despite this move towards Stake’s approach to case study design, I was drawn back to Merriam’s (1998) work which seemed to offer a balanced view of structure and flexibility. Merriam’s step-by-step guidance through literature review, theoretical framework, research problem, research questions and sample selection provided comfort and a clear sense of direction to me as an emerging researcher. At this stage in the case study design process, I was confident that I was working with a case and that a balanced approach of structure and flexibility to adapt would be most suitable. I was also clear on the subsequent stages of that design. Decisions on data collection and analysis are covered in chapter four.

During the methodology selection process, I was mindful of some criticisms of case study research in that they can be susceptible to a journalistic, selective reporting style (Nisbet and Watt, 1984), focus on peculiarities rather than regularities, are challenging in terms of reliability and validity (Cohen et al., 2018) and are prone to problems of observer bias (Nsibet and Watt, 1984). I was however reminded of the aforementioned strengths of case study research by recent research into self-efficacy. Studies celebrated the benefits of increased triangulation through multiple evidence sources (Prindle, 2014), increased depth of exploration (Flora, 2017) and the ability to collect data in natural settings (Kriner,

2017). It is the focus on significance over frequency that draws me to this style and offers me the opportunity to gain an insight into the real dynamics of situations and people.

3.3 Alternative methodologies

During the evaluation of other methodological approaches, I was also drawn to grounded phenomenological and ethnographic approaches due to their exploratory nature but rejected them for the reasons highlighted below.

Grounded theory emerged from the work of Glaser and Strauss (1967) as a way for social qualitative researchers to work from data rather than towards it (Thomas and James, 2006) with the key points being that the theory is discovered from the data and grounded in it. (Urquhart, 2013 p.5) points out that ‘the emphasis on theory in Glaser and Strauss’s original work is in sharp contrast to the use of grounded theory today, where it is known primarily as a method of qualitative data analysis’. My interest in grounded theory was based on its suitability for investigating social processes where previous research is lacking in breadth or a new point of view on familiar topics appears promising (Milliken, 2010). This chimed with this research’s focus on contextual factors and the qualitative exploration of Research Question #3 *How have leader’s perceived levels of self-efficacy been developed?*

Creswell (1998) and Dey (1999) provide the following key features of grounded theory:

1. The aim of grounded theory is to generate or discover a theory.
2. The researcher has to set aside theoretical ideas in order to let theory emerge.
3. Theory focuses on how individuals interact with the phenomena under study.
4. Theory asserts a plausible relationship between concepts and sets of concepts.
5. Theory is derived from fieldwork interviews, observation, and documents.

- 6.Data analysis is systematic and begins as soon as data is available.
- 7.Data analysis proceeds through identifying categories and connecting them.
- 8.Further data collection (or sampling) is based on emerging concepts.
- 9.These concepts are developed through constant comparison with additional data.
- 10.Data collection can stop when no new conceptualisations emerge.
- 11.The resulting theory can be reported in a narrative framework or propositions.

In terms of reviewing grounded theory as a possible approach for this research, features one, two and eight from table three were important. The presence of self-efficacy as the theoretical framework for this research provided an established theory which could not be set aside and also negated the desire to generate new theory. The aim of gaining a representative view of the organisation meant the involvement of a large sample and so limited opportunities for multiple data collection points. This conflicted with the grounded approach of allowing concepts to develop through overlapping data collection and comparison.

Phenomenology came into view during the first half of the 20th century through researchers such as Edmund Husserl and Martin Heidegger and focused on the study of structures of consciousness as experienced from the first-person point of view (Smith, 2018). As with grounded theory, definitions and applications of phenomenology have evolved over time. I was particularly interested in the move towards an interpretive application where contextual features of an experience are incorporated to enable a deeper understanding of the experience (Matua, 2015). This consideration of context directly linked to Research Question #2 *Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?*

Creswell (2018) provides the following key features of phenomenology:

1. Focused on understanding the essence of experience.
2. Studies several individuals who have shared the experience.
3. Best suited to describing the essence of a lived phenomenon.
4. Draws from philosophy, psychology, and education.
5. Primarily uses interviews with individuals.
6. Data is analysed for significant statements, meaning units and essence.

In terms of reviewing the use of phenomenology as an approach for this research, points one and five were particularly important. The primary focus of the research was the potential variability of self-efficacy beliefs and the key experiences that developed them rather than the essence of self-efficacy as a construct. A large number of participants were required in order to get a representative sample to support Research Question #1 (*What are leader's current perceptions of their levels of self-efficacy?*) and thus a quantitative data collection element was included.

Ethnography is another interpretivist methodology often used in social research and aims to explore phenomena from the point of view of the subject or a community. Ethnography has a particular interest in how participants themselves perceive the world, how those perceptions develop and how their perceptions of the world actively shape their lived realities (Purcell-Gates, 2011). It is often based around the core element of observation and is thought to be a more accurate documentation of what, how or why people do things as opposed to relying solely on self-report. Proponents of ethnography also cite the fact that data collection tends to occur in natural settings as a particular strength of the approach as opposed to situations structured by the researcher such as interviews or surveys.

Hammersley (2018) pulls together the following key features of ethnography:

1. Relatively long-term data collection process.
2. Taking place in naturally occurring settings.
3. Relying on participant observation, or personal engagement more generally.
4. Employing a range of types of data.
5. Aimed at documenting what actually goes on.
6. Emphasises the significance of the meanings people give to objects, including themselves, in the course of their activities, in other words culture.
7. Holistic in focus.

In terms of reviewing the use of ethnography as the methodology for this research, points one, two and three were particularly important. The limited time capacity available to data collection due to existing work commitments conflicted with the need for long-term data collection. Limited time capacity and the desire to include as large a sample as possible also reduced the opportunity to study self-efficacy development in its natural setting or include participant observation as a data collection method.

Chapter Summary

This chapter has served to describe the methodological decision-making process for this research. It highlighted the dominance of quantitative approaches to self-efficacy research and introduced the growing desire to deepen the exploration of the construct through qualitative approaches. It outlined the strengths and weaknesses of both approaches before deciding that a methodology that could encompass both quantitative and qualitative elements would best serve the research questions. The chapter then described the design of this research study and defended the use of a case study approach due to following key points:

Case Study is:

- a frequently used methodology educational research.
- able to facilitate an intensive, holistic description and analysis of a phenomenon.
- the study of that phenomenon within its real-life context.
- suitable for use with unclear boundaries and multiple sources of evidence.
- able to accommodate both quantitative and qualitative research methods and take a focus on individual actors or groups in order to understand their perception of events, an issue central to self-efficacy research and my own epistemological beliefs.

Other qualitative approaches were considered and held various attributes worthy of inclusion. A grounded approach was rejected due to the presence of an established theory and the lack of opportunity for repeated data collection points. A phenomenological approach was not chosen due to the desire to include a large sample, mixed data collection methods and a lack of overall focus on the essence of self-efficacy. An ethnographic methodology was not chosen due to time constraints linked to the large sample and the inability to observe participants in their natural settings.

Chapter 4. Methods

The following chapter constitutes a deeper description of the research design and builds on the previous chapter's explanation of methodological choices and decision to follow a multimethod case study approach. The chapter begins by outlining the research questions and how they support the aim of the research. The chapter then explores the literature on effective self-efficacy measurement which was key to the design of the research's methods. The next sections introduce the chosen methods before describing the setting, population, sampling strategy and contextual considerations. The chapter concludes with an exploration of the ethical considerations relevant to the research.

4.1 Research Questions

1. What are leaders' current perceptions of their levels of self-efficacy?
2. Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?
3. How have leaders' perceived levels of self-efficacy been developed?
4. What are the implications of the findings for leadership training and development?

The above research questions have been designed to provide key insights into how the design and delivery of leadership development can be improved. Responses to Research Question #1 will highlight any variances in levels of self-efficacy between leadership capabilities and thus suggest areas that should be the focus of development. Research Question #2 acknowledges the specificity of leadership and self-efficacy and will highlight contextual differences in self-efficacy thus strengthening or weakening the case for contextually specific leadership development design and delivery. Responses to Research Question #3 will provide insights into key events or experiences that have impacted on self-efficacy levels and thus provide suggestions for how self-efficacy could be developed

through leadership development. Research Question #4 directly addresses the aim of the research by exploring the implications for the training and development of leaders.

4.2 Measurement considerations

Understanding the literature on self-efficacy measurement design was key to ensuring the effectiveness of the tools used in this research.

4.2.1 Domain Specificity

The creation of accurate measurement tools starts with a sound conceptual knowledge of the domain in question, its structural components, and an understanding of the relative importance of each component. If tools focus on elements that have little or no impact on the domain of functioning then the research cannot yield a predictive relation (Bandura, 2006). If, for example, the ability to write academic journal articles does not affect education leadership then perceived efficacy to write articles will be unrelated to the ability to lead because the causal theory is faulty. It is important therefore that measurement tools reflect the multifaceted nature of the domain and link to factors that determine the quality of functioning. The importance of specificity has driven the development of a wide range of self-efficacy measurement scales. Those with particular relevance to this research include the Generalised Self-efficacy Scale (GSE) Schwarzer and Jerusalem (1995), Academic Self-efficacy Scale (ASE) Gafoor and Ashraf (2007), Teacher Self-efficacy Scale (TSE) Schmitz and Schwarzer (2000), Student Self-efficacy Scale (SSE) Rowbotham and Schmitz (2013), Leadership Self-efficacy Scale (LSES) Paglis (2002) and the Principal Self-efficacy Scale (PSES) Tschannen-Moran and Gareis (2004). Although reviewed for this research, the above scales did not accurately reflect leadership within the case organisation and so were not utilised as will be discussed later in the chapter.

4.2.2 *Memory recall accuracy*

One of the questions surrounding the validity of self-efficacy measurements is whether individuals can accurately predict their own behaviour (Eastman and Marzillier, 1984). One related concern is memory recall accuracy (Loftus, 2016) and is particularly relevant for Research Question #3 where participants are asked to reflect on past experiences that may have shaped their self-efficacy beliefs. Recent research literature has highlighted an increasing interest in the biases affecting retrospective self-report data with an associated increase in mistrust and preference for in the moment inquiry (Walentynowicz et al., 2018). Schacter, (1999) highlighted the fallibility of the human memory and identified seven flaws in its performance:

- **Transience:** Decreasing accessibility of information over time.
- **Absent-mindedness:** Inattentive or shallow processing that contributes to weak memories.
- **Blocking:** The temporary inaccessibility of information that is stored in memory.
- **Misattribution:** Attributing a recollection or idea to the wrong source.
- **Suggestibility:** Memories that are implanted as a result of leading questions or expectations.
- **Bias:** Retrospective distortions and unconscious influences that are related to current knowledge and beliefs.
- **Persistence:** Pathological remembrances-information or events that we cannot forget, even though we wish we could.

Recall and evaluation of events from the past involve the explicit memory system, where memories can be actively and consciously searched, recollected, and described to an external audience. This system encompasses two independent but related systems; the episodic and systemic memory systems. Robinson and Chlore (2002) argued that the

amount of accessible detail within reflections decreases over time and episodic memories (personal experiences) are superseded by semantic memories (facts and figures) when recall is required over long periods of time. As the retrospective reflections involved in this research are related to personal events their accuracy may be called into question as to the length of time they are recalled from increases.

4.2.3 Social desirability

Another measurement consideration pertinent to this research is the presence of social desirability bias. Research suggests that individuals are prone to a social desirability bias when answering survey questions which result in them answering in a manner that will be viewed favourably by others (Krumpal, 2013). Respondents tend to either over-report good behaviour or under-report bad behaviour and this is especially true during self-report of ability, personality, sexual behaviour, and drug use (Edwards, 1957). Edwards' research highlighted a particular concern towards studies involving the measurement of individual differences which is particularly appropriate for this research and echoed by the work of Fan et al. (2006). Within the professional development literature, it emerges that studies conducted in parallel with professional development programmes are at risk of 'pretend efficacy', where participants report inflated efficacy levels post-training (Wheatley 2005). Strategies for reducing the impact of bias and considerations for the design of this research include anonymous self-administration of survey responses which provides neutrality, detachment, and reassurance (Paulhus, 1991). The use of computer-based data collection has been suggested to provide additional levels of neutrality and anonymity (McBurney, 1994). Additional concerns related to self-report data include the difficulties associated with respondent's retrospective ability and the potential that they are unable to provide accurate responses due to a skewed view of themselves despite the intention for honesty.

4.2.4 Volunteer Bias

Participation in both the quantitative questionnaire and qualitative interviews phases of the research was optional and so the possibility of volunteer bias was also a concern.

Volunteer bias occurs when participants volunteer to take part in a study and can affect the external validity of data because volunteers typically have different characteristics to the general population and therefore reduce representativeness. Rosenthal and Rosnow (1975) suggested that volunteers are more highly educated, come from higher social classes, are more intelligent, more approval-seeking and more sociable than non-volunteers. They also found that females are more likely to volunteer than males and that volunteers typically have higher levels of empathy and lower levels of trait anxiety. Salkind (2010) suggests that a reduction in volunteer bias can be made paradoxically by increasing the rates of volunteering. Individuals are more likely to volunteer for studies that capture their interest, are perceived to be of utility, are short to complete and are administered by familiar people or people with a higher perceived level of authority. Volunteer rates drop when studies don't match these criteria and also when the focus of the study is seen to be either sensitive or threatening. The above literature raises some concerns and forces some additional design considerations as self-efficacy is a sensitive topic and administration of the measurement tools would be completed by myself who holds a senior leadership role within the organisation. These considerations are discussed in more detail within the ethics section of this chapter (4.8)

4.3 Past self-efficacy assessment methods

Exploring self-efficacy measurement in specific contexts further supported the design of this research's measurement tools.

The sensitivity of self-efficacy beliefs means that there is no all-purpose measure, as such a tool would have limited explanatory and predictive value because of the specificity of different domains of functioning and situational demands (Bandura, 2006).

4.3.1 Quantitative Self-efficacy Measurement

Over the past 20 years, self-efficacy has been predominantly measured quantitatively through questionnaires or surveys containing Likert or other rating scales (Klassen et al., 2010, Glackin, 2018). Klassen et al. reviewed studies between 1998 and 2007 and found that 76.7% (n=167) used quantitative methods typically relying on self-report. Quantitative approaches are common amongst psychology related research which Gardner (1996) proposes is due to their ease of use, transferability, and reliability. Further strengths such as generalisation, ease of analysis and time efficiency further support its use. Glackin (2018) suggests that it is the epistemological roots of self-efficacy that encourage the use of positivist methodologies. The socio-cognitive framework of self-efficacy presents it as measurable and determined by both a person's cognitive processing capacity and the environment within which they exist.

Quantitative self-efficacy assessment tools appear to have grown out of early research by Lent (1991) who designed an assessment scale for the measurement of sources of Mathematics self-efficacy. Subsequent iterations of that scale have been used in both academic and social settings (Matsui et al., 1992; Silver et al., 2001; Anderson and Betx, 2001; Britner and Pajares, 2006). During the assessment, respondents are required to provide a perceptive judgement using a Likert or general rating scale.

Despite the historical prevalence, strengths, and continuing use of quantitative approaches to self-efficacy measurement there are questions about the reliability and validity of quantitative instruments (Pruski et al. 2013). Amongst these are the suggestion that quantitative measurement approaches have contributed to the illusion of self-efficacy being a dichotomised construct where teachers have either high or low efficacy (Wheatley, 2005). These broad labels are restrictive and further limit the understanding of complexity and the emergence of inter-domain types of self-efficacy. Tschannen-Mora and Woolfolk Hoy (2001) highlight the use of quantitative measurement as a contributing factor to the loss of the construct's complexity and ignorance of its multi-faceted nature.

4.3.2 Qualitative Self-efficacy Measurement

Concerns about the limitations of quantitative approaches to self-efficacy measurement have driven the expansion of the use of qualitative approaches as a means to widen its conceptualisation (Wheatley, 2002). Self-efficacy studies that utilised qualitative approaches have done so with a wide range of methods including school observations (Ross and Bruce 2007), written reflections (Brand and Wilkins 2007), individual interviews (Cantrell and Callaway 2008), talk-aloud protocols (Gabriele and Joram 2007), and open-ended questions in questionnaires (Onafowora 2005).

Qualitative approaches primarily use interview as their data collection method and have been praised for their ability to invite participants to elaborate on their experiences and perceptions. Many interviews are deductive in nature and driven by Bandura's (1997) four sources of efficacy information with participants asked to address each one in turn. Below are some examples of questions from qualitative studies of self-efficacy source information:

- Tell me one memorable story that would help me understand how you came to this level of confidence (Zeldin and Pajares, 2000)

- What sources contributed most to your sense of efficacy? (Milner and Woolfolk Hoy, 2003)
- Write something that stands out as being useful in giving you confidence to teach science (Palmer, 2006)

Despite this increase in usage, standardised qualitative self-efficacy methods and analytical frameworks have yet to be developed or widely utilised (Glackin, 2018) and if research is to be of real use then the development of in-depth qualitative methods is crucial (Wyatt, 2012). Criticism has also been directed to the singular collection methods deployed and the absence of an attempt to triangulate data or develop an explicit analysis framework (Glackin, 2018). Studies gaining positive account within the literature include Wyatt (2016) who used a longitudinal case study design to highlight how data from several sources such as observations and interviews can be used to collectively inform self-efficacy judgements and Klassen and Durksen (2014) who developed a coding framework for qualitative self-efficacy data based on extant theoretical and empirical research.

4.3.3 Domain Specific Self-efficacy measurement

The measurement of self-efficacy within educational leadership is seemingly limited to the role of the school principal with few studies venturing to vice-principal level or below. Studies focused on the measurement of principal self-efficacy follow the typical quantitative approach and have produced a range of scales (Hillman, 1986; Imants and De Bradbender (1996), Dimmock and Hattie (1996) Tschannen-Moran (2001), Federici, and Skaalvik, (2011), Polm, (2016). As with general leadership self-efficacy, researchers have developed their own assessment instruments through the identification of situations and tasks that principals face within their role. Researchers use these instruments to explore the structure of the construct and how it relates to other concepts or outcomes (Imants and De Brabander 1996; Smith 2003; Tschannen-Moran and Gareis 2004, 2005). Brama (2004)

identified general managing, leadership, human relations, relationships with the environment, and instructional efficacy as the core elements. Tschannen-Moran and Gareis developed a similar measure called the Principal Sense of Efficacy Scale (PSES) which identified 18 efficacy items within the categories of management, instructional leadership, and moral leadership. Federici and Skaalvik (2011) developed the Norwegian Principal Self-efficacy Scale (NPSES) as a response to their perceptions that a well-tested and proven instrument for principal self-efficacy measurement did not exist. They suggested that previous instruments did not include a broad enough set of functions and responsibilities to sufficiently represent a principal's role and therefore not accurately assess their efficacy. The NPSES consisted of eight dimensions and 22 items and has become a popular tool for the quantitative assessment of principal self-efficacy.

Researchers such as Ford (2014) have acknowledged the weaknesses of a solely quantitative approach to understanding leadership self-efficacy. In his study into levels of instructional leadership self-efficacy, he noted that the quantitative approach did not account for individual stories or provide an explanatory lens through which to view why leaders had developed their efficacy beliefs. Ford suggested that future work include qualitative methods such as interview or observation so that the differences between leaders can be better explored and understood. Swain (2016) addressed concerns over the narrow focus on principal level leadership and the limited triangulation of data brought about by quantitative assessment by using a mixed-methods approach. His study focused on how the leadership practices of school principals impacted the self-efficacy of their vice-principals. Swain used a sequential explanatory design, beginning with a quantitative survey which informed the direction of a subsequent qualitative investigation. Interviews were used to add depth to the previously collected quantitative data and provide a richer understanding of relationships and correlations.

4.4 Research Design

In deciding on an approach to the research I remained focused on ensuring that the chosen methods would enable the collection of data that would serve the various research questions. It became increasingly clear that a narrow approach would not be sufficient to answer the what and why questions I was posing. It was also clear that I should follow Merton and Kendall's suggestion (1946) to abandon the spurious choice of quantitative or qualitative and to focus on making use of the most valuable parts of both. Although initially drawn to a mixed methods approach, the intention was not to integrate the data until the inference stage, a key characteristic of mixed method research (Bazeley, 2015) and so it was decided that the research would incorporate a multi-method approach. Multimethod studies are characterised by the co-existence of different methodologies and retain the flexibility to have any combination of quantitative or qualitative elements unlike mixed method research where the researcher uses contrasting approaches (Hunter, 2015). This was particularly appealing as the aim was still to leverage the benefits of both quantitative and qualitative data collection to fully address the research questions, but the two phases would remain separate and complete different goals (Anguera, 2018). As previously mentioned, it was the lack of integration at the data analysis stage or the use of phase one data in phase two which led it away from a mixed methods approach.

In this research phase one of the research used a quantitative approach to identify what the levels of self-efficacy were amongst the sample leaders and the second phase used a qualitative approach to explore why leaders feel that way. Each phase involved a different analysis process and thus could be termed 'multi-analysis. The results and discussion elements of each phase are purposefully presented separately in the following chapters and sections.

4.5 Phase One - Questionnaire Design

To address the first and second research questions, I chose to use a questionnaire.

Research question #1: *What are leaders' current perceptions of their levels of self-efficacy?*

Research question #2: *Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?*

Questionnaires are a widely used and useful instrument for collecting survey data. The method was chosen for this research due to the reduced time and money costs, response flexibility, anonymity, question standardisation and data analysis efficiency (Gillham, 2008). Consideration was given to the method's limitations including low response rates, poor data quality and response validity but it was still deemed the most appropriate method for the reason stated above. Known issues were mitigated by collecting responses during network meetings where attendance is high, providing comprehensive pre-questionnaire information and including a questionnaire pilot and revision stage before data collection.

I initiated the design of the questionnaire by confirming the clarification of its purpose. The questionnaire aimed to assess the perceptions of self-efficacy within educational leaders at middle, senior and principal level. The expectation was that the responses would highlight levels of general self-efficacy within the organisation as well as within specific leadership tasks. To achieve this, it was important to ensure that the content of the questionnaire was fit for purpose (Fink, 2009). It was clear that alongside the individual leadership capabilities that would form the bulk of the questions additional contextual questions would need to be included to enable comparative analysis between leaders. It was decided that Leadership Area (primary, secondary, central) and Leadership level (middle, senior, principal) would enable that to happen. The organisation does contain an

executive level of leadership, but its leaders were excluded because the population was deemed too small to protect anonymity. The developmental nature of self-efficacy beliefs and the emphasised importance of past experiences (Bandura, 1997) led to the addition of contextual questions covering the individual's time in role and overall time in educational leadership.

Table 3 - Contextual data collection categories

Contextual Information	Leadership Level	Middle	Senior		Principal
	Educational Phase	Primary	Secondary		Central
	Time in current role	< 1 academic year	1 -2 years	2-3 years	3+ years
	Time in leadership	< 1 academic year	1 -2 years	2-3 years	3+ years

4.5.1 Item Development

The next task in the design process was to identify the specific leadership capabilities that would form the self-efficacy scale. The literature is clear on the importance of congruence between scale items and actual role requirements if responses are to be accurate and predictive value protected (Bandura, 1986). Pajares (1996) noted that this caution has often gone unheeded by researchers and resulted in inaccurate self-efficacy assessment tools that produce confounded relationships and ambiguous findings. An absence of this specificity leads to tools that have limited explanatory and predictive value because items are divorced from the situational demands and circumstances of the domain of functioning (Bandura, 2006). A review of the established leadership self-efficacy scales highlighted a disconnect between the scale items and my lived experience as an educational leader and provider of leadership development. The search was then on to find a more representative set of leadership capabilities that were tailored to educational leadership across phases and levels and also honoured Bandura's guidance for scale items to have content validity,

domain specification and suitable gradations of challenge (Bandura, 2006). The organisation in question has its own set of leadership characteristics used for recruitment and training purposes and so it felt appropriate to use them for this case study research.

4.5.2 Question type

Ensuring that the most appropriate kinds of questions were asked was the next stage in the design process and the pursuit of self-efficacy measurement drove the choice of a quantitative approach. Respondents were required to use a rating scale to indicate their levels of self-efficacy for each task. Rating scales are useful in that they build in a degree of differentiation and sensitivity whilst still generating numerical data (Spector, 1992). Amongst the different types of rating scale (Likert, Thurstone, Guttman) semantic differential scales emerged as the most appropriate and most aligned with Bandura's (2006) guidance around scale design. Semantic differential scales place opposing adjectives at either end of the scale and respondents are required to select a position between them. Scale items followed a semantic convention of 'can do' rather than 'will do' to assess capability rather than intention, (Bandura, 1996).

Dichotomous and rank ordering questions were rejected because of a desire to allow a more nuanced response, to limit complexity and the absence of a need to highlight preference. Consideration was also given to the limitations of rating scales; Illegitimate inference of equality between scale intervals (Oppenheim, 1992), Lack of opportunity for qualifying comments, resistance to the selection of scale extremes and the possible variation in value judgements (Cohen, Manion and Morrison, 2018).

The actual writing of the questions was governed largely by the structure of the rating scale tool and the selected leadership capabilities, but consideration was given to ensuring that questions were not leading, loaded, complex, irritating, or ambiguous, (Fink, 2009).

Particular concerns about the semantic structure and phrasing of question items was recognised during the design process. The organisations' leadership framework is relatively new and yet to be fully embedded across the 20 schools. Assuming that respondents have the information required to have an opinion about their responses is dangerous as it assumes that they will fully understand the terms and complex words within the questions. For this reason, it was important to include the next stage in the design process: the piloting of the questionnaire.

4.5.3 Piloting

The pre-testing of questionnaires is a crucial stage in their development and of paramount importance to their success. Piloting the questionnaire serves to increase its reliability, validity, and practicality. Oppenheim, 1992; Wilson and McLean, 1994, Cohen et al., 2018). Focus groups of leaders at each of the pre-defined levels of leadership were asked to review the questionnaire with the following foci:

- The clarity of the questionnaire instructions and layout
- The time taken to complete the questionnaire
- The clarity and wording of the leadership capabilities

The original questionnaire can be seen in **appendix 2**

The questionnaire took the form of a two-sided A4 sized document. Initial questions collected the contextual information key to Research Question #2, recording leadership level, leadership area, time in current role and time in leadership. The next section focused on the individual leadership capabilities that form the organisation's leadership framework. For each leadership capability, respondents were asked to rate its importance to their role to assess role relevance and then their current level of self-efficacy. The questionnaire concluded with an opportunity to identify additional tasks that are important to their role

and then the final question concerning the perceived effectiveness of professional development activities.

Feedback from the focus groups was largely negative and led to a substantial redesign of the research's questionnaire. Below are the most common comments and suggestions for improvement in brackets:

- “Takes too long” (“reduce the questionnaire in length”)
- “The ‘importance to role’ assessment is too subjective” (“just assess self-efficacy”)
- “What does effective mean? Is it too subjective?” (“change scale wording”)
- “Hard to read 30 concurrent items” (“visually separate them”)
- “Wording of capabilities not aligned with organisational language” (“revise wording”)
- “Rating scale too small, limited because people won’t choose extremes” (“Increase the scale”)
- “Boxes for additional tasks too small to write in” (“increase the size or remove”)
- “Professional development questions could be seen as general not leadership specific development.” (“indicate specificity of leadership professional development”)
- “Professional development questions feel like a different study” (“create a separate questionnaire”)

The feedback from participants aligns with the literature on questionnaire design which highlights the importance of appearance (Diaz de Rada, 2005; Dillman et al., 2014) and the need for the physical item to be attractive, easy to use and interesting.

The following changes were made to the questionnaire before data collection:

- ‘importance to role’ assessment removed to reduce subjectivity and completion time.
- Scale increased to 10 to increase the number of accessible rating scores and reduce anti-extreme response style effects.
- Meso level categories added to ease reading of capabilities.
- The professional development section removed to increase specificity of questionnaire and reduce completion time.
- Rating scale categories altered to align with capability not effectiveness.
- Questionnaire reduced to one page to ease completion and reduce completion time.

The revised questionnaire can be seen in **appendix 3**

4.5.4 Data collection

Achieving the highest possible response rates and most authentic self-report data were the priorities during the selection of the data collection method for the questionnaire. The organisation has well established computer systems and digital literacy is a pre-requisite for its leaders which allowed both paper and online options to be considered. The most significant factor driving the method selection was the regular face-to-face access to participants that existed through the organisation's leadership networks. These network meetings occurred every six weeks and contained representatives from all of the stratified groups included in the research. Meetings took place within my place of work which afforded me the ability to provide project information and collect informed consent before questionnaire completion. An additional benefit was the ability to remove myself from the room post-introduction so as not to exacerbate any power-related participatory pressure or social desirability bias within the responses. Participants had the option to complete the questionnaire during the meeting time or to return it later. This option was made in light of Krosnick and Presser's (2010) concerns about time-limited tasks and the challenges of reading and understanding the question, searching memories, integrating information, and forming a response. These concerns would have been partially mitigated through an online questionnaire, but the loss of a face-to-face introduction and potentially lower response rates led to its exclusion. Postal collection was also considered but rejected due to concerns about low response rates.

4.5.5 Data Analysis

Before any recording or analysis, data checks were made on the completeness, accuracy and uniformity of the completed questionnaires as recommended by Moser and Kalton (1971). Checks were conducted to ensure that all questions had been answered, that

respondents had used the rating scale correctly, and that any carelessness was identified. Failure to identify errors at this stage can reduce the validity of the resulting data and analysis. The numerical self-efficacy rating scale used in the questionnaire provided pre-coded data which in turn shortened the data reduction phase. The presence of data points represented as numbers at intervals narrowed the scale down to either interval or ratio and the presence of a true zero meant that the scale would then be classified as a ratio scale. This initial identification is important as the selection of appropriate statistical tests depends on the scale and impacts of the utility of the results (Cohen et al., 2018).

Once collected and checked for completion errors, the questionnaire results were input into Microsoft Excel and a series of analysis processes were completed. The initial stage of analysis was focused on descriptive statistics and the creation of information to describe the levels of self-efficacy within the organisations' leaders. Descriptive statistics are concerned with enumeration and organisation and make no attempt to make inferences or predictions about populations. The mean and standard deviation were calculated using Microsoft Excel formulas.

Descriptive statistics were not sufficient to support Research Question #2 and the exploration of self-efficacy across contextual factors so inferential tests were carried to measure statistical significance. Statistically significant relationships between variables are ones where the relationship is unlikely to be because of chance. A significance level usually identified by α , is the probability that the null hypothesis will be rejected, given that the null hypothesis was assumed to be true. Significance levels are chosen before data collection and for this research were set at 5%.

P-values were calculated for this research using one-way ANOVA testing which was chosen due to the presence of a single independent variable being tested and the presence

of more than two groups. The ANOVA tests were completed using Microsoft Excel and calculated how the collection of group means was spread out and compared it to the expected spread resulting in an F ratio. The F ratio described how much variability there was between the groups relative to how much there was within the groups. F ratios close to 1 suggested the null hypothesis is true. The F ratio was used to then produce the P-value where in the case of this research a figure less than 0.05 would show statistical significance. Other P-value calculations such as T-tests were rejected because of the multiple groups and the chance of alpha inflation.

Researchers such as Cohen (1990) and Kline (2004) are critical of the reliance on P values within statistical testing and it as only part of the picture. To take the analysis for this research further, statistical testing was used to enhance the P value and the presence of significance and use effect sizes to indicate the magnitude of any relationships. Effect size is the magnitude of difference between groups and is particularly valuable when attempting to quantify the effectiveness of a particular intervention. If P values tell us if it matters, then effect sizes tell us how much it matters. Coe (2002) suggests that the use of effect size promotes a more scientific approach to the accumulation of knowledge and is therefore a valuable tool when reporting and interpreting relationships. There is a range of common effect size indices and for this research eta-squared and Cohen's D were calculated.

Eta-squared was used to calculate effect sizes across all groups within a contextual factor (e.g. leadership level) and chosen due to the use of the aforementioned ANOVA testing.

Eta-squared values were calculated in excel using the formula below and interpreted using the following:

$$\eta^2 = \frac{SS_{\text{Treatment}}}{SS_{\text{Total}}}.$$

- $\eta^2 = 0.01$ indicates a small effect;
- $\eta^2 = 0.06$ indicates a medium effect;
- $\eta^2 = 0.14$ indicates a large effect.

To further deepen the analysis of results Cohen's d was used to calculate effect sizes between each group pairing within each contextual group (e.g. middle and senior leaders within the leadership level group) using the formula and interpretation guide below:

$$D = \frac{M_1 - M_2}{S_p}$$

- $d = 0.20$ indicates a small effect;
- $d = 0.50$ indicates a medium effect;
- $d = 0.80$ indicates a large effect.

Due to the volume of contextual factors and leadership framework levels only large effect sizes resulting from the Cohen's d calculations were reported.

4.6 Phase Two - Interview Design

To capture data to address the Research Question #3, I chose to conduct semi-structured interviews.

Research question #3 - *How have leaders' perceived levels of self-efficacy been developed?*

The qualitative focus of the second question required a different collection tool to the questionnaire and interviews were chosen as they afford researchers opportunities to 'explore, in an in-depth manner, matters that are unique to the experiences of the interviewees, allowing insights into how different phenomena of interest are experienced and perceived' (McGrath et al., 2019, p.2). It was understandably anticipated that the question of how self-efficacy beliefs were constructed would hold much more variability than the previous quantitative measure. Individuals' life histories and professional experiences were possibly so diverse that the measurement tool had to have the flexibility to cope with these demands. The ability for interviews to capture data through multi-sensory channels and balance control with opportunities for spontaneity were attractive characteristics.

Interviews are social, interpersonal encounters where views are interchanged and knowledge is co-constructed (Kvale, 1996). Interviews facilitate the construction of understanding between people and enable a discussion around situational interpretation and personal points of view (Cohen et al., 2018). They are not everyday conversations in that they have a specific purpose and are aimed at gaining evidence, data, or information (Dyer, 1995). Interviews represent the art of hearing data (Rubin and Rubin, 2005) and enable a researcher to investigate an educational organization, institution, or process through the experience of the individual people (Seidman, 2006).

During the selection of the method, I was conscious of the documented challenges that are associated with interviews. Cicourel (1964) cautions against the inevitable differences that occur between interviews in terms of trust, power, control, and execution. Avoidance tactics are common amongst interviews where topics are sensitive as with the case of self-efficacy beliefs in the case of this research. Cicourel (1964) also highlights the tendency for all parties involved in the interview to hold back at some stage in what they share or state and for the meanings of interview items to be perceptually different between respondents.

The planning of the interview process for this research was guided by the sequential stages of thematising, designing, interviewing, transcribing, analysing, verifying, and reporting as set out by Kvale and Flick, (2007).

4.6.1 Thematizing

The sequential nature of the data collection methods in this research meant that the purpose of the research was already very clear and that the initial thematising phase could be moved through quickly. The more refined purpose of the interview element was to explore how individual's perceptions of their self-efficacy had been and continued to be developed.

4.6.2 Designing

The presence of an existing theoretical framework in Bandura's recognised sources of efficacy information (1996) drove the decision to use a semi-structured design. The chosen design could also be described as a standardised open-ended interview (Patton, 1980) as the exact wording and sequence of the questions were decided in advance yet allowed for differentiated responses. This approach was selected to increase the comparability of responses, reduce interviewer effects or bias and to facilitate the organisation and analysis of the resulting data. During the design, I was mindful of the limitations of response depth

that the enforced structure may create as well as the possibility of confirmation bias through the use of existing theory. To address this, I created prompts to enable me to ask the respondent to extend, elaborate, exemplify, clarify, or qualify their responses to obtain the richness, comprehensiveness, and honesty inherent to successful interviewing (Patton, 1980). The prompts were emergent in that they were not pre-scripted but used to probe in response to what the interviewee said (Beatty and Willis (2007) and ‘expansive’ in that they would be used to seek further information and detail (Priede et al., 2014). The planned use of prompts was limited so as not to introduce researcher bias (Fowler, 2009) or develop resentment or frustration in the interviewee (Wellington, 2015).

The interview schedule can be seen in **appendix 4** and highlights how the number of questions was kept to a minimum to enable more open responses and to ensure time for the depth of answer desired within the case study methodology. The interview questions were as follows:

1. Thinking about the tasks within your role where you have **high levels of self-efficacy**, what has happened during your time as a leader to develop that perception?
2. Thinking about the tasks within your role where you have **low levels of self-efficacy**, what has happened during your time as a leader to develop that perception?
3. Thinking about tasks where you feel you have increased your self-efficacy from low to high, what has happened to make you feel that way?

The first two questions were focused on the positive and negative impacts on self-efficacy levels which provided a clear focus for the question and aided the thematic analysis process. The third question ensured reflection and communication of the developmental

actions that had positively impacted their self-efficacy, a key aim of the research and for the professional recommendations.

4.6.3 Data collection

Before the commencement of the actual interviews and qualitative data collection, important decisions around the location, time and timing had to be made. It was decided that interview location would be the respondent's choice and would take place either at the organisations' central training centre for increased anonymity or the respondent's school for increased convenience. Interviews took place in a private space known to the supervisor of the interviewee.

The structure of each interview followed the three phases outlined by Millar et al. (2017) with an opening phase, the main body and then the closing. During the opening phase, introductions were made along with a re-acquaintance with the rationale for the research and the interview process. This stage served to establish relationships, build rapport, and start to develop trust (Echterling et al., 1980). The opening phase was also used to revisit ethics considerations and ensure that the interviewee was cognizant of issues such as confidentiality, interview recording, their right to withdrawal and how the collected information may be used (Banaka, 1971).

The aim of the main body of each interview was the collection of the data and in this case the narratives surrounding the development of the interviewee's leadership self-efficacy beliefs. Due to the semi-structured nature of the interviews, questions were pre-determined and kept constant between interviewees. A variety of attending behaviours were used during the questioning to encourage interviewee responses. Eye contact was maintained, a forward lean was adopted, attentive facial displays were combined with expression mirroring and encouraging gestures. Verbal behaviours such as 'hmm,' 'I see' and 'yes'

also helped to indicate attention but not overly distract the interviewee or take their power away. During the closing section of the interview, time was provided to summarise the process, explain the next steps, and allow time for any questions from the interviewee.

4.6.4. Transcription

Step one in the analysis of the qualitative interview data was that of transcription; a process involving the transformation of oral information into a written form more amenable to closer analysis, (Kvale and Flick, 2007). Much of the literature and discussion on effective transcription has emerged from the work of Ochs (1979) who proposed and demonstrated that transcription was theoretical in nature. Central to her work and now commonly accepted is the notion that transcription is a selective, interpretive, and representational process and not just the mechanical selection and application of notation symbols (Duranti, 2007; Mondada, 2007; Davidson, 2009). The literature emphasises the complexity of transcription and the key role that transcribing plays in the accuracy, validity, and reliability of the output data. Bailey (2008) posits that transcripts are not neutral records of events, they reflect an interpretation and apprehension of what is said and how it is said to understand meaning. Further challenges surrounding transcription such as time, resources, continuity, and dialect translations are common discussions within the literature (Halcomb and Davidson, 2006; Bailey, 2008; Azevedo et al., 20017).

The aforementioned set of challenges can be overcome with careful and thoughtful planning (Lapadat, 2000). After consideration of the literature, it was decided that this research would follow the six-step process outlined by Azevedo et al. (2017).

Step 1: *Prepare*, put into place a set of basic measures to minimise future setbacks. Audio files were stored securely with a clear identification system. Cover sheets were created to outline interviewer, interviewee and transcriber codes, contextual information, and

additional data such as the number of pages (McLellan et al., 2003). At this stage it was deemed important to make decisions about the type of transcription that would be completed and its logistical implications. The literature on transcription is critical of studies where the process is taken for granted (Davidson, 2009); where the trustworthiness of external transcribers is in question (Duranti, 2007) and where the process of transcription development is neglected in written reports (Lapadat and Lindsey, 1999). For this research, the transcripts would be linear in structure, completed by me and be naturalised to remove pauses, false starts, and repeated sentences to ensure that the focus remained on the quality of the information (Sandelowski, 1994; Stuckey, 2014). Despite the naturalisation process a codebook was still created to ensure the standardisation of procedures relating to interview elements such as interruptions, silences, and unintelligible speech.

Table 4 highlights the coding techniques used during the transcription process. Ways to identify issues with the volume or clarity of speech were included as were codes for uncertainty of meaning or mispronunciation. I was conscious not to attribute value blindly to the frequency of references but to also acknowledge the importance to either the participant or the research questions. With this in mind extracts where the respondent was emphasizing were underlined to signify their importance. A final key element of the transcription coding was the use of colour to indicate whether the respondent was referencing a positive (green) or negative (red) impact on their self-efficacy. This was an important distinction as the focus of the qualitative interviews was an exploration of how self-efficacy beliefs had been developed.

Table 4 - Interview transcription codebook

In the recording	In the transcription	Example
Speech cannot be heard	Information inside parentheses	(inaudible text segment)
Speech cannot be understood	Information inside parentheses	(unintelligible segment)
Uncertainty about meaning	Inside parenthesis and delimited by question marks	Leadership is about capacity and ?(faculties)? isn't it?
Mispronunciation	The exact transcription of what was said and a proposal inside parenthesis delimited by slashes	Middling leadership/(middle)/
Non-verbal sounds (emotions)	Information inside parentheses	(laughed); (sighed)
Speech is emphasized	Underlined	<u>Delegation is key to leadership</u>
Silence	An ellipsis inside parentheses	(...)
Positive influence on self-efficacy	Text coloured green	Coaching has really help build my confidence
Negative influence on self-efficacy	Text coloured red	Negative feedback has lowered my confidence

A small extract of interview transcription can be seen below and a full transcription in **appendix 5**

“So even as a leader I am given a certain amount of autonomy in how I develop my area of the curriculum what I do with the staff in my area. I often feel like I don't actually have autonomy about that. For me creates a major barrier. So, it's difficult for me to feel confident with doing something large scale and strategic which will be asked of us at some point for any given reason when I feel that or something that I have on a regular basis. So, if it's not something that's in my locker I just go and get it.”

Step 2: Know, involved the listening of the interview recordings and a review of the field notes in order to refamiliarize me with the content and idiosyncrasies of each participant.

Step 3: Write, involved the act of transcribing itself and through a cyclical process of listening, typing and relistening the oral speech was transformed into written text. In this

research the transcripts were produced using a word processor programme. The aforementioned codebook was used whenever necessary and updated as required. (Bailey, 2008). The content of what was said was not changed or added to and references to individuals or organisations were edited to maintain confidentiality.

Step 4: *Edit*, involved the careful addition of punctuation and alteration of uppercase and lowercase letters to aid comprehension without changing the purpose or emphasis of answers (McLellan et al. 2003; Stuckey, 2014). Grammatical, syntactic, and prosodic errors were corrected across transcripts and across interviewee and interviewer to maintain reader comprehension, a decision not deemed detrimental to the research's objectives.

Step 5: *Review*, involved comparing the resulting transcripts with the original recordings to assess accuracy.

Step 6: *Finish*, involved storing audio recordings and transcriptions securely with restricted access until the award of the qualification when they would be destroyed (Azevedo, 2017).

4.6.5 Thematic analysis

The production of highly accurate and representative transcriptions of qualitative interview data was just the initial stage of the analysis process and despite containing an element of analysis, the true work was carried out through the subsequent process of thematic analysis. Definitions of thematic analysis share a commonality in their description of a process that involves the identification of patterns or themes within qualitative data (Boyatzis, 1998; Braun and Clark, 2006; Guest et al., 2012). The goal of thematic analysis is to seek out these patterns or themes within the qualitative data to address research questions and add fresh perspective of thoughts. The literature is again agreed on the fact

that thematic analysis is much more complex than a simple summary or organisation of data and that it should strive to interpret and make sense of it (Maguire and Delahunt, 2017). Where the literature does start to conflict is in the discussion of approaches to the technique with a variety of methods proposed by researchers (Boyatzis, 1998; Hsieh and Shannon, 2005; Braun and Clarke, 2006; Alhojailan, 2012; Javadi and Zarea, 2016).

There were several choices to make with regards to the thematic analysis process before data collection and a commitment to engage with an ongoing reflexive dialogue regarding these choices. The question of what constitutes a theme is a key reflection and Braun and Clarke, (2006) define it as something important in the data that relates to the research question(s). Typically, themes emerge because of their prevalence within the data but this should necessarily be conflated with importance, a point taken forward strongly within this research. The choice made in this research was to be flexible with the award of themes, to resist using a quantifiable measure and to seek out importance and relevance to research questions instead.

Another consideration was the scope of the analysis and the decision to favour either breadth or depth and provide a description of the whole data set or a particular element. The nature of this phase of the research was exploratory and aimed at uncovering the development stimuli of self-efficacy beliefs. The fact that participant's views were unknown and the desire to highlight important themes led to the decision to include the full data set in the analysis process.

The decision to take an inductive or deductive approach to the analysis was another research design element to reflect on. Inductive thematic analysis starts from the bottom up, much like grounded theory and themes are strongly linked to the data themselves (Patton, 1990). This approach is not driven by the researcher's theoretical interests and

coding does not try to fit data into pre-existing frames (Braun and Clarke, 2006).

Deductive analysis in contrast is therefore driven by the researcher's theoretical or analytical interest in the subject and described as 'top down' (Boyatzis, 1998). The decision in this research was not to limit the richness of the data by constraining it within pre-determined themes but also to acknowledge the presence of an existing theoretical framework. This appreciation of the potentially unconscious impact of self-efficacy literature stems from Braun and Clarke's (2006 pg.12) observation that 'data is not coded in an epistemological vacuum'.

A final consideration for the design of the thematic analysis was the level at which the themes would be identified and whether they would be explicit or interpretive (Boyatzis, 1998). Explicit or sometimes called semantic analysis focuses on the surface meanings of the data and not beyond what is said or written. Interpretive analysis looks beyond the semantics and examines underlying ideas, assumptions, conceptualisations, and ideologies (Braun and Clarke (2006). In this research, an explicit approach was chosen, and semantic data patterns were described before an attempt was made to theorize the significance of their broader meaning and implications (Patton, 1990).

In terms of a thematic analysis procedure, it was decided that the analysis would follow the phases of thematic analysis suggested by Braun and Clarkes, (2006) and seen below:

1. Familiarizing yourself with your data;
2. Generating initial codes;
3. Searching for themes;
4. Reviewing themes;
5. Defining and naming themes;
6. Producing the report.

4.7 Participants

4.7.1 Setting

All participants were members of staff within the case organisation, a federation of 20 schools employing 1900 people and serving the educational needs of over 10,500 young people. Within the organisation there are eight primary schools, seven secondary schools, one all through school, one post-16 school and one alternative provision school. The organisation also has a large central team who are responsible for human resources, finance, project management and professional development. The distinction between leaders in these different areas of the organisation is important as the research uses leadership area as one of the contextual factors for analysis and discussion.

4.7.2 Population and Sample

Table 5 below shows the contextual makeup of the population of leaders within the organisation. Phase-specific sample participants are then shown in tables 6 and 7 and described in more detail in chapters five and six.

Table 5 - Case organisation's leadership population

Leadership Area		Total	Primary Phase	Secondary Phase	Central Team
		282	55	202	25
Leadership Level	Middle	170 (60%)	30 (55%)	140 (69%)	N/A
	Senior	67 (24%)	15 (27%)	52 (26%)	
	Principal	20 (7%)	10 (18%)	10 (5%)	
	N/A	25 (9%)			

Table 6 - Phase one questionnaire sample

*Percentages are relative to the population of organisation's leaders.

Leadership Area		Total	Primary Phase	Secondary Phase	Central Team
		138 (49%)	33 (60%)	89 (44%)	16 (64%)
Leadership Level	Middle	70 (41%)	20 (67%)	50 (36%)	N/A
	Senior	38 (57%)	7 (47%)	31 (60%)	
	Principal	14 (70%)	6 (60%)	8 (80%)	
	N/A	16 (64%)			

Table 7 - Phase two interview sample

*Percentages are relative to the population of organisation's leaders

Leadership Area		Total	Primary Phase	Secondary Phase	Central Team
		14 (5%)	6 (11%)	6 (3%)	2 (8%)
Leadership Level	Middle	4 (2%)	2 (7%)	2 (1%)	N/A
	Senior	4 (6%)	2 (13%)	2 (4%)	
	Principal	4 (20%)	2 (20%)	2 (20%)	
	N/A	2 (16%)			

4.7.3 Access to the sample

Sufficient access to the sample is a key consideration for researchers and a factor that must be assessed early in the research's design process. (Cohen et al., 2018). As a member of the case-study organisation and more specifically a senior leader within the central team I had regular access to the research's participants through the termly network meetings. It was during these face-to-face meetings that research information was provided, informed consent obtained and where the questionnaire data was collected. Access was also regular

which facilitated the ability for participants to collect, complete and return questionnaires at different times.

4.7.4 Sampling strategy

A stratified sampling strategy was chosen for the research as one of the key aims was to explore self-efficacy across a range of leadership areas and levels. To establish the sampling frame, the population of leaders within the organisation was divided into homogenous groups with each group containing subjects with similar characteristics. Table 8 below outlines the different groupings.

Table 8 - Homogenous sample groups

Group	Leadership Area	Leadership Level
1	Primary Education	Middle
2	Primary Education	Senior
3	Primary Education	Principal
4	Secondary Education	Middle
5	Secondary Education	Senior
6	Secondary Education	Principal
7	Central Team	N/A

The non-compulsory nature of the data collection led to the influence of volunteer sampling effects and the recognised decrease in generalisability and representativeness that comes when participatory motives are unknown. This is particularly relevant to this research due to the sensitive nature of the data collected (confidence levels linked to professional attributes) and the self-report nature of self-efficacy beliefs.

4.8 Ethical considerations

I was conscious that both the questionnaire and interview were always going to be an intrusion into the respondent's life both in terms of time and privacy and so factored a range of ethical considerations into their design and execution.

4.8.1 Informed Consent

The case study organisation gave its permission for the research to take place and there was no obligation for staff at any level to participate. Participants were assured of their right not to participate without penalty, of anonymity if they did. Participants were invited to complete the initial questionnaire during pre-existing network meetings and presented with a research information sheet and verbal explanation of the research's aims and logistics by myself to strengthen the informed consent process. Participatory interest in the interview stage was collected via a question within the initial questionnaire. Written informed consent for the interview stage was collected before the start of the actual interview.

4.8.2 Right to withdrawal

Participants had the option to not commence the questionnaire, to refrain from answering any of the questions and/or to not submit their completed questionnaire. At the end of the questionnaire participants had the option to not continue onto the interview stage of the research. Interview participants retained the option to revoke their interest in the interview phase, to not attend the interview or to cease the interview process at any time without penalty or reason.

4.8.3 Confidentiality

As with any ethically sound research, a range of strategies were used to ensure the confidentiality and privacy of the participants and are detailed below.

Questionnaire responses remained confidential both during the completion, storage and analysis and participants were not identifiable by any contextual information that was collected. Where questionnaire respondents did leave contact details to continue their involvement, these details were separated from the questionnaire responses via a tear-off strip. All contact details, data and notes were destroyed upon award. Interview participants were pseudonymised during transcription to ensure that no participant was identifiable from their responses. Further anonymity was provided by only reporting aggregated evidence from the data and not citing evidence from individual responses (Yin, 2009). The decision was made to not include the executive leadership team in the research as there was a risk of traceability due to the small group size. All data was stored securely on the University's One Drive storage and destroyed at the end of the research. Questionnaires, field notes and working documents in paper form were securely stored as per the University's policy.

Despite the aforementioned strategies, my role as an insider researcher raised some additional considerations around confidentiality. Floyd and Arthur (2012) highlight that even if a researcher does not specifically identify their organisation, the publication of their name and acknowledgement of insider researcher status often makes it easy to establish a connection to where the research took place. The focus on contextuality in this research and the use of sub-groups within the data analysis may have also increased the opportunity for participant identification. Both issues remained a consideration throughout the research and the aforementioned strategies were used to minimise the chances of identification.

4.8.4 Risk

There were no physical risks associated with this research except those presented when individuals met for an interview. This was considered low risk as all participants are DBS cleared professionals within the organisation for whom I am employed. The sensitive nature of confidence appraisals and personal reflections on past events included a small risk of psychological and emotional distress during both the questionnaire and interview stages. The personal nature of self-reported data and the emotional requirements of reflection were considered, and care was taken to ensure that the exploration of self-efficacy beliefs did not negatively impact an individual's self-concept, self-esteem, or their self-efficacy. Questionnaire items were focused on professional attributes and interviews were conducted sensitively with the interviewer intuitively responding to any participant discomfort.

The identification of low self-efficacy within professional capabilities raises an ethical consideration around potential reputational damage for both the individuals themselves and the Institution which formed the bounded case. Levels of confidentiality and my own professional training and experience enabled me to deal with this and should any issues had arisen I would have referred the individual to the organisation's employee assistance programme. No such concerns arose during the research. The risk of disclosure of personal – professional issues, of inappropriate behaviour was managed by following my employer's code of conduct related to this and the UWE – BERA ethical research code. Reputational risks to participants, the organisation, myself, and other staff were managed through the confidentiality and privacy measures previously mentioned. Supervisors for both interviewer and participant were made aware of interview locations and contact details. Interviews took place in spaces where I and the participants could be seen but not heard by others.

4.8.5 Insider researcher

According to the categorisation suggested by Adler & Adler (1994) my complete membership of the group being studied places me within the role of an insider as opposed to an outsider. Chavez, (2008) and Dwyer and Buckle (2009) both reject this dichotomy as simplistic and Mercer, (2007) and Trowler, (2011) see the researcher role in a more nuanced light, placing insider research on a continuum dependent on the closeness of the researcher to the element being studied. My working relationship with the participants and 18-year career within the organisation place me firmly at the insider end of the continuum and come with various benefits and challenges that have informed the choices and design of this research.

Insider research is typically discounted because it is perceived not to conform to standards of intellectual rigor (Anderson et al., 1994) and yet there are many positives to be found in the role (Brannick and Coghlan (2007)). Having a high degree of pre-understanding around the weaknesses in the organisation's leadership development drove the impetus for the research and the research questions. Having a greater understanding of the culture, structure and politics of the organisation guided the design of the completion and collection elements of the research data. Knowing when and how leaders meet together improved levels of access and questionnaire completion rates. Bonner and Tollhurst (2002) also suggest that having an established intimacy with the participants promotes the telling of truth, an element particularly important in this research due to the sensitive nature of the construct.

Balancing the positives of insider research are the potential negative impacts that I have needed to consider during the various stages of the research. During the initial design stages, I was mindful that as Chavez, (2008) suggests, my personal values and experiences

may have created a level of researcher bias in the selection of the research focus and the design of research questions. My own personal struggles with self-efficacy beliefs may have elevated its importance as a lever in leadership effectiveness which may not be felt across more generally.

During the recruitment of participants, I was mindful of my position as a senior leader within the organisation and the possibility of implicit coercion which may exist because of formal power relationships (Fleming, 2018). In Bourdieusian terms, it could be implied that I have social capital derived from my position and status within the organisation and this may exert power over the organisation's members. Bourdieu (1986) saw social capital as belonging to the individual derived primarily from position as opposed to other researchers such as Coleman, (1988) and Putnam (1993) who saw it as the property of groups and networks and something that could be developed. It is therefore Bourdieu's conceptualisation that has the most relevance in this research and is a consideration in terms of the voluntariness of the participants and the levels of social desirability bias attached to their responses. Concerns regarding coercion were mitigated through volunteer sampling but a total lack of unconscious coercion could not be fully removed.

Subjectivity during the data collection and analysis was a potential issue for me as an insider researcher and Mercer (2007) highlights that the inherent subjectivity associated with researchers positioned within an organisation can be contaminating. This presence of subjectivity is something I have not placed much concern or weight on as people as far back as the 1800s such as David Henry Thoreau and more recently Smyth & Holian, (2008) have described the myth of objectivity and the reality that information is delivered through a lens and then subsequently re-interpreted through another lens. I have not sought to be entirely objective in this research but have been mindful of the impact of subjectivity. The potential for informant bias due to perceived power dynamics was a consideration at

the data collection stage as well as recruitment. Dwyer & Buckle (2009) suggest that the data shared by participants may be influenced by how the researcher is perceived and the relationships that exist outside of the research context. Participants in both the questionnaire and interview phases of this research may have been either willing to share honestly with someone who understands or reluctant to share for fear of being judged or damaging the relationship.

Another consideration during the data analysis phase was the risk of premature conclusion. Flemming (2018) suggests that although premature conclusion and the desire for positive outcomes are not unique to insider research there is more potential for these to occur when the researcher is closely linked as I am with the topic of self-efficacy. There is also a danger during this stage that insider researchers can be too familiar and take for granted the tacit patterns and regularities present in the data (Mercer, 2007). I was particularly mindful of the professional development culture and activities that exist as the norm within the organisation and to not ignore their impact on self-efficacy development.

As a final insider researcher consideration, it was also important for me to reflect on the long-term impact of my role as an insider researcher and especially one that would remain in the organisation after the completion of the research. 'Ethical concerns fade naturally into the background for outside researchers after completion' (Floyd and Arthur, 2012, p.174) but in this case, shared information may impact future activities or relationships. It was important therefore for me to consider that the impact of me undertaking this research may have implications beyond the life of the research.

4.8.6 Confirmation Bias

The presence of an existing theoretical framework (self-efficacy) presents the need to consider the presence of confirmation bias during the recording and analysis of research data. Confirmation bias involves a tendency to give more weight to data or information that supports previously held hypotheses than relevant information that invalidates them (Spedding et al., 1863). Evans, (1989, p 41) describes it as ‘the best known and most widely accepted notion of the inferential error to come out of the literature on human reasoning’. Confirmation bias is not the conscious, case-building process seen in the courts of law but an unwitting selectivity in the collection and use of evidence (Nickerson, 1998). The presence of confirmation bias during research studies can lead to statistical invalidity and poor inferential decisions. The data from phase one of this research was collected anonymously without the presence of the researcher and so limited the possibility of the bias being present. Inaccuracies in the data transfer from the paper questionnaires to the computer analysis program were possible but original data was checked before analysis to reduce this.

Of greater consideration for this research is the collection and analysis of interview data from phase two. The presence of confirmation bias during the interview process can lead to inaccuracies in both the recording and re-telling of personal narratives. During the interview process confirmation bias can result in questions that contain information not previously mentioned by the interviewee (Ceci and Bruck, 1995). This can occur during the probing of open question responses or as supplementary questions at the end of the schedule. Misuse of these questions can lead to false interviewee responses (Powell, Gary and Brewer, 2009). The interpretation of interview data is also a research stage that warrants consideration of confirmation bias. The search for links between events or actions which may have impacted upon self-efficacy beliefs creates the possibility of producing

illusory correlations (Nibsett and Ross, 1980). Illusory correlations occur when the presumption of a relationship predisposes the researcher to seek evidence for that relationship or overweigh existing evidence. The acquisition of knowledge regarding the development of self-efficacy during the literature review and my own personal beliefs need to be cautionary considerations.

Chapter summary

This chapter has served to describe the research design in greater depth, highlighting the rationale for data collection choices and exploring sample and ethical considerations.

Below are the key points from each section:

The combination of ‘What’ and ‘Why’ research questions drove the choice of a multi methods research design with the phases sequentially ordered so as to enable the research to address all of the research questions.

The research design acknowledged and responded to the clear guidelines on self-efficacy scale creation found within the literature. The use of the organisation’s leadership inventory items increased contextual congruence and a ‘can do’ semantic convention ensured that questions assessed ability rather than willingness (‘could do’).

The research design also considered wider literature considerations such as memory recall accuracy and relevant biases such as social desirability and volunteer.

The literature on self-efficacy measurement highlighted the prominence of quantitative approaches, their associated benefits and the emergence of qualitative methods strengthening the decision to adopt a multi-methods research design.

A questionnaire containing a rating scale, aligned to the organisation’s leadership framework was selected to provide data for Research Questions #1 and 2 and was defended by its large sample size capacity and contextual congruence.

Considerable thought was applied to question types, user experience and data collection to increase levels of data validity and reliability. The initial questionnaire was piloted, resulting in significant changes and improvements.

Data collection took place in paper form within scheduled leadership network meetings in order to maximise response rates and enable the provision of accurate pre-participatory project information and informed consent.

Microsoft Excel was used to collate the data and mean, and standard deviation calculations were completed to initially describe the data and support Research Question #1. To complement the descriptive analysis and support Research Question #2, ANOVA tests were selected to explore statistical significance and Eta-squared and Cohen's d testing used to calculate effect sizes and measure the magnitude of any emerging relationships.

Semi-structured interviews were selected as the second data collection method due to their ability to explore more deeply the development of self-efficacy perceptions in support of Research Question #3.

Kvale's (2007) framework for interview planning was used to make decisions about thematising, designing, data collection, transcription, and data analysis. A codebook was used to standardise the transcription annotations with particular reference given to positive and negative associations with self-efficacy development and emphasised speech. In terms of a thematic analysis procedure, it was decided that the analysis would follow the phases suggested by Braun and Clarke (2006). The decision was also made to use an inductive approach to theme creation and to favour significance over commonality in decisions concerning what would constitute a theme.

The research adopted a self-selecting sample with the questionnaire sample representing 49% of the leadership population within the organisation, totalling 138 respondents.

Representativeness was increased through the inclusion of leaders from different layers of

leadership and areas of the organisation. To protect anonymity, the relatively small executive team was excluded as was the collection of gender or individual school employment information.

The sample size dropped to 14 for the interviews (5% population, 10% questionnaire sample) due to time restrictions.

Confidentiality and the right to withdrawal were key ethical considerations due to the sensitive nature of self-efficacy exploration, the potential for social desirability bias and as so were vital to the accuracy of participants responses.

The ethical implications of my role as an insider researcher and one in a position of authority were explored and a cautionary note was added regarding the possibility of confirmation bias.

Chapter 5. Data Part 1 - Questionnaire Findings

This chapter serves to describe the results and discussion relating to phase one of the research, the questionnaire. The questionnaire was primarily used to provide supporting data for research questions one, two and four:

Research question #1: *What are leaders' current perceptions of their levels of self-efficacy?*

Research question #2: *Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?*

Research Question #4: *What are the implications of the findings for leadership training and development?*

The chapter begins with a description of the size and contextual characteristics of the questionnaire sample, elements that directly impact Research Question #2. The results of the questionnaire then follow and are organised in terms of the research questions they seek to support. Results and descriptive analysis are initially used to support Research Question #1 and then followed by an inferential analysis that serves the contextual interests of Research Question #2. The organisation's leadership model (appendix 1) drives the structure of each subsequent section with results and analysis presented initially at the wider macro level before increasing in depth to the meso level and finishing with individual leadership competencies at the micro level. The chapter concludes with a range of discussion points leading from the results and is organised around the research questions.

Questionnaire Sample

The following section outlines the contextual makeup of the research sample in terms of its representativeness of the bounded case population and the size of the various subgroups within it.

Participants for the research were all employed as leaders within the bounded case study organisation. 138 leaders chose to take part in the initial questionnaire stage which represented 49% of the leadership population.

Leadership level and Area

Table 9 - Leadership area and level of leaders within the questionnaire research sample

Percentages are relative to research sample / leadership area

Leadership Area		Total	Primary Phase	Secondary Phase	Central Team
		138 (49%)	33 (60%)	89 (44%)	16 (64%)
Leadership Level	Middle	70 (41%)	20 (67%)	50 (36%)	N/A
	Senior	38 (57%)	7 (47%)	31 (60%)	
	Principal	14 (70%)	6 (60%)	8 (80%)	
	N/A	16 (64%)			

The majority of leaders within the sample (50.7%) were classified as middle leaders in that they lead small teams with localised responsibilities. The next largest group were senior leaders who made up 27.5% of the sample and typically lead across a school on a specific responsibility such as curriculum or behaviour management. 10% of the sample were principals and represent the highest level of leadership within the sample. 11.6% of the sample came from the organisation's central team where leaders work within human resources, finance, and staff training. The relative sample percentages between leadership levels mirror those of the population where staff levels typically decrease as you rise up the hierarchy. In terms of leadership area, the majority of participants (64.5%) came from

secondary education with 23.9% coming from primary and the remainder (11.6%) from the central team which is representative of the organisational population.

Time in current leadership role

Table 10 - Levels of role leadership experience within the research sample

** Percentages are relative to research sample

Time in Leadership role (years)	Overall %			
<1	20.29%			
1-2	29.71%			
3-4	28.26%			
5+	21.74%			
Leadership Level	<1	1-2	3-4	5+
Middle	17.14%	31.43%	22.86%	28.57%
Senior	31.58%	31.58%	26.32%	10.53%
Principal	7.14%	21.43%	50.00%	21.43%
Leadership Area	<1	1-2	3-4	5+
Primary	18.18%	39.39%	21.21%	21.21%
Secondary	21.35%	26.97%	29.21%	22.47%
Central	18.75%	25.00%	37.50%	18.75%

In terms of role-specific leadership experience, the differences in experience levels between participants were less pronounced. 20.3% had been in their roles for less than one academic year. Leaders with between 1-2 years' experience within their current role made up the largest group (29.7%) in the research. The second largest group in the research in terms of role experience were those with 2-4 academic years of experience (28.3%). Leaders with the longest amount of time in their current roles made up 21.7% of the research sample. Across leadership levels principals held the most role-specific experience with 71% having three or more years. Between leadership areas, levels of role experience were more evenly distributed with central leaders being the highest with 56% having three or more years.

Time in Educational leadership

Table 11 - Levels of educational leadership experience within the research sample

** Percentages are relative to research sample

Time in Educational Leadership (years)	Overall %			
<1	7.97%			
1-2	15.94%			
3-4	28.99%			
5+	47.10%			
Leadership Level	<1	1-2	3-4	5+
Middle	14.29%	22.86%	28.57%	34.29%
Senior	2.63%	10.53%	42.11%	44.74%
Principal	0.00%	0.00%	7.14%	92.86%
Leadership Area	<1	1-2	3-4	5+
Primary	12.12%	21.21%	30.30%	36.36%
Secondary	7.87%	14.61%	30.34%	47.19%
Central	0.00%	12.50%	18.75%	68.75%

Difference in levels of overall educational leadership were more pronounced than time in role with 47% having five or more academic years and only 8% having less than one year. In terms of leadership level, years of experience increased as seniority increased indicating a level of maturity within the organisation's leadership population. In terms of leadership level, there were no principals with less than three years' experience and 92.86% had more than five years. Between leadership areas the highest levels of experience were represented by leaders in the central team (68.75%). The lowest levels of experience across levels were found in the primary phase (12.12%).

Representativeness and parameters of the sample

As the research focused on a bounded case and did not seek to generalise outside of that population, the parameters were set as the total number of leaders within the organisation (n=282) a figure accurately obtained from the human resources department. Participation was not compulsory and also reliant on attendance at the networking events where the data

collection took place. These conditions created a sample of n=138 which equated to 49% of the population.

5.1 Questionnaire Results

The following section outlines the results from the phase one questionnaire. The results are presented against the research questions they aim to support and start at the widest lens, general self-efficacy before moving deeper through the organisation's leadership framework and the macro, meso and micro levels.

5.1.1 Research Question One

General educational leadership self-efficacy

Table 12 - General leadership self-efficacy ratings

	N	Mean	STD
All Respondents	138	7.37	1.50

The first result that contributes information to Research Question #1 is the level of general leadership self-efficacy, calculated through the mean of all micro level self-efficacy assessments. Self-efficacy levels for the whole sample were 7.37 indicating high levels of confidence for leadership tasks. (10 being the highest self-efficacy rating available). The standard deviation result shows a clustering of scores around the mean and indicates limited variance.

Macro level leadership self-efficacy

Table 13 - Macro level self-efficacy ratings

	N	Mean	STD
Macro			
Strategic	138	7.37	1.50
Interpersonal	138	7.34	1.50
Operational	138	7.23	1.40

Further information about what levels of self-efficacy exist within educational leaders comes from the mean results at the macro, meso and micro levels as described by the organisation's leadership model. At the macro level, leaders had the highest levels of self-efficacy for strategic leadership (7.37) which encompasses the meso levels of setting direction, planning, and organising and creating engagement. Marginally lower levels for Interpersonal leadership (7.34) were recorded, highlighting less confidence in the areas of building, and maintaining relationships, creating engagement, and increasing capability. Operational leadership returned the lowest levels of self-efficacy (7.23). The operational leadership category includes delivering impact, increasing capability and planning and organising. Standard deviation results again show a clustering of scores around the mean and indicate limited variance.

Meso level leadership self-efficacy

Table 14 - Meso level self-efficacy ratings

	N	Mean	STD
Meso			
Building and Sustaining Relationships	138	7.66	1.35
Delivering Impact	138	7.61	1.39
Creating Engagement	138	7.52	1.41
Setting Direction	138	7.36	1.55
Planning and organising	138	7.23	1.56
Increasing Capability	138	6.85	1.56

Looking at the meso level, the results show a greater range of self-efficacy levels. Building and sustaining relationships recorded the highest level (7.66) highlighting perceived confidence in understanding and responding to staff needs, building trust, recognising, and rewarding performance and adapting leadership and communication styles. Delivering impact which encompasses the tasks of challenging underperformance, effectively planning and leading meetings, maintaining visibility, and making informed decisions was the next highest result with a mean self-efficacy level of 7.61. At the other end of the

range, increasing capability was where leaders perceived the lowest levels of self-efficacy within the 10-point scale (6.85). This result indicates that leaders felt least confident about identifying, understanding, and responding to professional development needs, administering performance management, building external partnerships, delegating tasks, and reviewing their practice. Standard deviation results continue to show limited variance between categories.

Micro level leadership self-efficacy

Looking further into the leadership model down to specific leadership tasks is where arguably the richest data is for professional development design.

The top five areas where leaders perceive self-efficacy to be the highest were:

- Actively build trust between yourself and others (8.33);
- Role model desired attitudes, behaviours, and practices (8.28);
- Maintain high levels of visibility and interaction (8.11);
- Make informed decisions (8.08);
- Collect, manage, and analyse data to inform decisions (7.81).

The five areas where leaders perceived self-efficacy to the lowest were:

- Proactively build and contribute to external partnerships (6.51)
- Administer effective performance management processes (6.61)
- Effectively deploy change management tools and techniques (6.62)
- Delegate tasks and devolve responsibilities as appropriate (6.83)
- Identify, understand, and respond to professional development needs (6.86)
- Manage financial matters effectively (6.86)

It is at this more granular, micro level where the variance in self-efficacy ratings becomes more prominent. The mean scores in table 15 below suggest a clearer difference in the levels of self-efficacy between individual capabilities and thus different professional development needs. The standard deviation scores remain tightly focused around the mean.

Table 15 - Micro level self-efficacy ratings

(Items ordered by mean self-efficacy rating – largest to smallest)

	N	Mean	STD
Micro			
BS2 Actively build trust between yourself and others	138	8.33	1.12
CE3 Role model desired attitudes, behaviours, and practices	138	8.28	1.09
DI4 Maintain high levels of visibility and interaction	138	8.11	1.21
DI5 Make informed decisions	138	8.08	1.11
SD3 Collect, manage, and analyse data to inform decisions	138	7.81	1.43
BS3 Recognise and reward performance	138	7.70	1.30
DI3 Effectively plan and lead meetings	138	7.67	1.31
PO1 Manage time and tasks effectively	138	7.64	1.41
SD1 Use contextual information to inform decisions	138	7.59	1.45
PO5 Monitor, evaluate and adapt plans	138	7.57	1.23
BS1 Seek out, understand, and respond to staff needs	138	7.57	1.22
BS4 Adapt or tailor leadership and communication styles	138	7.52	1.34
CE1 Seek out and utilise staff voice to inform decisions	138	7.51	1.38
PO2 Manage resources and risk effectively	138	7.46	1.23
IC5 Review own practice, set personal targets and deliberately practice	138	7.46	1.36
CE2 Clearly articulate vision and ensure staff understanding	138	7.43	1.29
SD5 Purposefully develop and maintain the desired culture	138	7.24	1.52
CE5 Keep staff appropriately informed	138	7.20	1.60
DI1 Monitor performance and ensure accountability	138	7.20	1.36
CE4 Remove barriers to success	138	7.19	1.39
BS5 Anticipate and manage conflict	138	7.19	1.51
SD4 Accurately define vision, values, and strategy	138	7.15	1.51
SD2 Seek out and utilise research and best practice to inform decisions	138	7.03	1.72
DI2 Challenge underperformance	138	6.97	1.54
PO3 Manage financial matters effectively	138	6.86	1.77
IC1 Identify, understand, and respond to professional development needs	138	6.86	1.36
IC4 Delegate tasks and devolve responsibilities as appropriate	138	6.83	1.50
PO4 Effectively deploy change management tools and techniques	138	6.62	1.79
IC2 Administer effective performance management processes	138	6.61	1.65
IC3 Proactively build and contribute to external partnerships	138	6.51	1.72

5.1.2 Research Question Two

To provide information to address Research Question #2 (*Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?*) and explore contextual factors there was a need to combine the descriptive methods used previously with inferential statistical testing.

General leadership self-efficacy

Table 16 - General self-efficacy ratings across contextual factors

	N (% of sample)	Mean	STD
All Respondents	138	7.37	1.50
Leadership Level			
Middle	70 (50.7%)	7.19	1.62
Senior	38 (27.5%)	7.46	1.30
Principal	14 (10%)	7.80	1.33
Leadership Area			
Primary	33 (23.9%)	7.36	1.35
Secondary	89 (64.5%)	7.34	1.57
Central	16 (11.6%)	7.58	1.37
Time in Role			
< 1 Academic year	28 (20.3%)	7.16	1.50
1-2 Years	41 (29.7%)	7.31	1.45
3-4 Years	39 (28.3%)	7.23	1.49
5+ Years	30 (21.7%)	7.83	1.47
Time in Leadership			
< 1 Academic year	11 (8.0%)	6.84	1.61
1-2 Years	22 (15.9%)	7.18	1.39
3-4 Years	40 (29%)	7.23	1.49
5+ Years	65 (47.1%)	7.61	1.48

Table 17 - P and Eta-sq values for general self-efficacy across contextual factors

* Starred values indicate statistical significance ($p < .05$)

- Effect size guide (low = 0.01) (medium = 0.06 - Thick border) (large = 0.14 shaded)

	Leadership Level		Leadership Area		Time in role		Time in Leadership	
	P	η^2	P	η^2	P	η^2	P	η^2
General	*0.04	0.05	0.73	0.00	*0.02	0.07	*0.01	0.08

Mean self-efficacy ratings across **leadership levels** were marginally different with principals showing the highest levels of self-efficacy (7.80) and middle leaders the lowest (7.19). The P-value for leadership level (0.04) supports a significant relationship but effect size is small. In terms of **leadership area**, there was even less difference between groups with the highest being central leadership at 7.58 and the lowest being secondary leadership at 7.34. The P-value for leadership area (0.73) did not highlight statistical significance.

The **length of time within role** had a statistically significant relationship with self-efficacy ($P=0.02$) and the effect size suggested a stronger relationship than leadership level. Leaders with five or more academic years of experience showed the highest levels of self-efficacy (7.83) with those with less than one academic year of experience recording a mean self-efficacy score of 7.16. The results for leaders with five or more years of role experience were the highest across all general self-efficacy results. **Time in leadership** highlighted the greatest range of general self-efficacy results and the strongest statistically significant relationship of the contextual factors ($p=0.01$, $\eta^2 = 0.8(\text{medium})$). Individuals new to educational leadership showed the lowest levels of self-efficacy (6.84) which represented the lowest self-efficacy figure of all general results.

Macro level leadership self-efficacy

Table 18 - Macro level self-efficacy ratings across contextual factors

	N (% of sample)	Strategic	Interpersonal	Operational
All Respondents	138	7.40	7.20	7.30
Leadership Level				
Middle	70 (50.7%)	7.18	7.18	7.04
Senior	38 (27.5%)	7.44	7.46	7.37
Principal	14 (10%)	7.92	7.67	7.69
Leadership Area				
Primary	33 (23.9%)	7.36	7.46	7.13
Secondary	89 (64.5%)	7.34	7.27	7.24
Central	16 (11.6%)	7.55	7.50	7.33
Time in Role				
< 1 Academic year	28 (20.3%)	7.17	7.12	7.02
1-2 Years	41 (29.7%)	7.27	7.43	7.13
3-4 Years	39 (28.3%)	7.29	7.11	7.09
5+ Years	30 (21.7%)	7.79	7.73	7.72
Time in Leadership				
< 1 Academic year	11 (8.0%)	6.98	6.85	6.53
1-2 Years	22 (15.9%)	7.13	7.30	7.14
3-4 Years	40 (29%)	7.19	7.24	7.02
5+ Years	65 (47.1%)	7.62	7.50	7.50

Table 19 - P and Eta-sq values for macro level self-efficacy across contextual factors

* Starred values indicate statistical significance ($p < .05$)

- Effect size guide (low = 0.01) (medium = 0.06 - Thick border) (large = 0.14 Shaded)

	Leadership Level		Leadership Area		Time in role		Time in Leadership	
	P	η^2	P	η^2	P	η^2	P	η^2
Strategic	*0.02	0.07	0.70	0.01	*0.03	0.06	*0.02	0.07
Interpersonal	0.10	0.04	0.45	0.01	*0.02	0.07	0.12	0.04
Operational	*0.03	0.06	0.76	0.00	*0.01	0.08	*0.01	0.10

Mean self-efficacy levels for **leadership level** showed principals to have the highest self-efficacy ratings in these categories with middle leaders showing the lowest. P values showed statistical significance for strategic leadership ($p=0.02$), and operational leadership ($p=0.03$) but not for interpersonal leadership ($p=0.10$). The effect sizes however only showed a low effect size for operational and medium for strategic.

Mean self-efficacy levels across different **leadership areas** showed central leaders to have the highest levels of self-efficacy across the macro categories with secondary leaders lowest in strategic and interpersonal and primary lowest in operational. P-values did not support a significant relationship between self-efficacy levels and leadership area in any of the macro categories (Strategic $P=0.70$; Interpersonal $p=0.45$; Operational $p=0.76$).

Mean self-efficacy values also varied between leaders with different levels of **role experience**. The lowest levels across the macro categories were seen in leaders with less than one academic year of experience. The highest levels were perceived by leaders at the other end of the rating scale with five or more years' experience. P values supported the existence of a significant relationship between time in role and leadership self-efficacy levels across all macro categories (Strategic $P=0.03$; Interpersonal $p=0.02$; Operational $p=0.01$). The effect size calculations rated the magnitude of those relationships at medium for all macro categories.

The final contextual factor included in the research, **time in leadership** also highlighted variance in mean self-efficacy levels. As with time in role, the highest levels of self-efficacy across the macro categories were found in leaders with five or more years of experience. Leaders with less than one year of leadership experience had the lowest mean levels of perceived self-efficacy. P-values support the statistical significance of the relationship between time in leadership and self-efficacy for strategic leadership ($p=0.02$)

and operational leadership ($p=0.01$) but not for interpersonal leadership ($p=0.12$) as was the case with leadership level. Effect sizes show both relationships to be medium in their magnitude but of note was the relationship between time in leadership and operational capabilities which showed the highest effect size at the macro framework level.

Meso level leadership self-efficacy

Table 20 - Meso level mean self-efficacy ratings across contextual factors

** 10-point scale

	N (% of sample)	Setting Direction	Planning and Organising	Creating Engagement	Building and Sustaining Relationships	Increasing Capability	Delivering Impact
All Respondents	138	7.36	7.23	7.52	7.66	6.85	7.61
Leadership Level							
Middle	70 (50.7%)	7.11	7.05	7.40	7.54	6.60	7.46
Senior	38 (27.5%)	7.39	7.32	7.59	7.76	7.03	7.77
Principal	14 (10%)	8.10	7.83	7.84	7.80	7.37	7.86
Leadership Area							
Primary	33 (23.9%)	7.28	7.07	7.74	7.72	6.92	7.41
Secondary	89 (64.5%)	7.32	7.28	7.42	7.61	6.78	7.68
Central	16 (11.6%)	7.76	7.27	7.60	7.81	7.08	7.65
Time in Role							
< 1 Academic year	28 (20.3%)	7.12	7.01	7.37	7.39	6.61	7.44
1-2 Years	41 (29.7%)	7.16	7.03	7.63	7.80	6.85	7.51
3-4 Years	39 (28.3%)	7.45	7.17	7.24	7.43	6.67	7.43
5+ Years	30 (21.7%)	7.75	7.75	7.87	8.01	7.30	8.11
Time in Leadership							
< 1 Academic year	11 (8.0%)	7.09	6.71	7.15	7.22	6.18	6.71
1-2 Years	22 (15.9%)	6.70	7.18	7.50	7.57	6.84	7.39
3-4 Years	40 (29%)	7.30	6.87	7.40	7.61	6.72	7.48
5+ Years	65 (47.1%)	7.66	7.55	7.66	7.79	7.05	7.90

Table 21 - P and Eta-sq values for meso level self-efficacy across contextual factors

* Starred values indicate statistical significance ($p < .05$)

- Effect size guide (low = 0.01) (medium = 0.06 - Thick border) (large = 0.14 – Shaded)

	Leadership Level		Leadership Area		Time in role		Time in Leadership	
	P	η^2	P	η^2	P	η^2	P	η^2
Setting Direction	*0.01	0.07	0.32	0.02	0.11	0.04	*0.01	0.08
Planning and Organising	*0.05	0.05	0.66	0.01	*0.02	0.07	*0.01	0.09
Creating Engagement	0.28	0.02	0.29	0.02	*0.05	0.06	0.34	0.02
Building and Sustaining Relationships	0.49	0.01	0.70	0.01	*0.03	0.06	0.32	0.03
Increasing Capability	*0.02	0.02	0.56	0.01	0.06	0.05	0.09	0.05
Delivering Impact	0.23	0.02	0.45	0.01	*0.02	0.07	*0.01	0.11

Results across the meso level of educational leadership continued the trend of variation between contextual factors and self-efficacy levels. Mean self-efficacy scores showed a positive relationship between **leadership level** and each of the six categories with middle leaders recording the lowest ratings and principals the highest. P values however only showed statistical significance for the relationship between leadership level and setting direction ($p=0.01$); planning and organising ($p=0.05$) and increasing capability ($p=0.02$). The results did not show statistical significance for creating engagement ($p=0.28$), building and sustaining relationships ($p=0.49$) or delivering impact ($p=0.23$) meso categories. Of additional note are the effect size calculations which showed low effect size for all significant relationships except setting direction.

Mean self-efficacy levels across **leadership areas** did highlight variance but showed no clear patterns or statistically significant relationships. The results for leaders differing in terms of **time in role** broadly represented a positive relationship in each of the meso

categories with the only anomalies occurring in the 3-4 years range. The P values supported the presence of a significant relationship between self-efficacy and planning and organising (p=0.02), creating engagement (p=0.05), building and sustaining relationships (p=0.03) and delivering impact (p=0.02). Eta-squared calculations for each of these relationships showed medium effect sizes. The P values did not support relationships between time in role and self-efficacy levels for setting direction (p=0.11) or increasing capability (p=0.06).

The results for **time in leadership** also highlighted a broadly positive relationship across the different meso level categories with the only anomalies coming from the 3–4-year group. P values for this contextual factor supported the presence of fewer significant relationships but they still existed between self-efficacy and setting direction (p=0.01), planning and organising (p=0.01) and delivering impact (p=0.01). There was no statistical relationship evident for creating engagement (p=0.34), building and sustaining relationships (p=0.32) and increasing capability (p=0.09). The effect sizes for the significant relationships were again rated as medium and of note was the relationship between time in leadership and delivering impact which showed the largest effect size ($\eta^2 = 0.11$ (*medium*)).

Micro level leadership self-efficacy

Table 22 how mean self-efficacy levels across the micro level leadership capabilities also highlighted variation between the individual leadership capabilities and contextual factors. The highest mean self-efficacy ratings for each capability were associated most strongly with **time in role** and **leadership level**. 50% of the highest ratings came from leaders with five or more years of experience within their current role. A further 43% of the highest ratings came from leaders at principal level, strengthening the suggestion that experience is key and, in this case, time in role outweighs overall time in leadership.

The lowest self-efficacy ratings at the micro level were largely associated with **time in leadership**. 83% of the lowest ratings across contextual factors came within this category with 63% of them coming from leaders with less than 1 year of leadership experience, strongly highlighting the importance of experience on self-efficacy beliefs.

Table 23 contains the P-values for each of the micro level leadership capabilities and shows a large amount of statistically significant relationships. 70% of the capabilities had a P-value below 0.05 for at least one of the contextual factors. There were no capabilities that showed significance across all four contextual factors but one capability, identifying, understanding, and responding to professional development needs showed significance across three of the four contextual measures: leadership level (0.01), time in role (0.02) and time in leadership (0.01). In terms of contextual factors 74% of significant relationships were equally shared by leadership level and overall time in leadership.

Table 24 extracts the micro level leadership capabilities which showed a statistically significant relationship with self-efficacy and highlights the magnitude of those relationships through effect size. 90% of the effect sizes were rated as medium using the eta-squared guidelines referenced in the methods chapter. ($\eta^2 = 0.06$). Only one leadership capability (Effectively deploy change management tools and techniques) showed a large effect size for its relationship with leadership level. Two capabilities (clearly articulate vision and ensure staff understanding, purposefully develop and maintain the desired culture) showed a small effect size.

Table 25 extracts intra-contextual group pairings where effect sizes were deemed large using the Cohen's d guidelines referenced in the methods chapter ($d = 0.80$). The results show 56% of the large inter-group effect sizes were associated with time in leadership,

26% were associated with leadership level and 19% were associated with time in role.

Leadership area produced no inter-group relationships with large effect sizes.

Of particular note are the largest effect sizes at each level of the organisational leadership framework. The only large effect size at the **general** level was found within the time in role category and was between leaders with less than one year of experience and those with five or more years ($d=0.89$). At the **macro** level an effect size of ($d=1.06$) was found against operational leadership within the time in leadership category and between leaders with less than one year of experience and those with five or more years. At the **meso** level the largest effect size came from the data for delivering impact between leaders with less than one year of experience and those with five or more years of overall leadership experience ($d=1.20$). There was a wide range of large effect sizes at the **micro** level of the framework with the highest linked to challenging performance for leaders with again, less than one year of experience and those with five or more years overall leadership experience.

Table 22 - Micro level mean self-efficacy ratings across contextual factors

Bordered boxes = Lowest contextual rating

Shaded boxes = highest contextual rating

	Leadership Level				Leadership Area				Time in Role (Yrs)					Time in Leadership (Yrs)			
	Middle	Senior	Principal		Primary	Secondary	Central		< 1	1-2	2-3	5+		< 1	1-2	2-3	5+
Building & Sustaining Relationships																	
Actively build trust between yourself and others	8.39	8.18	8.21		8.45	8.25	8.50		8.14	8.41	8.08	8.70		8.36	8.41	8.33	8.29
Recognise and reward performance	7.81	7.58	7.64		7.76	7.71	7.50		7.61	7.90	7.36	7.93		7.91	7.86	7.58	7.68
Seek out, understand and respond to staff needs	7.43	7.68	7.79		7.76	7.47	7.69		7.25	7.73	7.38	7.87		6.82	7.45	7.60	7.71
Adapt or tailor Leadership and communication styles to suit needs	7.34	7.63	7.64		7.45	7.47	7.94		7.14	7.63	7.36	7.93		6.73	7.36	7.48	7.74
Anticipate and manage conflict	6.74	7.66	7.71		7.15	7.13	7.56		6.82	7.24	6.97	7.73		6.27	6.73	7.08	7.57
Delivering Impact																	
Maintain high levels of visibility and interaction	8.01	8.37	8.00		7.82	8.24	8.00		8.11	7.95	7.87	8.63		7.73	7.91	8.10	8.25
Make informed decisions	7.99	8.00	8.36		7.82	8.11	8.44		7.89	7.95	8.03	8.50		7.36	7.77	8.00	8.35
Effectively plan and lead meetings	7.60	7.61	7.71		7.52	7.65	8.13		7.75	7.41	7.44	8.27		6.82	7.32	7.43	8.09
Monitor performance and ensure accountability	7.09	7.37	7.50		7.06	7.28	7.06		6.86	7.24	6.90	7.87		6.18	7.32	6.98	7.48
Challenge underperformance	6.63	7.29	7.71		6.82	7.01	7.06		6.57	6.83	6.92	7.60		5.45	6.36	6.90	7.48
Creating Engagement																	
Role model desired attitudes, behaviours and practices	8.21	8.37	8.57		8.30	8.30	8.06		8.32	8.39	8.00	8.43		8.09	8.23	8.25	8.34
Seek out and utilise stakeholder voice to inform decisions	7.50	7.45	7.43		7.64	7.42	7.81		7.21	7.51	7.28	8.10		7.00	7.32	7.40	7.74
Clearly articulate vision and ensure staff understanding	7.20	7.50	8.14		7.58	7.34	7.63		7.32	7.46	7.03	8.00		7.18	7.32	7.20	7.65
Keep stakeholders appropriately informed	7.09	7.24	7.57		7.85	6.94	7.25		6.79	7.51	6.87	7.57		6.64	7.59	6.95	7.31
Remove barriers to success	6.99	7.45	7.50		7.33	7.13	7.19		7.21	7.29	7.00	7.27		6.82	7.14	7.20	7.26
Setting Direction																	
Collect, manage and analyse data to inform decisions	7.60	7.89	8.36		7.61	7.84	8.06		7.54	7.37	8.26	8.10		7.64	7.05	7.88	8.06
Use contextual information to inform decisions	7.27	7.71	8.50		7.12	7.71	7.88		7.29	7.32	7.64	8.17		6.91	6.91	7.50	7.98
Purposefully develop and maintain the desired culture	7.00	7.13	8.14		7.33	7.11	7.75		7.36	7.12	6.92	7.70		7.36	6.77	6.95	7.55
Accurately define vision, values and strategy	6.83	7.11	8.00		7.21	6.99	7.94		7.11	6.88	7.13	7.60		7.09	6.18	7.08	7.54
Seek out and utilise research and best practice to inform decisions	6.83	6.84	7.50		7.12	6.83	7.94		6.32	6.88	7.28	7.57		6.45	6.32	7.08	7.34
Planning & organising																	
Manage time and tasks effectively	7.59	7.71	7.71		7.61	7.65	7.63		7.61	7.54	7.64	7.80		7.00	8.14	7.40	7.72
Monitor, evaluate and adapt plans	7.39	7.71	7.93		7.52	7.56	7.69		7.36	7.56	7.44	7.93		7.36	7.59	7.18	7.83
Manage resources & risk effectively	7.47	7.29	7.79		7.48	7.44	7.56		7.07	7.29	7.44	8.10		6.82	7.27	7.15	7.83
Manage financial matters effectively	6.76	6.71	7.71		6.30	7.06	6.88		6.54	6.24	6.87	7.97		6.36	6.73	6.18	7.40
Effectively deploy change management tools and techniques	6.03	7.18	8.00		6.45	6.67	6.63		6.46	6.51	6.49	7.07		6.00	6.18	6.45	6.97
Increasing Capability																	
Review own practice, set personal targets and engage in deliberate practice	7.63	7.42	7.07		7.39	7.54	7.13		7.46	7.49	7.10	7.87		7.82	7.73	7.48	7.29
Identify, understand and respond to professional development needs	6.49	6.97	7.64		7.12	6.64	7.50		6.50	7.00	6.62	7.30		5.73	7.00	6.65	7.12
Delegate tasks and devolve responsibilities as appropriate	6.53	7.11	7.57		6.73	6.87	6.88		6.68	6.80	6.72	7.17		6.36	6.91	6.45	7.12
Administer effective performance management processes	6.26	7.08	7.00		6.79	6.53	6.69		6.18	6.49	6.54	7.27		5.27	6.27	6.65	6.92
Proactively build and contribute to external partnerships	6.09	6.55	7.57		6.58	6.34	7.31		6.21	6.46	6.38	7.00		5.73	6.27	6.38	6.80

Table 23 - P values for micro level self-efficacy across contextual factors

* Starred values indicate statistical significance ($p < .05$)

Leadership Capability	Leadership Level	Leadership Area	Time in role	Time in Leadership
Seek out, understand and respond to staff needs	0.43	0.51	0.16	0.17
Actively build trust between yourself and others	0.72	0.67	0.13	0.91
Recognise and reward performance	0.64	0.84	0.19	0.81
Adapt or tailor leadership and communication styles to suit needs	0.52	0.39	0.11	0.11
Anticipate and manage conflict	*0.00	0.61	0.10	*0.01
Seek out and utilise stakeholder voice to inform decisions	0.94	0.35	*0.03	0.20
Clearly articulate vision and ensure staff understanding	*0.04	0.40	*0.01	0.23
Role model desired attitudes, behaviours and practices	0.51	0.82	0.30	0.86
Remove barriers to success	0.10	0.71	0.69	0.83
Keep stakeholders appropriately informed	0.61	*0.02	0.08	0.28
Monitor performance and ensure accountability	0.25	0.44	0.06	*0.02
Challenge underperformance	*0.01	0.69	0.17	*0.00
Effectively plan and lead meetings	0.95	0.29	*0.02	*0.00
Maintain high levels of visibility and interaction	0.30	0.22	*0.05	0.48
Make informed decisions	0.54	0.22	0.19	*0.02
Identify, understand and respond to professional development needs	*0.01	*0.02	0.07	*0.01
Administer effective performance management processes	*0.04	0.71	0.07	*0.01
Proactively build and contribute to external partnerships	*0.01	*0.05	0.22	0.12
Delegate tasks and devolve responsibilities as appropriate	*0.01	0.86	0.69	0.11
Review own practice, set personal targets and engage in deliberate practice	0.31	0.28	0.21	0.26
Manage time and tasks effectively	0.90	0.99	0.87	0.10
Manage resources & risk effectively	0.47	0.96	*0.01	*0.01
Manage financial matters effectively	0.14	0.12	*0.00	*0.00
Effectively deploy change management tools and techniques	*0.00	0.79	0.60	0.19
Monitor, evaluate and adapt plans	0.23	0.87	0.25	0.06
Use contextual information to inform decisions	*0.01	0.11	0.10	*0.01
Seek out and utilise research and best practice to inform decisions	0.41	0.09	*0.04	0.09
Collect, manage and analyse data to inform decisions	0.15	0.63	*0.03	0.07
Accurately define vision, values and strategy	*0.02	0.30	0.62	*0.03
Purposefully develop and maintain the desired culture	*0.04	0.40	0.24	0.13

Table 24 - P and Eta Sq values for micro level self-efficacy across contextual factors

The following table extracts only the leadership capabilities that highlighted a significant relationship with one or more of the contextual factors.

* Starred values indicate statistical significance ($p < .05$)

- Effect size guide (low = 0.01) (medium = 0.06 - Thick border) (large = 0.14 – Shaded)

Leadership Capability	Leadership Level		Leadership Area		Time in role		Time in Leadership	
	P	η^2	P	η^2	P	η^2	P	η^2
Anticipate and manage conflict	*0.00	0.10					*0.01	0.08
Seek out and utilise stakeholder voice to inform decisions					*0.03	0.06		
Clearly articulate vision and ensure staff understanding	*0.04	0.05			*0.01	0.08		
Keep stakeholders appropriately informed			*0.02	0.06				
Monitor performance and ensure accountability							*0.02	0.07
Challenge underperformance	*0.01	0.08					*0.00	0.13
Effectively plan and lead meetings					*0.02	0.07	*0.00	0.11
Maintain high levels of visibility and interaction					*0.05	0.06		
Make informed decisions							*0.02	0.07
Identify, understand and respond to professional development needs	*0.01	0.08	*0.02	0.06			*0.01	0.08
Administer effective performance management processes	*0.04	0.06					*0.01	0.08
Proactively build and contribute to external partnerships	*0.01	0.07						
Delegate tasks and devolve responsibilities as appropriate	*0.01	0.07						
Manage resources & risk effectively							*0.01	0.08
Manage financial matters effectively							*0.00	0.10
Effectively deploy change management tools and techniques	*0.00	0.17						
Use contextual information to inform decisions	*0.01	0.08					*0.01	0.08
Seek out and utilise research and best practice to inform decisions					*0.04	0.06		
Collect, manage and analyse data to inform decisions					*0.03	0.06		
Accurately define vision, values and strategy	*0.02	0.06					*0.03	0.07
Purposefully develop and maintain the desired culture	*0.04	0.05						

Table 25 - Inter-group effect sizes

The following table highlights only those inter-group pairings that reached a high effect size according to Cohen's d calculations. Results are presented by framework level and decreasing in effect size.

(TIR = Time in role), (TIL = Time in leadership), (Level = leadership level)

Cohen's d (Large effect size) = 0.8

Leadership Capability	Group	Pairing	d
General			
	(TIR)	<1 - 5+ Yrs.	0.89
Macro			
Operational	(TIL)	<1 - 5+ Yrs.	1.06
Strategic	(Level)	middle - principal	0.82
Meso			
Delivering impact	(TIL)	<1 - 5+ Yrs.	1.20
Setting direction	(Level)	middle – principal	0.9
Micro			
Challenge underperformance	(TIL)	<1 - 5+ Yrs.	1.34
Effectively deploy change management tools and techniques	(Level)	middle - principal	1.18
Monitor performance and ensure accountability	(TIL)	<1 -1-2 Yrs.	1.07
Identify, understand and respond to professional development needs	(TIL)	<1 - 5+ Yrs.	1.07
Manage financial matters effectively	(TIR)	1-2 - 5+ Yrs.	1.07
Monitor performance and ensure accountability	(TIL)	<1 - 5+ Yrs.	1.06
Administer effective performance management processes	(TIL)	<1 - 5+ Yrs.	1.03
Effectively plan and lead meetings	(TIL)	<1 - 5+ Yrs.	1.01
Challenge underperformance	(TIL)	<1 -3-4 Yrs.	0.99
Identify, understand and respond to professional development needs	(TIL)	<1 -1-2 Yrs.	0.93
Make informed decisions	(TIL)	<1 - 5+ Yrs.	0.90
Proactively build and contribute to external partnerships	(Level)	middle - principal	0.89
Anticipate and manage conflict	(TIL)	<1 - 5+ Yrs.	0.88
Identify, understand and respond to professional development needs	(Level)	middle - principal	0.87
Use contextual information to inform decisions	(Level)	middle - principal	0.87
Manage financial matters effectively	(TIR)	<1 - 5+ Yrs.	0.86
Administer effective performance management processes	(TIL)	<1 - 3-4 Yrs.	0.86
Manage resources & risk effectively	(TIL)	<1 - 5+ Yrs.	0.84
Manage resources & risk effectively	(TIR)	<1 - 5+ Yrs.	0.83
Manage time and tasks effectively	(TIL)	<1 -1-2 Yrs.	0.82
Accurately define vision, values and strategy	(Level)	middle - principal	0.81
Clearly articulate vision and ensure staff understanding	(TIR)	3-4 - 5+ Yrs.	0.80

5.2 Questionnaire Discussion

The following section outlines the discussion points emerging from this phase of the research and the quantitative data analysis.

Discussion point 1- *Did organisational factors lead to the strong self-efficacy levels?*

The mean general self-efficacy score for all participants was 7.37 (10-point scale) highlighting strong levels of self-efficacy within the organisation's leaders. As this research is focused on a single bounded case, a point of discussion is whether there were any organisational factors that led to those high levels.

The literature on leadership highlights the organisational context as a key influence on perceptions of what an individual is able to do (Bolman and Deal, 1991). Work environments that are open to change and committed to innovation are also cited as having a positive influence on a leader's performance. (Howell & Higgins, 1990). Other elements of organisational culture linked to self-efficacy include the attitude to risk and the levels of environmental malleability. Wood and Bandura (1989) found that perceptions that organisational change was hard led to a loss of faith and in contrast, perceived malleability led to an increase in self-efficacy. The information on the culture of this research's case organisation is unfortunately anecdotal but from personal experience it does reflect the openness to change, innovation and risk referenced above and so may have contributed to the strong self-efficacy ratings.

The impact of experience, modelling and feedback on self-efficacy is clear within the literature (Bandura, 1997; Feltz, 2008; Pajares, 2002) as is the impact of professional development (Bray-Clark and Bates, 2003; Versland, 2016). Were the strong self-efficacy levels found in this research due to the organisation's provision of effective professional development? Increasing opportunities for collaboration and professional development are

cited as benefits of federation formation and my experience confirms the existence of additional forms of professional development beyond what a single school could offer. The effectiveness of the professional development would require further study but in reference to this case study, leaders within the organisation have access to a wide range of professional development ranging from networking, mentoring, coaching, discussion panels, directed online study and formal leadership courses. It may therefore be that in terms of professional development and experience, the organisation did impact on the self-efficacy levels in this research.

The leadership self-efficacy literature also cites resources such as staffing, equipment, money, and time as organisational factors affecting self-efficacy levels (Paglis and Green, 2002). In other studies, both (Stewart, 1982) and (Scott and Bruce, 1994) found a lack of resources to be a limiting factor in an individual's path to accomplishing continuous improvement which in turn may negatively impact on self-efficacy levels. The levels of resourcing available to leaders within this research was not under review and so difficult to draw links to it and the strong efficacy ratings.

A final organisational factor linked to leadership self-efficacy is the level of perceived job autonomy. Paglis and Green (2002) found a statistically significant relationship between leadership autonomy and self-efficacy and both Stewart (1982) and Yukl (1994) suggested that self-efficacy is dependent on individuals having choice over what to do and how. Levels of autonomy were again not within the scope of this research but personal knowledge about the case organisation may add some support. In support of increased autonomy is the distributed leadership model that the organisation has embraced and the use of a deep hierarchy with multiple leadership layers. In contrast, the federation model where individual school principals are held accountable by a central executive leadership team may contribute to reduced perceptions of autonomy.

The data from this part of the research is unable to directly support the impact of organisational factors on self-efficacy levels but there are particular characteristics of the case organisation that may indicate its impact. If organisational factors did contribute to the self-efficacy levels of leaders then this becomes an important consideration for professional development designers and those supporting individuals to increase their confidence. The specific focus on an organisation's role in the self-efficacy development of its leaders is also a possible avenue for further research.

Discussion point 2- *Did task characteristics affect self-efficacy beliefs?*

The next discussion point centres around whether the characteristics of the leadership capabilities themselves contributed to the high self-efficacy levels. The table below highlight the micro level leadership capabilities that respondents rated the five highest and five lowest in terms of their self-efficacy beliefs.

Table 26 - Five highest and lowest micro level self-efficacy ratings

	N	Mean SE Rating	STD
Highest			
BS2 Actively build trust between yourself and others	138	8.33	1.12
CE3 Role model desired attitudes, behaviours, and practices	138	8.28	1.09
DI4 Maintain high levels of visibility and interaction	138	8.11	1.21
DI5 Make informed decisions	138	8.08	1.11
SD3 Collect, manage, and analyse data to inform decisions	138	7.81	1.43
Lowest			
IC1 Identify, understand, and respond to professional development needs	138	6.86	1.36
IC4 Delegate tasks and devolve responsibilities as appropriate	138	6.83	1.50
PO4 Effectively deploy change management tools and techniques	138	6.62	1.79
IC2 Administer effective performance management processes	138	6.61	1.65
IC3 Proactively build and contribute to external partnerships	138	6.51	1.72

One characteristic worth exploring is the frequency at which each capability is performed. The importance of experience on self-efficacy perceptions cited by Bandura (1997) has been referenced regularly during this research. Tasks that gained low efficacy ratings such as performance and change management may happen sporadically within a school system by design and tasks such as building external partnerships are often reserved for higher levels of leadership thus leading to less frequency amongst all leaders. It could be suggested that the limited frequency of these tasks results in leaders gaining less experience in them and thus feeling lower efficacy for their successful completion. The importance of experience and the negative impact of its absence is supported by a range of researchers (Pajares and Shunk, 2002); (Feltz, 2008); This lack of experience may be particularly true for the development of external partnerships which is a relatively new concept as collaboration overtakes competition as part of a school's culture. The recency of this change may have further reduced the levels of opportunity and thus experience accrued by school leaders.

Another characteristic of leadership tasks that may have an impact on self-efficacy beliefs is the leader's perception of control. Locus of control (Rotter, 1966) describes the degree to which individuals believe that they, rather than external forces have control over events. The leadership capabilities in this research that were rated the lowest could be associated with the perception of an external locus of control. Processes such as change management, performance management and partnership building involve multiple stakeholders thus distributing the control of success. Capabilities such as role modelling, maintaining visibility and building trust could be seen as having a high internal locus of control and thus their success being tied more closely to the leaders' actions. It may be that leaders feel higher levels of self-efficacy for tasks that they have more control over. Literature directly linking self-efficacy and locus of control is limited but studies by Moon et al., (2009) and

Alias et al. (2016) found the highest levels of self-efficacy within individuals with an internal locus of control. Beheshtifar, (2015) found a statistically significant relationship between self-efficacy and internal locus of control and promoted the internalisation of control as a method for self-efficacy development.

A final characteristic of the leadership capabilities that may have impacted on reported efficacy levels is the inherent level of social desirability of each question. The impact of social desirability bias has been discussed previously and describes the tendency of survey respondents to answer in a manner that will be viewed favourably by others (Krumpal, 2013). A point of discussion is whether some capabilities are more socially desirable than others and whether individuals are therefore less likely to rate their self-efficacy in these areas as low. Tourangeau (2007) studied the impact of sensitive questions in surveys and found that questions seen as intrusive or those that come with possible repercussions for disclosure trigger the social desirability bias.

Questions concerning trustworthiness, role modelling, supporting others and making good decisions could be seen as sensitive as they are clearly desirable attributes for a leader and so may lend some weight to the discussion point. Brown (2018) highlights challenges to a leader's level of trust as one of the most sensitive and hard to accept elements of leadership appraisal. From early in a person's life trust and positive role modelling are attributes celebrated by parents, teachers, and friends. Leadership taxonomies and professional development courses are full of references to integrity, trust, and the impact of modelling, all cementing their place in people's minds as desirable leadership attributes.

Another consideration for this discussion point is whether social desirability is a fixed personality trait or a temporary social strategy (Demaio, 1984). The notion that respondents in this research were affected by the social desirability bias at different

magnitudes depending on the question would suggest the later. The social desirability literature supports both the fixed view (Crowne & Marlowe, 1960), the temporary view (Sudman and Bradburn (1974) and more recently both viewpoints (Paulhus, 2002).

The data from this part of the research is unable to directly support the suggestion that task characteristics impacted the self-efficacy perceptions of the respondents. If the characteristics of the tasks did contribute to the self-efficacy levels of leaders then it becomes a key consideration for those tasked with designing self-efficacy measurement tools and during the interpretation of any review data. Being mindful of the sensitivity of questions and the frequency of role requirements will lead to more accurate measurement.

Discussion point 3 - *Why did leaders perceive the lowest levels of self-efficacy to be for 'operational leadership' and in particular 'increasing capability' at the meso level and 'building external partnerships' at the micro level?*

If the self-efficacy results are taken as an indication of what professional development leaders perceive to need then the data shows that the focus should be on operational leadership at the macro scale. The mean self-efficacy score for operational leadership across the 138 questionnaire respondents was 7.23 and represents the lowest of the three macro categories.

The hierarchical nature of the organisation's leadership model means that the self-efficacy ratings of each level are impacted by the level below. In order to suggest reasons why operational leadership results are the lowest it is useful to look at the meso level capabilities that constitute operational leadership. The mean self-efficacy levels of the elements of operational leadership were as follows: delivering impact (7.61), planning and organising (7.23) and increasing capability (6.85). The position of planning and organising

and increasing capability as the two lowest self-efficacy categories at the meso level starts to explain the low ranking of operational leadership but there is not enough detail to take it any further, for this it useful to look at the micro level capabilities that make up the lowest ranking category, increasing capability.

The five micro level capabilities that constitute increasing capability and their respective mean self-efficacy ratings are: identify, understand, and respond to professional development needs (6.86); administer effective performance management processes (6.61); proactively build and contribute to external partnerships (6.51); delegate tasks and devolve responsibilities as appropriate (6.83) and review own practice, set personal targets and deliberately practice (7.46)

Looking at the commonality between these capabilities may lead to a suggestion that they share some of the considerations referenced in the previous discussion point such as locus of control and frequency of completion. Performance management is a process completed infrequently and building external partnerships is often a task assigned to the senior levels of leadership. Both these characteristics may have led to lower perceptions of self-efficacy due to a lack of experience. Delegating tasks is a capability that by its nature involves other people and thus may provide less levels of perceived control than individual tasks. This would contrast with reviewing own practice and setting targets which gained the highest level of self-efficacy within the increasing capability category and is more likely to be an individual pursuit that holds an internal locus of control. Early research by Merton (1946) and Phares (1962) showed that individuals with an internal locus of control are less prone to delegation and those with an external locus are more passive and prefer to delegate tasks. The presence of a strong locus of control or the necessity to work outside that preference may have been a contributing factor to the low efficacy levels. A more recent study from Selart (2005) contradicts the above finding and found that individuals with a

strong internal locus of control had the self-confidence and belief to involve others in the decision-making process suggesting the need for more research in this area.

Another consideration regarding the low levels of self-efficacy may be the accuracy of the measurement tool and the congruence between the role requirements of leaders at different levels. The P values for identify, understand, and respond to professional development needs ($p=0.01$); administer effective performance management processes ($p=0.04$); proactively build and contribute to external partnerships ($p=0.01$); and delegate tasks and devolve responsibilities as appropriate (0.01) all highlighted statistical significance. The mean self-efficacy levels in these capabilities show middle leaders as the leadership level with the lowest levels of self-efficacy and the large sample percentage that this group makes up may suggest that the measurement may not accurately reflect the requirements of middle leaders. Pajares (1996) highlights the importance of congruence between scale items and actual role requirements if responses are to be accurate and predictive value protected. Bandura (2006) adds to this by noting that tools have limited explanatory value if measurement scale items are divorced from the situational demands and circumstances of the domain of functioning.

The data from this part of the questionnaire was unable to directly answer the question of why leaders felt low levels of self-efficacy for the identified capabilities. It may be that the aforementioned leadership capabilities genuinely highlighted professional development needs for those individuals, but the shared characteristics of the items may also indicate issues important for professional development designers. Of particular interest is the possible incongruence between the scale items and the role of middle leaders hinting at the possible need for self-efficacy measurement tools to not only be domain specific but also role specific.

Discussion Point 4 - *Did leadership experience affect self-efficacy levels?*

The questionnaire data in this research revealed statistically significant relationships between self-efficacy and leadership level ($p=0.04$), time in role ($p=0.02$) and time in leadership ($p=0.01$), initially suggesting experience to be a key factor in self-efficacy beliefs. The effect sizes in tables 18, 20, 22 and 24 soften the support by highlighting only low to medium effect sizes within the significant relationships. The impact of experience is again strengthened in the results of the Cohen's d effect size calculations which focused on the individual pairings with contextual groups. These highlighted strong effect sizes between self-efficacy and a range of pairings most notably leaders with less than one year and those with five or more years of experience.

As previously mentioned, the literature on self-efficacy strongly emphasises the importance of experience on self-efficacy levels. Past experiences that are viewed as successful are said to increase self-efficacy and the contrasting perception of failure serves to reduce levels (Bandura, 1977). This distinction in terms of performance outcomes raise the important point that increased experience does not improve self-efficacy levels per se, it only increases the volume of information a person must draw on when deciding on levels of efficacy. A lifetime of poor past experience would probably not make you a confident leader. Within education, other key self-efficacy studies have also supported the importance of experience. (Linnebrink & Pintrich, 2003; Papastergiou, 2010).

Within the literature on leadership self-efficacy McCormick, Tangma and Lopez-Forment (2002) suggested that high levels of leadership role experiences lead to high levels of leader self-efficacy. Within the professional development literature, Baldwin and Ford's 1988 work on the transfer of training identifies time, opportunity and practice as important organisational elements that affect the successful transfer of learning in the workplace. Broader leadership development literature highlights a critical view that participants on

leadership development programmes typically have a largely cognitive experience and that programmes lack experimentation and dedicated practice. The literature highlights a desire for a renewed focus on experiential learning (Stead and Elliott, 2009; Waldman et al., 2006).

The data from this part of the research adds partial support to the discussion around the impact of experience with the greatest impact seen at the extremes of experience levels. If the self-efficacy levels of leaders are related to levels of experience, then it is important that superiors recognise the need to provide experience to their subordinates and professional development designers ensure that programme design incorporate experiential elements.

Discussion Point 5 - *Is time in role or time in leadership more important for self-efficacy development?*

A discussion point related to the volume of experience a leader accrues is whether role-specific experience has a greater or lesser impact on self-efficacy levels than general leadership experience. The data from this research suggest that overall leadership experience is more important but only minimally. Effect size data (eta-sq) at a **general** level shows a small difference in the magnitude of the self-efficacy relationship for the two contextual factors (Time in role=0.07 (medium), Time in Leadership=0.08 (medium)). Moving through the layers of the leadership model, the **macro** level shows a shift in the balance with time in role having more significance and larger effect sizes. The support for time in role continues into the **meso** level, again highlighting more significance and larger effect sizes. Finally, the support swings back to time in overall leadership within the **micro** level with an 83% increase in the number of significant relationships and larger effect sizes. This was a surprising result as the literature and previous discussion points on the

specificity of self-efficacy may have suggested that time in role would have had a larger impact.

In support of role-specific experience is the literature on the specificity of self-efficacy beliefs and how that specificity separates the construct from more global items such as self-esteem or general confidence (Bandura, 1997). Self-efficacy appraisals are typically linked to immediate task demands and as such are specific to task and time. For an individual to have strong efficacy beliefs towards a task they must have information such as past experience, mental models, and feedback to support that view. It is not guaranteed that an extended time in leadership will provide that task-specific experience and more likely that a limited time in role is less likely to provide that specific information.

Two elements of the self-efficacy literature emerge in support of the view that overall leadership experience may be more important, the transferability of self-efficacy beliefs and levels of coping self-efficacy. Coping self-efficacy is an individual's belief in their ability to cope with stressors and situational demands (Bandura, 1997) and is desirable due to its application to unfamiliar tasks. The ability to cope is regarded as the mediator between perceived limitations in personal resources and outcomes (Knoll et al., 2005) and thus may enable individuals to overcome a lack of specific experience within a task. Could it be that time in leadership had a larger impact on task-specific self-efficacy levels because those leaders had accrued larger amounts of coping self-efficacy which mediated their initial concerns about task completion? Do leaders with high amounts of coping self-efficacy have an internal dialogue that counteracts perceptions of low task-specific efficacy? The development of coping self-efficacy has been linked to improved management of bereavement (Benight et al., 2001) and posttraumatic distress (Cieslak et al., 2008) and may be a useful element of leadership professional development. The dynamic nature of organisational leadership and the rapid evolution of role requirements

may raise the utility of coping self-efficacy development above the development of task-specific efficacy.

Despite the inherent specificity of self-efficacy beliefs, there is literature exploring the transferability of self-efficacy across domains. Early research by Bandura (1986) discussed transference effects and suggested that beliefs can generalise to other situations and as a result can improve more general behavioural functioning. Jackson and Dimmock (2012) found that students' academic self-efficacy beliefs and their ability to manage study commitments predicted their exercise intentions and confidence. Levels of transference have been linked to levels of similarity between domains with high levels of perceived congruence aided the transfer (Bong, 1997). It may therefore be that overall leadership experience equips leaders with a greater sense of control and competence (Massar and Malmberg, 2017) and enough transferable self-efficacy to cope with limited task-specific concerns.

The research data do not clearly elevate role experience above general leadership experience or the alternative in terms of self-efficacy development. It does however raise considerations for professional development designers around the focus on task-specific self-efficacy development which may be temporally limited or the more generalisable development of coping self-efficacy.

Discussion Point 6 - *Why does interpersonal leadership show limited statistical significance with self-efficacy?*

The P values in table 18 highlight a range of statistically significant relationships between macro level self-efficacy capabilities and contextual factors. An exception to this is interpersonal leadership where the data only suggests a significant relationship with time in role (leadership level – $p=0.10$, leadership area – $p=0.45$, time in role – $p=0.02^*$, time in

leadership – $p=0.12$). The point for discussion therefore is what is it about interpersonal leadership that sets it apart from strategic and operational in terms of self-efficacy development.

The first step in furthering the discussion may be to look at the meso and micro capabilities that make up interpersonal leadership within the organisation's leadership framework

Table 27 - Interpersonal leadership capabilities

Creating Engagement	Building and Sustaining Relationships	Increasing Capability
Seek out and utilise stakeholder voice to inform decisions	Seek out, understand, and respond to stakeholder needs	Identify, understand, and respond to professional development needs
Clearly articulate vision and ensure stakeholder understanding	Actively build trust between yourself and others	Administer effective performance management processes
Role model desired attitudes, behaviours, and practices	Recognise and reward performance	Proactively build and contribute to external partnerships
Remove barriers to success	Adapt or tailor Leadership and communication styles to suit needs	Delegate tasks and devolve responsibilities as appropriate
Keep stakeholders appropriately informed	Anticipate and manage conflict	Review own practice, set personal targets, and engage in deliberate practice

One suggestion may be that many of the capabilities listed above are not specific to leadership and thus enable individuals to gain experience and confidence prior to becoming leaders. Role modelling, building trust, rewarding, and reviewing practice are arguably capabilities that are developed as far back as a person's childhood and increasingly so into adulthood. Literature citing the importance of experience in self-efficacy development (Bandura, 1977; Linnebrink & Pintrich, 2003; Papastergiou, 2010) may add support to the view that perceptions of interpersonal capabilities are formed from a deep base of experience, not necessarily within the leadership domain. Furthermore, the literature on

self-efficacy transferability cited in the previous discussion (Bandura, 1986; Bong, 1997; Jackson and Dimmock, 2012) may support the view that interpersonal self-efficacy can be developed outside of the leadership domain and yet still have an impact on leadership perceptions.

In conflict with the above points are the presence of other capabilities within the interpersonal category that are more professionally focused such as articulating vision, performance management, delegation and building partnership. They may however have their roots in more generic capabilities like communication, collaboration and negotiation which also utilise the benefits of extended experience and transferability.

If confidence in interpersonal leadership capabilities is not related to leadership level or leadership experience, then it raises important considerations for leadership recruitment and professional development. There should be no assumption that leaders elevated in the hierarchy or length of service automatically have higher levels of interpersonal leadership confidence or that they do not require or desire support and development in this area.

Discussion Point 7 - *Why does leadership area not have a statistically significant effect on self-efficacy?*

Tables 18, 20, 22 and 24 highlight a lack of statistical significance between leadership area and self-efficacy levels across leadership capabilities. This stands in contrast to the other contextual factors where multiple relationships were found. For the purposes of this research, leadership area was used to describe which part of the organisation a leader worked in (primary education, secondary education, or the central team). The discussion is therefore around why self-efficacy levels within central team leaders were largely exempt from the impact of contextual factors.

Key to this discussion point is the return to the acknowledged sources of self-efficacy information (mastery experience, vicarious influence, social persuasion, physiological and emotional states, and imaginal experience) (Bandura, 1997; Maddux, 2005). Leadership areas within the organisation are not organised hierarchically in terms of experience and so leaders do not move through the primary phase into secondary and then into central. This negates any suggestion that central team leaders have more or less experience than other leaders. The measurement of inter-leader levels of vicarious influence, social persuasion or imaginal experience were out of the scope of this research but again there is nothing to suggest organisationally central leaders would have differing amounts of these.

There are no characteristics inherent to central team leadership that would either positively or negatively affect levels of leadership self-efficacy, but the limited contextual factors utilised in this research may indicate the need for further exploration.

Discussion Point 8 - *What content should leadership training and development include?*

The literature on effective leadership development and the transfer of training both highlight the importance of congruence between training content and role requirements and so the discussion emerges as to what developmental content should leaders receive? The following table highlights the mean self-efficacy ratings for the leadership capabilities at each of the organisation's framework levels. Results are ordered lowest to highest highlighting first those areas where leaders perceived their confidence to be the strongest.

Table 28 - Perceived development needs at the macro, meso and micro levels

Leadership Capabilities (macro Level)	N	Mean	STD
Operational	138	7.23	1.40
Interpersonal	138	7.34	1.50
Strategic	138	7.37	1.50
Leadership Capabilities (meso Level)			
Increasing capability	138	6.85	1.56
Planning and organising	138	7.23	1.56
Setting direction	138	7.36	1.55
Creating engagement	138	7.52	1.41
Delivering impact	138	7.61	1.39
Building and sustaining relationships	138	7.66	1.35
Leadership Capabilities (micro Level) - lowest ten ratings			
IC3 Proactively build and contribute to external partnerships	138	6.51	1.72
IC2 Administer effective performance management processes	138	6.61	1.65
PO4 Effectively deploy change management tools and techniques	138	6.62	1.79
IC4 Delegate tasks and devolve responsibilities as appropriate	138	6.83	1.50
PO3 Manage financial matters effectively	138	6.86	1.77
IC1 Identify, understand, and respond to professional development needs	138	6.86	1.36
DI2 Challenge underperformance	138	6.97	1.54
SD2 Seek out and utilise research and best practice to inform decisions	138	7.03	1.72
SD4 Accurately define vision, values, and strategy	138	7.15	1.51
CE4 Remove barriers to success	138	7.19	1.39

The data above starts to highlight priorities for leadership development and at first view could be useful in identifying trends but a deeper exploration is required. The generalised nature of group self-efficacy values potentially limits the relevance to individual leaders at which professional development must be directed. The limited variance in mean self-efficacy values also limits the sense of a hierarchical order of importance. In order for the data from this research to have utility for content selection, a more granular exploration is required. Tables 18, 20 and 22 begin to provide that data by highlighting possible development priorities across different levels of leadership which in turn could be used to develop level specific development courses. The variance, however small in individual

responses to the questionnaire still suggest the need for an even more focused view of need.

Literature on leadership development highlights the importance of needs analysis in order to align programmes with the needs of their participants (Arthur et al., 2003). Needs analysis enables professional development developers to create programmes that parallel learner needs, increasing training appeal and subsequent results (Lacerenza et al., 2017). For development programmes to maximise their impact on individual leaders, levels of congruence between content and individual role requirements must be high.

In practice, resources rarely exist for this to be a reality and individual training also limits opportunities for networking and discussion. Typically, leadership development programmes serve groups of individuals and so content must be aligned with centrally created frameworks or themes rather than from individual needs analysis. The results from this research suggest that leaders within the case organisation need to prioritise leadership development in building external partnerships, administering performance management, deploying change management tools, delegation and managing finances to name just the lowest five capabilities. The self-efficacy data from this research does not however show dramatic variance in self-efficacy ratings between leadership capabilities and so should be used with caution. The lowest 10 ratings are separated by only 0.68 (10-point scale) and so clear priorities for professional development content choices are hard to justify.

In terms of how the priorities identified in the research align with other leadership training, a review of current leadership programme content was out of scope. The introduction of the new National Professional Qualifications (NPQ) for educational leaders (DfE, 2021) do however show an increase in the specificity of training programmes to meet individual need. Individual programme outlines also highlight the inclusion of core topics such as

building partnerships, managing change and financial control as referenced as development needs in the research.

The results from this research do highlight variance in the self-efficacy levels associated with different leadership capabilities and thus present a case for differentiated leadership development. A key takeaway is the importance of a needs analysis process prior to training design and the careful interpretation of its results if individual support is to be offered. If group leadership training is a necessity due to economies of scale and there is an acknowledgement that no content list will serve all leaders equally well, it may be useful to consider group training as only one element of a leader's development offer. Opportunities such as mentoring, coaching or self-study enable the leader to exert more control over the content they receive and bring increased levels of role congruence to their training.

Research into the role of teacher agency on professional development is growing (Biesta, et.al 2015; Eteläpelto et al., 2013) and a recent conceptual model (Imants and Van der Wal (2019) highlights parallels to this research in terms of its focus on contextuality and the importance of the work environment. Further research would be needed to explore its application in leadership professional development.

Discussion Point 9 - *Should leadership training and development content be context specific?*

Further to the previous suggestion that leadership training and development should have high congruence with role requirements, it is also worth discussing the need to differentiate the content by contextual factors. The mean self-efficacy ratings in tables 15,17,19 and 21 show variances between leadership capabilities across leadership level, leadership area, time in role and time in leadership suggesting differing professional development requirements. The p-values in tables 16,18,20 and 22 highlight statistically significant relationships between leadership level, time in role and time in leadership and a wide range

of leadership capabilities and categories. These results again suggest a need to differentiate professional development content by context. In contrast to mean and p-value results are the levels of standard deviation which indicate only a small level of variance in differences between self-efficacy and contextual factors. The eta-squared effect size calculations also only partially support the impact of context with small to medium effect sizes. The pendulum of support swings back in favour of contextual impact when the focus is on the Cohen's d effect size calculations which were carried on individual pairings of contextual factors such as less than one year of role experience and five or more years. These results highlighted a variety of large effect sizes which may add support to contextual impact.

The importance of context and suggestion that leadership does not occur in a vacuum date back to Fiedler (1978) and the focus on situational factors. More recently a range of theoretical and empirical literature has given attention to how contextual factors influence leadership and its outcomes (Ayman & Adams, 2012; Hannah, et al. 2009). A recent review of the contextual leadership literature (Oc, 2019) highlighted a vast array of contextual factors that may impact on leadership effectiveness. The review supported the wide range of impact that context has and suggested a need for more research into the digital context, the role of followers, the combination of contextual factors and the interaction between contextual factors. The growth of research into contextual leadership may add weight to the suggestion that leadership professional development must also consider context in its design and delivery.

In term of resolving this discussion point, the research data indicates a level of contextual variance at an individual leader level that would support the need for training to consider learner context in its design and delivery. The lack of variance in the mean self-efficacy levels somewhat hides the differences at an individual level and so contextual group data shows less support for the need to contextualise training. It is also worth noting that the

limited number of contextual factors explored in this research may warrant the need for additional research to fully understand the impact of context on self-efficacy.

Chapter Summary

This chapter has served to describe the results, analysis and discussion relating to the first phase of the research, which focused on the measurement of self-efficacy beliefs and addressed Research Questions #1 and 2.

Main findings

Overall mean self-efficacy ratings at the general level highlighted strong levels of confidence within the organisations' leaders ($\mu=7.37$) (10-point scale)

Strategic leadership scored highest across the macro-level ($\mu=7.37$), building and sustaining relationships highest at the meso-level ($\mu=7.66$) and building trust highest at the micro-level ($\mu=8.33$). The lowest results came from operational leadership at the macro-level ($\mu=7.23$), increasing capability at the meso-level ($\mu=6.85$) and building external partnerships at the micro-level ($\mu=6.51$).

Self-efficacy ratings varied across leadership capabilities at all three levels of the organisation's leadership framework. (macro, meso, micro)

Variance in mean self-efficacy levels was marginal at the macro and meso levels, a view supported by the standard deviation figures and yet increased at the most granular micro level of individual leadership tasks.

Mean self-efficacy levels were again marginal in terms of variance between contextual factors at the macro and meso layers of the leadership framework but increased at the micro level.

Statistically significant relationships were found between levels of **general** self-efficacy and time in leadership ($p=0.01$), time in role ($p=0.02$) and leadership level ($p=0.04$). The general ratings did not however show any significance between self-efficacy levels and areas of leadership ($p=0.73$). Effect sizes only highlighted a medium strength effect for time in role and time in leadership and low effect for leadership level.

Statistically significant relationships were again found between self-efficacy and contextual factors at the **macro level** with the exception of leadership area (primary, secondary, central team). Time in role and time in leadership produced the largest number of relationships and effect sizes were again capped at medium but highest for operational leadership.

As expected with a hierarchical leadership framework where the higher layers are constructed from the capabilities below, the trends in statistical significance and effect size continued into the data from the **meso level**. Leadership area was the only contextual factor not to show significance and effect sizes were capped at medium.

P values at the **micro level** showed a large amount of statistically significant relationships. 70% of the capabilities had a P value below 0.05 for at least one of the contextual factors. There were no capabilities that showed significance across all four contextual factors and 74% of significant relationships were equally shared by leadership level and overall time in leadership. Effect sizes at the micro level were again capped at medium except for a single high effect size for the relationship between leadership level and effectively deploying change management tools and techniques ($\eta^2 = 0.17$).

Additional effect size calculations were completed on the intra-contextual group pairings using Cohen's d. The volume of the calculations meant that only large effect sizes were published and the highest in each layer of the leadership framework came between leaders at the extremes of less than one-year experience and those with five years or more.

The chapter concluded with a discussion section focused on exploring the reasons for the strength of the self-efficacy ratings and their relationship to contextual factors. Key points from the discussion included:

The impact of organisational factors was not directly measured by the questionnaire but was supported by the literature on both leadership and self-efficacy and insider knowledge of the organisation. The case organisation is a federation of twenty schools with a central team tasked with professional development as one of its roles. The networks, courses, and coaching that are provided by the organisation is above what an individual school would have the capacity to provide. This potential increase in professional development opportunities may have been an organisational factor which contributed to the self-efficacy levels of its leaders.

The discussion also considered the construction of the leadership inventory itself and the characteristics of the tasks included. The frequency of completion was considered with a view that some tasks such as building relationships, because of their regular completion may provide more experience and positively contribute to self-efficacy. Locus of control emerged from the leadership literature as a potential influence and so was a consideration in this discussion. The suggestion was that some tasks such as role modelling were more within the control of the leader and so self-efficacy levels may be higher. A final task-related consideration was the inherent social desirability attached to each task and the discussion reflected on whether certain tasks such as trustworthiness prompted a stronger level of bias than others thus affecting the leaders' responses.

The data from the questionnaire stimulated a discussion around the impact of contextual factors on self-efficacy. Questionnaire data broadly supported the influence of experience with statistically significant relationships found between leadership level, time in role and time in leadership. The variance in self-efficacy levels at the group level softened this

suggestion with only minor differences but the point was made that from a professional development perspective, any level of individual variance is worth consideration. An extension to this discussion was whether time in role or time in overall leadership was more significant with the research data marginally supporting overall leadership experience. The literature also supported overall experience due to suggestion that self-efficacy beliefs may be transferable, and that the development of coping efficacy may mask role specific inadequacies. The literature added some challenge by highlighting the specificity of self-efficacy beliefs and therefore the strength or role specific experience.

The inferential analysis showed no statistical significance between leadership area and self-efficacy belief . The main suggestion was that this was because leadership area provided no explicit reason why they would be lacking in levels of the experience, modelling or feedback required for self-efficacy development.

The final discussion point emerging from this chapter centred around Research Question #4 and the implications for leadership development. Both the descriptive and inferential analysis showed enough variance in self-efficacy levels across the leadership capabilities to support the need for leaders to be provided with tailored content in contrast to generalised thematic design. The literature supported the importance of accurate needs analysis prior to programme design in order to align content with learner needs. The discussion recognised the efficiencies and benefits of group training and therefore suggested the need to augment individual experiences with coaching, mentoring, and networking in order to leverage interpersonal benefits. This discussion was extended to consider whether leadership development should be contextually specific with the data supporting the need for contextually consideration but not enough variance to mandate individualised training design. The limited number of contextual factors included in this research was recognised and prompted a call for further research into contextual influence.

Relevance to Research Questions

The main findings of this chapter address Research Question 1 (*What are leaders' current perceptions of their levels of self-efficacy?*) by reporting leadership self-efficacy beliefs as strong within the organisation and highlighting the variance between leaders' beliefs and the different elements of the organisational leadership framework. The findings also raise the important perceptive element of self-efficacy beliefs and highlight it as a consideration during any exploration of the phenomenon.

The main findings of this chapter address Research Question 2 (*Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?*) by using statistical significance to report an affirmative yes to leadership level, time in role and time in leadership but a no to leadership area. The findings suggest that the impact of these contextual factors is felt most strongly at the task level (micro) of the organisation's leadership framework.

The main findings of this chapter did not contribute to research question 3 (*How have leaders' perceived levels of self-efficacy been developed?*)

The main findings of this chapter address research question 4 (*What are the implications of the findings for leadership training and development?*) by highlighting key areas of the organisational leadership framework where perceptions of confidence are low. These areas could be seen as priorities for leadership training and development. The findings again appear most useful at the individual leader and task levels.

Chapter 6. Data Part 2 - Interview Findings

This chapter serves to analyse the results and discussion relating to phase two of the research, the semi-structured interviews. Interviews were used to provide supporting data for Research Question #3: *How have leaders' perceived levels of self-efficacy been developed?*

The chapter begins with a description of the interview sample and outlines the contextual characteristics of the participants. The chapter then describes the process and outcomes of the thematic analysis guided by the six stages of Braun and Clarke's 2006 thematic analysis framework. The result of those sections is the set of themes that emerged which then form the structure of the discussion section that follows. Discussion points are organised within the research questions and supported by transcript extracts and relevant literature.

Interview Sample

Sampling for the second phase of the research used a convenience sampling method where participants volunteered to take part by identifying their interest during phase one and providing their contact details. 92 questionnaire respondents volunteered for the interview stage (66% of questionnaire sample) and 14 were randomly chosen to represent the different areas and levels of leadership within the organisation. Priority was placed on leadership level and area rather than time in role or time in leadership due to the restrictions that time placed on the sample size.

Table 29 - Phase two sample

Percentages are relative to the research sample.

Leadership Area		Total	Primary Phase	Secondary Phase	Central Team
		14 (5%)	6 (11%)	6 (3%)	2 (8%)
Leadership Level	Middle	4 (2%)	2 (7%)	2 (1%)	N/A
	Senior	4 (6%)	2 (13%)	2 (4%)	
	Principal	4 (20%)	2 (20%)	2 (20%)	
	N/A	2 (16%)			

One element of the interview sample worth consideration is the volunteer selection method. Volunteer bias has been discussed earlier in the thesis, identifying the finding that volunteers typically have different characteristics to the general population and therefore reduce representativeness of the sample. It may also be possible that the sensitive and emotional nature of leadership self-efficacy may have driven leaders' decisions to volunteer.

6.1 Interview Analysis

As mentioned in the methods chapter, in this research the decision was made to utilise Braun and Clarke's 2006 thematic analysis framework due to its credibility within the literature and its clarity and usability.

Phases of thematic analysis (Braun and Clarke's 2006)

1. Familiarizing yourself with your data;
2. Generating initial codes;
3. Searching for themes;
4. Reviewing themes;

5. Defining and naming themes;

6. Producing the report.

6.1.1 Phase one – Familiarity with data (Initial patterns)

In order to address Research Question #3 a thematic analysis was completed following Braun and Clarke's (2006) framework. Phase one involved a deep immersion into the data through repeated active reading of the interview transcripts with particular attention paid to patterns of meaning. The reading of the transcripts during this phase was driven by the decision to complete an overall analysis aimed at uncovering semantic themes that align themselves with the established theory of self-efficacy development. This was in contrast to a latent thematic analysis where the researcher looks beyond what has been said in search of underlying ideas, assumptions, and conceptualisations. This first stage resulted in an initial list of emerging patterns and ideas about how self-efficacy is developed in educational leaders.

Table 30 - Initial patterns

Formal training
Feedback
Personality
Influence of others
Experience
Organisational support

6.1.2 Phase two – Generating initial codes

Phase two involved the production of the initial codes that would identify features of the data that appeared interesting and initiate the process of organising the data in a systematic and meaningful way. Codes are the most basic segment or element of the raw data (Boyatzis, 1989) and can be seen as labels that describe what a particular unit of meaning is about (Erlingsson and Brysiewicz, 2017). The coding process was approached with Research Question #2 in mind alongside the established knowledge so was theoretical

rather than inductive in its nature. The NVIVO software programme was used to complete the coding process due to the efficiency of information organisation, management and storage provided by computer-assisted systems. Issues of determinism, rigidity, reification, and training requirements were considered before the decision but did not outweigh the aforementioned benefits (Seale, 1999; Kelle, 2004). The coding process was open in that there were no set codes and generated codes were returned to and modified as appropriate. The entire data set was systematically coded for as many potential themes as possible (Braun and Clarke, 2006) and inclusively of surrounding data so that context of the codes was not lost (Bryman, 2001).

Table 31 - Initial Codes

Gender
Imposter
Personality
Preference
Proactive
Organisational
Subordinate
Superior
Imaginal experiences
Mastery experiences
Time
Coaching
Mentoring
Community
Reflection
Vicarious Experiences
Overconfidence
Role requirements
Spiralling
Understanding
Assessment
Formal training
Research

6.1.3 Phase Three - Searching for themes

Phase three involved a re-focusing of the analysis at a broader level and the sorting of codes into potential themes and sub-themes and subsequently collating coding into those

groups. Themes represent patterned responses within the data (Braun and Clarke, 2006) and express data on an interpretive level (Erlingsson and Brysiewicz, 2017). Theme creation is not solely dependent on the frequency of occurrence across the data set but on whether it captures something important to the research question (s). This phase resulted in the creation of the following themes and sub-themes.

Table 32 - Potential themes

Code	Sub-theme	Theme
Gender	Individual	Antecedents
Imposter		
Personality		
Preference		
Proactive		
Organisational	Organisational	
Subordinate	Subordinate	
Superior	Superior	
Imaginal experiences	Imaginal experiences	Efficacy Information
Mastery experiences	Mastery experiences	
Time	Time	
Coaching	Social persuasion	
Mentoring		
Reflection		
Community		
Vicarious Experiences	Vicarious Experiences	
Overconfidence	Overconfidence	Dynamic States
Role requirements	Role requirements	
Spiralling	Spiralling	
Understanding	Understanding	
Assessment		
Formal training		
Research		

6.1.4 Phase Four – Reviewing Themes

Phase four involved the refinement of the initial themes to assess their viability. During this phase, the coded extracts were reviewed against the proposed themes and alterations made to either the extract's location, the theme's name, or its size through the creation of additional sub-themes.

6.1.5 Phase Five – Defining and naming themes

Phase five involved defining and naming of the themes which would then form the structure for the full analysis. Each theme was assessed to ensure that the chosen term accurately identified the essence of its contents and the data which it contained. As per Braun and Clarke's 2006 guidance, the theme specific extracts were then revisited and organised into a coherent and internally consistent list.

Table 33 below outlines the final themes and highlights how these were established through an inductive process of grouping initial codes into congruent sub-themes and further refining these into final themes. Initial codes emerged due to the frequency of their inclusion in interview transcripts as well as the significance placed upon them by individual respondents.

Table 33 - Final themes

Code	Sub-Theme	Theme
Gender	Traits	Internal Antecedents
Imposter		
Personality		
Preference		
Proactivity		
Overconfidence	States	
Spiralling		
Understanding		
Assessment		
Organisational		External Antecedents
Subordinate		
Superior		
Mastery experiences		Efficacy Information
Vicarious Experiences		
Imaginal experiences		
Coaching / Mentoring	Social Persuasion	
Reflection		

6.2 Interview Discussion

The second phase of the research was focused on how self-efficacy beliefs were developed and addressed Research Question #3 (*How have leaders' perceived levels of self-efficacy been developed?*) and Research Question #4 (*What are the implications of the findings for professional training, development, and support?*)

The discussion points were established in association with the final themes that emerged from the thematic analysis process with the aim of exploring more deeply the efficacy of each theme and its base of support. The discussion points are organised hierarchically in terms of their perceived influence on self-efficacy beliefs. Items which respondents perceive to have the greatest impact on their self-efficacy are presented first.

Each discussion point begins with an introduction to the question followed by supporting research data and supporting literature. Extracts from interview transcripts are coded using the table below to indicate the leadership level and area of the respondent.

Table 34 - Interview respondent coding.

Extract Code	Leadership Level	Leadership Area
MP1	Middle Leader	Primary
MP2	Middle Leader	Primary
SP1	Senior Leader	Primary
SP2	Senior Leader	Primary
PP1	Principal	Primary
PP2	Principal	Primary
MS1	Middle Leader	Secondary
MS2	Middle Leader	Secondary
SS1	Senior Leader	Secondary
SS2	Senior Leader	Secondary
PS1	Principal	Secondary
PS2	Principal	Secondary
C1	N/A	Central
C2	N/A	Central

Discussion point 1 - Is experience important to self-efficacy development?

The most prominent theme to emerge from the interview phase of the research was the reference to past experiences as a key influence on self-efficacy beliefs. Respondents spoke about the positive impact of repeated performance and the negative impact of a lack of experience. A collection of the transcript extracts is below:

"I would say the first thing is experience." (SS1)

"That's just through experience." (MP2)

"I just think experience is key." (SP2)

"It is definitely I think the more you do things the easier it becomes." (MS2)

"I think also financially so I was managing budgets previously in other roles. I now don't have the management of that." (CL2)

"I have no experience of that." (SP1)

"Because of my, I guess rapid rise in leadership I haven't had the experience of doing that necessarily. And so, I guess that's why that's a bit low." (SP1)

"So, I have very little experience of pastoral. Which means that I feel less confident sometimes because I've missed out big steps or big chunks of it." (PS1)

Experience has long been seen as important among the most effective teachers and this holds true in the field of leadership (Day, 2000). The links between experience and self-efficacy growth are also well defined and mastery experiences have been identified as the greatest contributor to efficacy self-appraisals (Bandura, 1986). Numerous researchers have explored how experiences facilitate professional learning, personal change, and the acquisition of leadership capacity (Davies and Easterby-Smith, 1984; Stewart, 1982; McCauley and Brutus, 1998). Job experiences enable individuals to experience different

contexts, levels of responsibility, operational environments and to address personalised development needs. Challenge is a key component of effective job experiences and the possibility of failure or hardship should not be avoided as it often brings about the greatest learning (Moxley, 1998). Selecting the right experience is crucial and should link individual development needs with organisational strategy (Hall and Seibert, 1992) whilst also acknowledging that there are some jobs that are just too important to be given as experiences (Ohlott, 2004). Day (2000) highlights that for job experiences to positively impact professional development the organisation needs to foster a 'learning goal' climate where understanding or mastering something new is valued over judgements of competence.

Several participants spoke positively about the project-based elements of leadership courses that they had attended. The literature on leadership development points to a parallel activity with a positive impact called 'Action Learning.' The traditional, lecture-based training found in many leadership development programmes has been said to at best only partially prepare participants for the future demands of leadership roles (Dotlich and Noel, 1998). Day (2000) suggests that lessons learned in these classroom settings rarely last beyond the end of the programme and people quickly slip back into habitual behaviour patterns. This frustration has led many organisations to embrace the process of action learning under the assumption that people learn most effectively when working on real-time problems (Revans, 1980). Action learning involves a real problem that is critical and usually complex, a diverse problem-solving team, a process that promotes curiosity, a requirement for action and a commitment to learning.

The paradox of leadership experience is that to acquire the learning needed for a new role, individuals must proactively seek out learning opportunities (Eraut, 2007) and that in part is determined by their level of confidence.

Discussion point 2 – *Do superiors have an impact on self-efficacy levels?*

One of the strongest themes emerging from the interview transcripts was the presence of another external impact in the form of leadership superiors. As with many of the other themes, respondents spoke both positively and negatively about the impact that the leaders above them had on their self-efficacy levels. Many of the comments focused on levels of autonomy and the provision of opportunity. Below are a sample of the related responses.

“So, I think how you are led as a leader is also crucial in your leadership.” (SP2)

“I’ve been led by good people.” (MP2)

“I have got a really good line manager who gives me a lot of freedom with my role and always treats me on a sort of an equal level. That then builds your confidence.” (CL1)

“I think the most important thing when you’re a leader is to have autonomy.” (SP2)

“It’s often a frustration for me when I’ve been led with micromanagement” (PS2)

“I often feel like I don’t actually have autonomy about that. For me creates a major barrier. So, it’s difficult for me to feel confident with doing something large scale and strategic.” (MS1)

“If people don’t give you the opportunities and they don’t hand things over to you or delegate tasks to you then I will automatically think that they think I’m not good enough and therefore they don’t trust me to do those jobs and then that has a negative cycle on your confidence.” (CL2)

As with the discussion on subordinate influence, the work of Paglis and Green (2002) highlights how the personality, leadership style and behaviours of superiors’ act as

antecedents to subordinate's self-efficacy. Several participants referenced the negative influence of micromanagement and the stifling impact it has on opportunities to practice leadership. In contrast, participants spoke positively about the freedom, autonomy and trust provided by superiors which in turn led to increased levels of confidence. Studies by Stewart (1982) and Yukl (1994) proposed that staff must have elements of choice in what they do and how they do it if they too feel confident. Howell and Higgins's (1990) work on champions of change found effective leadership came from well-defined roles and significant levels of autonomy. Paglis and Green (2002) found that for managers to feel confident in leading change, they need to be provided with opportunities to set new directions, build relationships, and take action to overcome obstacles. Superiors have also been shown to provide useful vicarious experiences and provide valuable information about the resources and strategies that can be applied to difficult tasks (Gist and Mitchell, 1992; Wood and Bandura, 1989). Paglis and Green (2002) also highlighted the power that superiors have to ease perceptions of task manageability. Feedback was an additional theme evident in the qualitative data and superiors play a key role in the delivery of that information either through formal line management structures or more informally. Bandura (1986) highlighted the superior's role in shaping a subordinate's perceived leadership capabilities through verbal persuasion or coaching. More recently Lambersky (2016) found that school principal behaviours shaped teacher morale, burnout, stress, commitment, and self-efficacy. In his research, teachers cited the provision of appropriate professional development as important to their levels of self-efficacy. Teachers cited schedule changes and alterations to the subjects they teach as negative influences on their self-efficacy beliefs. Other negative impacts included being undermined in public, demeaning comparisons to colleagues and unwarranted favouritism.

Discussion point 3 – Does gender affect self-efficacy beliefs?

Gender influence only briefly occurred during the interviews with one female respondent describing a perceived stereotype around women in leadership.

“I guess like many other leaders and especially women leaders I have that imposter syndrome” (PS1)

Despite only limited reference, the strong emotion and weight placed upon the influence of gender on self-efficacy by the respondent prompted its inclusion in the theme list. The under-representation of women in educational leadership is a widely acknowledged and complex issue that seems to persist despite the large percentage of women in the teaching profession (Coleman et al., 2016.) Early studies into managerial stereotypes (Powell, 1979) highlighted a correlation between being a “good manager” and having “masculine” characteristics such as assertiveness, independence, and willingness to take risks with sensitivity, compassion and understanding deemed to be more feminine. More recent replications of the study have continued to show a similar trend of alignment between management and masculinity (Powell and Butterfield, 1989; Powell, Butterfield, and Parent, 2002) and has also been true in studies involving different cultures (Schein and Mueller, 1992; Schein, Mueller, Lituchy, and Liu, 1996). A study by Sanchez and Thorton (2010) confirmed the presence of similar gender stereotypes in educational leadership and identified further barriers such as limited pathways to senior leadership, role conflicts, high job demands and low salaries. Gender was highlighted by Bandura (1997) as one of the personal, social, and situational factors that affect self-efficacy beliefs. Cultural expectations regarding appropriate behaviours and roles for females impacted on the activities they choose to engage in (Hackett, 1995). Self-efficacy research identifies mastery experiences as a key contributor to an individual’s capacity beliefs and so it may be that females have lower levels of leadership self-efficacy because they have not been

afforded high levels of leadership experience (Chan & Drasgow, 2001). Despite the acknowledgement of the role of gender within self-efficacy development there have been calls for further research and a greater level of exploration (Robinson, 2016).

Discussion point 4 – *Does a perceived imposter syndrome affect self-efficacy beliefs?*

The interview transcripts highlighted several references to imposter syndrome as a reason for low levels of self-efficacy. Respondents communicated a personal distrust that they had the knowledge or skills to be in their leadership position or that they had the credibility to lead others. Below is a selection of the strongest responses:

“Am I the right person to be doing that or having those conversations?” (MS2)

“As a more experienced member of staff the expectation is that you can do it.”

(MS1)

“When you're talking about the skills that you're supposedly a professional in. You feel that showing weakness is bad.” (SP1)

“To be in a position where there are people who are far more academically have achieved far greater than I have yet I'm the one who has to tell you what to do.”

(PPI)

Clance and Imes (1978) introduced the term as part of their studies into high achieving women and described it as an individual experience of self-perceived intellectual phoniness. Langford, Clance and Rose (1995) defined it as a psychological pattern in which individuals doubt their accomplishments and have a persistent internalised fear of being exposed as a fraud. Imposter syndrome has been linked to feelings of depression, generalised anxiety, low self-confidence and associated with gender stereotypes, culture, family dynamics and attribution style (Clance and Imes, 1978). Individuals experiencing imposter syndrome typically attribute their success to luck (Sakulku and Alexander, 2011),

have a fear of failure, deny their ability and discount praise (Clance and Imes, 1995). Studies into the phenomenon have identified links to gender, where females typically experience it more than males (Kumar and Jagacinski, (2006), to race where women of colour in academia experience high levels of it (Walton and Cohen, 2007) and to classroom settings where imposter syndrome is inversely proportional to levels of self-concept (Royse and Jane, 2010). The literature review for this research uncovered no studies specifically linking the presence of imposter syndrome and levels of self-efficacy but the wealth of connections to similar constructs such as self-esteem and general confidence may point to a similar relationship.

Studies into the management of imposter syndrome have found positive effects from group discussion sessions (Clance and Imes, 1978); re-framing negative thoughts (Clance and Imes, 1978); the separation of self-esteem and self-worth (Roskowski and Jane, 2010); development of intrinsic motivation (Hoang, 2013); mentoring (Hoang, 2013) and group psychotherapy (Clance et al., 1995); (Lowman, 1993).

Imposter syndrome is a perceived condition that I personally wrestle with and that impacts on my self-efficacy belief appraisals and can overshadow any objective information such as feedback or experience that accompanies it. This again is a destructive influence on self-efficacy which could be managed through coaching.

Discussion point 5 - *Does personality affect self-efficacy beliefs?*

The idea that lacking confidence was inherent to their personality was a theme in several interview responses. The feeling that it was a fixed trait for which they had no control which led to a resignation that confidence was low also came through. Below is a selection of the strongest responses:

“I think it's me. I think it's partly dispositional. I think it's just who I am as a person.” (MS1)

“I guess that becomes almost innate. I mean it is innate. I think to some degree I'm just who I am.” (MP2)

“I think personally I'm just not a very, I've never been a particularly confident person it's entrenched to think I can't.” (CL2)

“I also think as a slight extrovert if I was going to compare in both that actually that ability to lead others is a natural disposition really.” (MS2)

“I think it's just so dependent on who you are as a person.” (SP2)

A large percentage of studies connecting personality with self-efficacy and/or leadership have centred around Costa and McCrae's Five-Factor Model (1992). The model identifies five core personality traits: openness to experience; conscientiousness; extroversion; agreeableness and neuroticism. Low levels of self-efficacy have been linked to high neuroticism and low conscientiousness (Kokkinos, 2007). Highly efficacious people tend to be extroverted and agreeable (Judge et al., 2002).

Studies have also suggested a relationship between personality attributes and leadership effectiveness (Church and Wacławski, 1998; Frey, Snow, and Curlette, 2009; Gentry and Sparks, 2012). A meta-analysis by Judge et al. (2002) indicated a strong correlation between the five-factor model attributes and effective leadership. More specifically, extroversion was found to be most closely linked and agreeableness to have the weakest connection. In other studies, neuroticism has been found to have an inverse relationship to transformational leadership (Johnson and Hill, 2009) and conscientiousness to be positively linked to interpersonal leadership roles (Grehan et al., 2011; Riggio 2000; Thompson et al., 2002).

Discussion point 6 – Do changes in role requirements affect self-efficacy levels?

Emerging strongly within the interview responses was the acknowledgment that leadership roles evolve as responsibilities are altered and also that those changes have an impact on existing self-efficacy levels. Respondents made particular reference to reduced confidence due to lost skills sets, the complexity of multiple roles and the positive impact of clear role requirements. A selection of related extracts can be seen below:

“I think having changed to a very different role my confidence has definitely decreased over the last few years.” (CL2)

“I felt in my last role that I was the expert in a number of areas because I'd spent years honing that developing that and now it's new.” (CL2)

“There are certain skill sets that I think I've lost or are not being used therefore you to lose confidence in them.” (MS2)

“What it is to be at this academy and what we expect of each other and I would say that's communicated particularly well by the current Leadership team.”

“Quantifying if you will what we are meant to be doing it just made it really clear for us.” (MP2)

“In my current role I am trying to be a classroom teacher and a year group leader who keeps things ticking over as well as a member of SLT and trying to change those hats is difficult at times.” (MP2)

The dynamic and multi-dimensional nature of leadership results in a construct that can never fully be mastered and one that results in regular changes to role requirements and expectations. This shift in required knowledge and skills associated with role changes naturally has an impact on levels of confidence, a feeling felt by the participants of this

research. Interviewees spoke negatively about the loss of accrued skills and the apprentice period in a new role where confidence levels are temporarily reduced. This initial self-efficacy lull was reflected in research by Bennet (2008) who found that first-time subject leaders in schools experienced this due to a lack of knowledge and limited time in role. One interviewee felt frustration over the lack of strategic thinking given to role changes and the conscious loss of leadership performance. Several participants spoke positively about the need to change roles to obtain the breadth of experience and knowledge required to advance into the upper levels of educational leadership.

Discussion point 7 – *Does assessment affect leadership self-efficacy beliefs?*

The interview data revealed several responses linked to a perception that assessment had impacted on the development of self-efficacy beliefs. Self-efficacy levels themselves are generated through a process of self-assessment but the discussion is around where the information for those assessments comes from. Interview respondents reflected both positively on the presence of leadership assessment and negatively on the absence of assessment information. Examples of responses can be seen below:

“We then went through a process of asking our own teams to assess us against how well you feel led and managed by us. That was really useful. They sort of told us how they perceived us as leaders and what we need to work on.” (MP2)

“I don’t get feedback on all areas of my role though. There is no assessment process in place to tell me what to work on.” (CL1)

The leadership literature cites leadership skills assessment as critical to development programmes as a means of identifying current strengths (Solansky, 2010). Many leadership programmes include introspective self-report measures but the potential for response bias in this singular data set has driven a growth in the use of 360-degree assessments. During

these assessments, the evaluation is extended to external observers, most typically in the form of managers, peers, and subordinates. 360-degree assessments offer participants valuable feedback that can facilitate skills acquisition, goals setting and behavioural change. The growth in its use has been driven by a deeper appreciation of the need for self-understanding and the negative consequences in terms of performance, stress, and anxiety of not developing it (Dotlich and Noel, 1998). Additional reasons for growth include the relative ease of administration, adoption by well-respected organisations and the power of the data as a development tool (Waldman et al., 1998). Proponents of the process highlight the methodological strengths of the triangulated data (Solansky, 2010) and the creation of a more complete and accurate picture of an individual's performance (Day, 2000).

Once assessment processes are in place the question is more related to the impact of that assessment data as the interpretation and attribution of assessment data has the power to both build and erode self-efficacy levels. Another feedback consideration is the impact that a lack of it has on self-efficacy levels. The absence of assessment data may leave individuals with insufficient efficacy information to make accurate appraisals. This absence may force the individual to rely more heavily on their own perceptions which have inherent self-report biases.

Discussion Point 8 – *Do organisational factors impact on self-efficacy levels?*

Emerging through the thematic analysis of the interview data was the view that organisational factors had impacted both positively and negatively on individual's levels of self-efficacy. Below are some transcription extracts that illustrate this:

“Maybe it's partly working for a large organization. So, there are other people doing similar roles. So, you know if you have a problem you can go and speak to somebody in a similar role or they might have had the same situation.” (CL1)

“I think my Leadership Journey has definitely benefited hugely from having that mandate to change which is therefore given me and I think our whole team the confidence to change things.” (SS2)

“It was really fortunate that I built some strong working relationships with people around the organization that meant that I had people I could draw on.” (PS2)

“I think that being allowed to work analytically and strategically is really supported by working in a Multi-academy trust (MAT) so it gets you away from some of the operational tasks or the creation of the data to thinking actually what do I do with this data.” (PS1)

“I have not had any leadership training at all.” (PP2)

“I’ve gone from having a very big team that I influence to a very small team”(CL2)

Bolman and Deal (1991) stated that the organisational context in which managers work has a direct impact on what they can do. Other researchers explicitly pointed to the organisations’ openness to changes as the key factor to leaders’ confidence (Kanter, 1983, 1999; Tichy and Ulrich, 1984; Scott and Bruce, 1994). One participant in this research echoed this by speaking about the “mandate for change” that came with a poor Ofsted rating and how this gave the whole team the confidence to change things. Many of the comments from this research referenced the community of support that exists within the organisation and the availability of feedback.

Discussion point 9 – Can leadership self-efficacy levels be too high?

A small number of participants referred to experiences where high levels of self-efficacy had led to them underperforming and subsequently doubting their future ability. Below are the relevant responses:

“This can also go the wrong way though, when you get too confident it can cause problems with change.” (CL2)

“You become overconfident and perhaps the detail that you went to in your planning previously becomes less so you become a bit more superficial.” (PS2)

“It leads you back to the overconfidence. Sometimes you are used to getting really confident with a member of staff on your team who just delivers excellent stuff day in day out and the minute you find you take your own personal foot off the gas and you don't provide them with a level of scrutiny that you did previously. Often then you end up with a project that goes off a little bit half-cocked.” (PS2)

The literature review completed during this research did not reveal the presence of a comparative term for extreme self-efficacy such as we have with over-confidence, however there have been studies focused on the negative consequences of self-efficacy. Stone (1994) highlighted links to resource allocation and suggested that individuals contribute less time, energy and effort to tasks when related efficacy levels are high. This ‘relaxation’ that comes with high self-efficacy was also noted by Vancouver, Thomson and Williams (2001). High levels of self-efficacy have also been studied in relation to risk and Kontos (2004) found efficacious people may be less likely to fear failure and thus take reckless risks. Tierny and Farmer (2011) highlighted the benefits to innovation that high self-efficacy and risk-taking produce, indicating that the impact of efficacy levels being high may depend on the context.

In the field of leadership, overconfidence is often called ‘hubris’ and is seen as an occupational hazard for political, military, business, and educational leaders (Claxton, Owen and Sadler-Smith 2015). It is characterised as excessive self-confidence, exaggerated self-belief, contempt for the advice of others and an absence of humility (Russell, 2011). Hubris frequently appears in leadership studies and has been identified by

researchers as one of the ‘darker side’ leadership traits (Collinson, 2012; Conger, 1990; Higgs, 2009; Hoogenboezem, 2007; Judge et al., 2009; Padilla et al., 2007). Owen (2008) suggests that hubris is an acquired syndrome that develops only after a leader has held power for a period of time and is only applicable if there is no history of psychiatric illness. Dunning et al., (2004) identifies leaders as particularly vulnerable to hubris because their position creates relative isolation and provides less ‘social correctives’ than other employees. Owen and Davidson (2009) identified narcissistic propensity; messianic manner; excessive confidence; exaggerated self-belief; progressive isolation, impulsiveness, and recklessness as symptoms of hubris.

Discussion point 10 – *Do subordinates have an impact on self-efficacy levels?*

Another external influence that emerged from a small number of interview transcripts was the influence of team members on a leader’s self-efficacy beliefs. Interview comments surrounding levels of support from others highlighted the role that others can have on an individual’s confidence. Below are the relevant extracts.

“We’ve invested quite a lot in making our middle leaders feel like leaders not co-ordinators. Giving them empowerment giving them their own things to make them feel like leaders.” (PP2)

“We’ve got quite a nice team here. It’s a small team which is quite helpful. So, we kind of work together almost by osmosis. You know it’s quite organic and natural.” (MPI)

Support for the impact of others and in particular leadership subordinates comes within the leadership self-efficacy literature and the work of Paglis and Green (2002). Paglis and Green (2002) found that leaders with subordinates who demonstrated initiative,

cooperation and a high quality of work had higher levels of leadership self-efficacy than those with lower performing staff. The same study also found that a subordinate's overall attitude contributed to their leader's self-efficacy.

The self-efficacy literature is clear on the positive and negative impact that past experiences have on self-efficacy levels (Bandura, 1977) and in group tasks a subordinate's performance may therefore contribute to task success and subsequently task leader's self-efficacy.

The leadership literature supports the importance of subordinates and notes that routine managerial tasks can often be accomplished through autocratic leadership styles, but leading change requires persuasion and collaboration (Kanter, 1983). It is this interdependence that adds weight to the suggestion that subordinates affect the performance and therefore may affect the self-efficacy levels of superiors.

Discussion point 11 - *How does role-modelling affect self-efficacy beliefs?*

Alongside the aforementioned interview responses relating to the impact of superiors and subordinates were specific references to developing self-efficacy vicariously through others. Respondents spoke about positive role modelling of both superiors and other staff members. Within the transcripts there were also references to the positive influence of negative modelling and a perception that vicarious influences were more transformational than formal training. A range of interview responses are below:

"I've been led by good people. I have worked with lots of different people. I've worked in different teams every year. Even if they're not leading me, I've seen the best parts of different people."(MP2)

"Everyone was a good role model. The way I see it they would all do things differently and that gives you the opportunity to go ohh well actually they're

effective, but I wouldn't do it that way. So, you learn from other people's mistakes.” (MS2)

“You use role models in your context and these role models on your training programmes and your team members to emulate them.” (SP1)

“I think sometimes the bit that you learn from other leaders that you will not do are also as vitally important as what you will do.” (SP2)

The increased confidence that comes with the observation of successful performance has long been acknowledged and frequents much of the self-efficacy literature. Bandura (1997) highlighted its positive impact on convincing individuals of their own abilities to perform comparable tasks. Gould (1981) suggested that it sends a key message to observers that skills are learnable and difficult tasks are surmountable. Studies in educational leadership highlight positive relationships between modelling by principals and the self-efficacy of observing vice principals (Swain, 2016). Studies into teacher self-efficacy found that experiencing good teaching through vicarious means is conducive to becoming a good teacher oneself (Watters and Ginns, 1994; Uzuntiraki, 2008). It could be suggested that this would also be true for leaders experiencing effective leadership. During this research, the influence of positive role models on confidence was clear. Comments during the interviews highlighted the importance vicarious influence has on leader development, a finding shared by (Reed, 2016). Of equal interest was the positive impact of negative role models on leadership development with respondents valuing the opportunity to “see how it is not done.”

Discussion point 12 - How important is feedback to self-efficacy development?

The presence of positive feedback was highlighted by a small number of respondents as a developmental reason for their self-efficacy beliefs. The absence of feedback was also

cited as a perceived reason for a lack of self-efficacy development. Examples of interview comments can be seen below:

“Feedback that you do that well then builds confidence.” (PP1)

“We are getting more and more feedback from the people.” (CL1)

“Building confidence is more difficult because you're not getting as frequent feedback.” (CL2)

“Also having someone who is a critical friend is always really good.” (MS2)

The self-efficacy literature describes how individuals develop self-efficacy beliefs from the social messages they receive from others typically in the form of persuasion, feedback, and appraisal. Positive feedback on performance has also been shown to enable individuals to experience higher levels of success in subsequent activities and vice versa (Dupret, 2016). Outside of leadership, the impact of positive feedback has also been shown to develop confidence in domains such as education (Palmer, 2011, Arslan, 2012), Salespeople (Brown, Oubre, and Chakrabarty, 2008) and sports (Valiante and Morris, 2013). An important consideration for the effectiveness of feedback on self-efficacy development is the perceived prestige, credibility, expertise and trustworthiness of the persuader, (Feltz and Lirgg, 2001); (Liu and Gumah, 2020). Low levels of these attributes may limit the reception, processing, and utilisation of the feedback by the individual.

Discussion point 13 - *How can networking contribute to the development of leadership self-efficacy beliefs?*

Interview responses frequently referenced the influence of colleagues or additional people in the development of self-efficacy beliefs. Opportunities for discussion were often cited as beneficial as was the confidence building presence of a supportive set of peers. The

absence of networking opportunities was highlighted by one respondent as a key reason for their low self-efficacy and feelings of isolation. A selection of transcript extracts can be seen below:

“I do think most of my decisions are through some form of discussion just because I don't have all the answers.” (MP2)

“Plenty of opportunity to talk to them, have discussions.” (PS2)

“It's quite isolated in terms of the people that you're able to interact with.” (CL2)

“It's important that I am given the opportunities and give other leaders the opportunities to work with colleagues that are experienced in those areas because I think that helped me to develop confidence and more generally.” (SS1)

“I think the support, the network around me has given me that confidence.” (PP2)

The leadership literature reviewed for this research strongly supported networking as a means of bringing people together to enable individuals to challenge assumptions and beliefs through exposure to other's thinking (Day, 2000). Networking enables the formation of relationships outside of immediate work groups, the development of social capital and increased support options. The peer relationships that grow through networking offer unique value for development due to their strength and longevity. Peer relationships can span a whole career (Kram and Isabella, 1985) as compared to a typical mentoring relationship of 3-6 years or an executive coaching partnership of six months. Guidance for the effective use of networking includes the need to intentionally generate networking opportunities, highlight its benefits (Day, 2000), not formalize relationships (Ragins and Cotton, 1999) and to model effective relationship building (Day, 2000).

The self-efficacy literature reviewed in chapter two did not explicitly reference networking as a strategy for its development but opportunities to network may increase access to

modelling and feedback, both shown to have an impact. Building a network may also provide additional experience and opportunities to practice again both key influences on self-efficacy beliefs.

Discussion point 14 – *What role does coaching have in the development of leadership self-efficacy beliefs?*

This final discussion point focuses on the theme that emerged within the interview transcripts around the influence of coaching on self-efficacy beliefs. A range of leaders from different contexts spoke positively about the presence of an individual tasked with a coaching role. A selection of transcript extracts can be seen below

“I sought out a coach. To coach me through how to do the things I say that I'm not confident with.” (MS1)

“There's also a coach who is someone who is like completely absent from me and I had him for two years and I think it's why I made my most development.” (MS2)

“I think that one of the ways that I increase self-efficacy is through coaching. So, for the last five years I've had one to one coaching.” (PS1)

“I find coaching is the best way to improve my confidence.” (PS1)

“I guess it's a little bit coaching really isn't it that just kind of helping each other in that regard will help you grow in that confidence to deliver whatever that is.” (SP2)

The desire to engage leaders beyond compliance and programme task completion and into a state of reflection and empowerment is often the role of coaching. Coaching has been defined as the process of working with a trained professional on an ongoing basis to discuss and strategize goals and address challenges to achieve results (Reiss, 2007). A study by Southworth and Doughty (2006) championed the use of coaching in educational

leadership development programmes at all levels and identified it as a key factor in participant success. Studies have found educational leadership coaching to assist in identifying strengths (Reiss, 2007); developing routines (Lochmiller and Silver, 2010); creating vision (Meddaugh, 2014) and facilitating positive thinking (Daresh, 2004). Coaching methods and processes are varied but Bloom et al., (2005) support a blended combination of facilitative, instructional, collaborative, consultational and transformational for educational settings.

Facilitative coaching helps leaders reflect on their practices examine their own self-assessments in order to develop problem-solving skills. Instructional coaching involves a more directive approach where the coach shares their own experiences and expertise through traditional teaching strategies. As the name suggests, collaborative coaching involves the two parties working together to problem solve and generate learning which is expanded to include additional parties in the consultative coaching style. Bloom et al. (2005) describe their final coaching strategy as transformational and the ultimate goal of a coaching relationship. During this process, the two parties explore underlying beliefs, generate new learning, reframe possibilities, and integrate new knowledge and skills, the coachee becomes 'transformed.' Thompson (1987) balances the positive reviews of coaching by highlighting the negative impact it can have through the associated stigma of being assigned a coach and thus the perception both internally and externally of ineffective performance. The selection of participants and matching of coaches needs to be done intelligently and sensitively to not do more harm than good.

Instructional coaching is similar in its directiveness to mentoring, another possible lever for self-efficacy development. Mentoring has been found to be a frequent component of leadership development programmes even when curricula, timing, delivery, participants, and programme size differ (Solansky, 2010). Reiss (2007) defines mentoring as the

matching of a novice with a more experienced person in the same role. Mentoring aims to help mentees become more comfortable in their role (Reiss, 2007), foster teamwork and increase competency levels (Messmer, 2003). Mentoring is a complex interpersonal process and the mentor-mentee relationship has been said to be the most important in an individual's professional life (Zaleznik, 1977). The selection of mentors is a crucial step and it would be wrong to assume that all mentors perform identically in terms of the experience they provide (Day, 2000). Patience, honesty, trustworthiness, empathy, and contextual understanding have all been identified as characteristics of effective mentors (Allen and Poteet, 1999).

Mentoring and coaching relationships may provide many of the self-efficacy management techniques highlighted in chapter two such as modelling, feedback, goal setting and mental rehearsal. Another role of the mentor or coach may address the physiological and emotional information used for self-efficacy development. Attribution is a key factor in the use of this type of information (Bandura, 1997) as sources of physiological and emotional states are easily misattributed. Mentoring or coaching conversation may be aimed at exploring the attribution of these stimuli and if required, using techniques to achieve re-attribution. Studies into the manipulation of physiological and affective states for the management of self-efficacy include Cognitive Behavioural Therapy (CBT) (Nash et al., 2013) and mindfulness (Firth et al., 2019).

Table 35 - Part one and two discussion points

The table below represents the sum of the discussion points from the quantitative and qualitative elements of the research, re-organised into the associated research questions.

Research Question 1 - <i>What are leader's current perceptions of their self-efficacy in relation to leadership tasks?</i>	
1a	Did organisational factors lead to strong self-efficacy levels?
1b	Did task characteristics affect self-efficacy beliefs?
1c	Why did leaders perceive the lowest levels of self-efficacy to be for 'operational leadership' and in particular 'increasing capability' at the meso level and 'building external partnerships' at the micro level?
Research Question 2 - <i>Do leadership self-efficacy levels vary between contextual factors?</i>	
2a	Did leadership experience affect self-efficacy levels?
2b	Is time in role or time in leadership more important for self-efficacy development?
2c	Why does interpersonal leadership have the lowest level of statistical significance?
2d	Why does leadership area not have a statistically significant effect on self-efficacy?
Research Question 3 - <i>How have leader's perceived levels of self-efficacy been developed?</i>	
3a	Does gender affect self-efficacy beliefs?
3b	Does a perceived imposter syndrome affect self-efficacy beliefs?
3c	Does personality affect self-efficacy beliefs?
3d	Can leadership self-efficacy levels be too high?
3e	Does assessment affect leadership self-efficacy beliefs?
3f	Do organisational factors impact on self-efficacy levels?
3g	Do changes in role requirements affect self-efficacy levels?
3h	Do subordinates have an impact on self-efficacy levels?
3i	Do superiors have an impact on self-efficacy levels?
3j	Is experience important to self-efficacy development?
3k	How does role-modelling affect self-efficacy beliefs?
3l	How important is feedback to self-efficacy development?
Research Question 4 - <i>What are the implications of the findings for leadership training, development, and support?</i>	
4a	What content should leadership training and development include?
4b	Should leadership training and development content be context specific?
4d	How can networking contribute to the development of leadership self-efficacy beliefs?
4e	What role does coaching have in the development of leadership self-efficacy beliefs?

Chapter Summary

This chapter has served to describe the results, analysis and discussion relating to the second phase of the research. The chapter outlined the process of thematic analysis which led to the identification of three core themes (internal antecedents, external antecedents, and efficacy information). The chapter then explored a series of discussion points stemming from the interview data of which the key points can be seen below:

Main Findings

Interview participants referenced a range of internal trait characteristics such as gender, personality, proactivity, and imposter syndrome which have particular relevance to Research Question #4. Despite only limited reference, the strong emotion and weight placed upon the influence of gender on self-efficacy by a respondent prompted its inclusion in the theme list and supported the phase one call for further research into contextual factors.

References to the impact of personality and a perceived imposter syndrome suggested the presence of factors that potentially precede and hijack the established sources of self-efficacy information. This finding aligns with Paglis and Green's (2002) identification of self-efficacy antecedents.

Respondents also reflected on the impact of less permanent personal characteristics such as assessment, spiralling and overconfidence which also affected their self-efficacy appraisals. References to overconfidence led to the discussion of whether high self-efficacy is always positive and if self-efficacy levels can be too high. Both the leadership and self-

efficacy literature supported the presence of a hubris-like element to self-efficacy and implications such as reduced effort and ineffective goal setting.

Interview participants also highlighted the presence of a range of perceived external influences that impacted on confidence which had particular relevance to Research Question #3. Influences such as line managers, organisational change and team members closely linked with the aforementioned work of Paglis and Green (2002) who categorised these as organisational, superior, and subordinate self-efficacy antecedents.

The impact of superiors emerged as the largest external influence on self-efficacy levels as they were seen to have a controlling influence on the provision of experience, modelling, and feedback. Respondents spoke negatively about poor delegation which robbed them of opportunities to practice and also positively about the proactive provision of experience by line managers. Interview comments also highlighted a variance in the provision of effective modelling and positive feedback supporting the overarching thesis tenant that organisations can do more to ensure that leaders are not just confident by chance.

A small number of interview respondents referenced the impact that team members had on their self-efficacy levels with supportive and high achieving teams being most beneficial. This impact was smaller in comparison to the impact of superiors but still supported by the literature.

References to the provision or absence of the self-efficacy information sources outlined by Bandura (1997) and Maddux (1995) were common in response to how self-efficacy levels had risen or fallen. Interview transcripts strongly supported the importance of experience as well as vicarious influence and verbal persuasion.

The chapter concluded with a discussion around how the results of the interviews could support Research Question #4. Respondents spoke frequently about the positive impact of contact with others through either informal networking or more formal coaching and

mentoring. The role that these interactions had on the provision of efficacy information such as modelling, and feedback was significant.

Relevance to Research Questions

The main findings of this chapter did not contribute to Research Question 1 (*What are leaders' current perceptions of their levels of self-efficacy?*)

The main findings of this chapter did not contribute to Research Question 2 (*Do leadership self-efficacy levels vary as a result of leadership area, leadership level, time in role, time in leadership?*)

The main findings of this chapter address research question 3 (*How have leaders' perceived levels of self-efficacy been developed?*) by outlining a set of internal and external antecedents that have an influence on the development of leadership self-efficacy. The findings also serve to strengthen the impact of more established methods of development such as experience, modelling and feedback. The findings clearly indicate the role that interventions such as coaching and mentoring can have on self-efficacy development.

The main findings of this chapter address research question 4 (*What are the implications of the findings for leadership training and development?*) by highlighting a range of considerations that training and development designers must have during programme design and delivery. The findings indicate the need for a particular focus on internal and external factors that may overpower any attempts for development by traditional forms of development such as experience, modelling and feedback. The key contribution of the findings to this question is that the provision of the above elements may feel like common sense but it is not common place and must be systematically included in any leadership development programmes.

Chapter 7. Conclusions and Professional Recommendations

7.1 Conclusions

This chapter presents the conclusions for the research followed by professional recommendations. It builds on the discussion points from both quantitative and qualitative phases which in turn emerged from the data in those chapters. Conclusions are described individually in more detail, outlining their genesis, the supporting research data and supporting literature. The professional recommendations that accompany each conclusion were established by combining key elements from the research data, the discussion points and the supporting literature.

7.1.1 Conclusion A

Educational leadership self-efficacy is contextually sensitive.

Both the quantitative data resulting from the questionnaire and the qualitative data from the interviews indicate enough variance in self-efficacy levels between contextual groups to suggest there is an impact. Despite the mean self-efficacy scores and levels of standard deviation in tables 12, 13, 14 and 15 highlighting only small degrees of variance, it could be argued that any level of variance at an individual level may have significance to that specific leader and their professional development. The specificity that separates self-efficacy from more global constructs such as self-esteem is also the reason why training and development must be congruent with the individual's role or context. Training that does not achieve this serves not only to waste valuable resources but also potentially leaves individuals unable to successfully complete their role requirements. Unsuccessful experiences and the associated negative feedback potentially then lead to decreasing levels of self-efficacy and further decreases in performance.

The inferential analysis completed in part one on the questionnaire data also provides an indication that context is a factor in leadership self-efficacy beliefs. The p-values and effect sizes in tables 17,19, 21 and 23 highlight the presence of statistically significant relationships between self-efficacy at various levels and contextual factors such as leadership level, time in role and time in leadership. Despite the eta-squared effects sizes being medium to low, I would argue that any significant relationship or effect size is worth considering if they indicate an opportunity to design more effective professional development. The Cohen's d effect size calculations are more supportive of this conclusion and highlight a wide variety of large effect sizes between pairings of contextual groups and leadership capabilities.

Extracts from the interview transcripts add some support to the conclusion highlighting occasions where key elements such as finance have been missing from a leader's professional development programme, supporting the need for role and contextual congruence. The literature on transfer of training adds some support to this conclusion by highlighting the importance of content relevance in the goal of successfully transferring learning into the workplace. Clark & Voogel, (1985) suggested that content relevance is a critical component of instructional design, a view also shared by Bates, (2003). Empirical work by Axtell et al. (1997) found a strong correlation between the content validity of training information and the transfer of training immediately after the event and at the one-month mark ($p < 0.01$). In their literature review of training transfer literature, Burke and Hutchins (2007) suggest that training participants must see congruence between content and work tasks if skills are to be transfer and point to the importance of the needs assessment process.

The interview data also highlighted additional references to the impact that contextual changes such as job role, team dynamics and school culture have on self-efficacy beliefs. The dynamic nature of school environments and the possibility of frequent contextual changes suggest the need for regular measurement of self-efficacy, especially if that information is used for professional development purposes. The measurement of self-efficacy whether quantitative or qualitative is typically limited to a specific moment in time and thus quickly ineffective for long-term professional development and support purposes. Zee and Koomen (2016) drew attention to the lack of longitudinal studies of self-efficacy and suggested the need for more if we are to better understand the stability of the construct.

The literature on self-efficacy measurement supports the need for context specificity (Multon, Brown and Lent, 1991; Pajares, 1996) and suggests that measurement tools must have high levels of domain specificity to be accurate. If scales focus on elements that have little or no impact on the domain of functioning then the research cannot yield a predictive relation (Bandura, 2006). This research study would take that one step further and suggest that measurement tool specificity must push even deeper than the domain level and ensure contextual congruence.

The contextual sensitivity of leadership self-efficacy should be a consideration if training and development providers want to ensure that training content accurately reflects context and role requirements. If levels of congruence between leadership development and leadership demands increase, then organisations may be able to develop confident leaders by design.

Professional Recommendation 1 – *Leadership development design must consider the leadership level and experience of its participants.*

The content of training is a crucial element in the success of its transfer into the workplace (Baldwin and Ford, 1988). Training that is not closely aligned with the actual requirements of the individual serves not only to under prepare individuals but also to waste precious professional development time. The questionnaire data from this research highlight the varying levels of self-efficacy and by inference, the professional development needs of leaders from different contexts. These albeit subtle differences in levels of confidence should not be ignored by professional development designers as ultimately, contextual incongruence may mean that development opportunities fail to prepare people for roles, limit their effectiveness and subsequently have a negative impact on self-efficacy beliefs. The interview transcripts included reference to poorly designed training and the absence of core elements of required knowledge. Individuals who attend training where there is a perceived disconnect between content and role also perceive it to have lower levers of utility and often set their levels of engagement, accordingly, further decreasing its effectiveness. Training designers need to develop a detailed understanding of the knowledge, understanding and skills required for a role prior to course creation and appreciate the changes that may need to be made due to leadership level and experience.

Professional Recommendation 2 – *Self-efficacy measurement linked to professional development must be regular and context specific.*

Self-efficacy beliefs have the potential to be long-established but also transient in the appraisal moment. This potential for transience means that individuals may feel differently about a situation or a task from moment to moment and across different situational parameters. Interview transcripts from this research highlighted the impact of changes to roles, team dynamics and school systems on self-efficacy levels and the often-high

frequency of these changes. Rapid changes in self-efficacy make accurate assessment difficult and can subsequently lead to poor professional development design as needs identified at the time of assessment may not be accurate in the near future. If self-efficacy assessment is used to identify professional development needs, then it must be completed regularly to increase the validity of the data and ensure that provision accurately meets needs.

Another characteristic of self-efficacy that needs to be considered during assessment is the inherently high levels of specificity that distinguish it from larger constructs such as confidence. Self-efficacy appraisals represent an assessment of confidence specific to the measurement item in question. Any changes to the context of that item negatively affect the validity of the assessment data and so assessment items must be contextually specific enough to facilitate an accurate appraisal. For example, a self-efficacy appraisal of public speaking is not specific enough to create an accurate picture of an individual's development needs. Contextual elements such as audience size, audience credibility, location, recorded or not recorded etc will all contribute to the self-efficacy belief. Self-efficacy measurement items must at the least, be specific to the organisational context and ideally congruent with the current demands of the individual's specific role.

7.1.2 Conclusion B

Leadership development must be mindful of self-efficacy information sources.

This conclusion supports the work of Bray-Clark and Bates (2003) and Versland (2016) in promoting the need to have self-efficacy in mind during the design and delivery of professional development. Support for this conclusion comes from the interview transcripts where respondents regularly referenced the efficacy information sources identified by Bandura (1977). Respondents spoke about the positive impact of experience and the decreased self-efficacy that occurs in the absence of it. They also referenced the increases

in self-efficacy that occurred due to the presence of good role models and positive feedback.

The relevant literature also supports the impact of Bandura's (1997) sources of efficacy information. Past experiences have been shown to be the most influential source of efficacy information (Bandura, 1977) with vicarious influence and comparisons with others also having a powerful influence (Maddux, 1995). Interview respondents spoke both positively about the impact of feedback as well as its negative influence if ineffective or absent. The literature supports the role of feedback in self-efficacy development, but also add caution as verbal persuasion is strongly influenced by the perceived prestige, credibility, expertise and trustworthiness of the persuader, (Feltz and Lirgg, 2001).

References to factors such as opportunity, experience, modelling and feedback within the interview transcripts linked back to the importance of the volume and quality of the information individuals use during their self-efficacy appraisals. Individuals typically utilise retrospective information when deciding on their levels of confidence related to a task. Self-efficacy beliefs are generated by synthesising past experiences, observed performance, feedback received and emotional and physiological conditions. Leadership training and support must provide individuals with information that supports the development of positive self-efficacy beliefs. Training and development must provide opportunities to experience and practice current and future role requirements. It must provide exposure to models of effective performance and enable individuals to assimilate them into their contexts. Training and development must provide regular feedback both positive and negative so that leaders can adapt thinking and behaviour. Finally, it must equip leaders with the ability to recognise and manage emotional and physiological cues so as not to misattribute them.

Self-efficacy development should be a key consideration for professional development designers as the absence or ineffectiveness of any of these efficacy information sources will lead to learners not having sufficient information to make accurate self-efficacy appraisals and may lead to low or false representations of confidence. Integrating opportunities to gather this information into professional development programmes can create confident leaders by design.

Professional Recommendation 3 - *All leaders should be engaged in effective coaching / mentoring relationships.*

Self-efficacy beliefs are an individual's perceived ability to meet demands and thus are subject to a range of biases and possible misinterpretations. In situations where individuals have limited direct knowledge of their ability such as those new to leadership or new to role, the reliance on the interpretation of modelled behaviour increases (Feltz, 2008).

Where individuals do not have access to vicarious influence or social persuasion they have to rely on their own interpretational and attributional processes. This can be problematic at both ends of the continuum with leaders either thinking overly negatively or overly positively about their performance. In this research, respondents regularly cited the positive influence of a coach or mentor who through their actions improved the leader's self-efficacy. The relationships enabled the leader to have their perceptions moderated through alternative perspectives and additional efficacy appraisal information. Coaches and mentors also provide the opportunity for private practice and the emotionally safer testing of ideas or techniques. These experiences serve to protect existing self-efficacy levels and even provide additional growth.

Professional Recommendation 4 - *Leaders should have regular opportunities for networking across a range of contexts.*

Leadership can be a lonely pursuit and increasingly so as individuals move into its higher levels. In situations where this is not supported by the aforementioned presence of a coach, there is a similar danger of self-efficacy beliefs being based on faulty information. In this research, respondents spoke positively about opportunities to network with other leaders with similar and differing contexts. Networking with leaders at the same level can allow individuals to measure their own performance as well as gain additional perspectives on common challenges. Networking with leaders at higher levels or leaders with greater experience can provide opportunities for modelling and the acquisition of additional knowledge, understanding and skills. All this additional information can help individuals develop stronger self-efficacy beliefs, but the opposite is also true. Comparisons with others at the same level who are perceived to be more effective or higher-level leaders who perform tasks that are seen as unreachable may harm an individual's efficacy levels.

7.1.3 Conclusion C

Experience is vital to the development of leadership self-efficacy.

This conclusion supports Bandura (1977)'s suggestion that past experience is the largest contributor to self-efficacy beliefs and strengthens the current literature through its focus on educational leadership and across varying leadership contexts.

Data from both phases of the research highlighted the importance of experience in the development of self-efficacy beliefs. The descriptive analysis of the questionnaire data from phase one highlighted a link between high efficacy ratings and high frequency tasks such as building trust, role modelling and maintaining visibility. The data also highlighted the lowest self-efficacy ratings for tasks such as building partnerships, performance

management and change management which are completed less frequently. This variance in frequency of completion links naturally with variance in levels of experience and the literature on the importance of experience in self-efficacy development (Bandura, 1986; Linnebrink & Pintrich, 2003; Papastergiou, 2010).

The inferential analysis of the questionnaire data partially supported the influence of experience through the relationships between self-efficacy and the contextual factors included in the research. The p-values in tables 17, 19, 21 and 23 highlight a range of statistically significant relationships between experience related contextual factors (leadership level, time in role and time in leadership) and leadership capabilities at various layers of the organisation's leadership framework. Softening the p-values are the eta-squared values which indicate only medium effect sizes and thus a moderate relationship magnitude. The Cohen's d values in table 25 however show strong effect sizes for the impact of leadership experience both overall and in role.

Within the leadership literature experience has long been seen among the most important teachers (Day, 2000). Providing experience has been shown to increase self-efficacy levels both within business organisations and educational settings (Saks, 1994, 1995).

Researchers have explored how experiences facilitate professional learning, personal change, and the acquisition of leadership capacity (Davies and Easterby-Smith, 1984; Stewart, 1982; McCauley and Brutus, 1998). Experiences serve to enable individuals to experience different contexts, levels of responsibility, operational environments and to address personalised development needs.

The leadership self-efficacy literature also provides some supporting literature.

McCormick, Tangma and Lopez-Forment (2002) suggested that the more leadership role experiences a person has had, the higher their levels of leader self-efficacy will be. Paglis

and Green (2002) proposed a set of organisational antecedents that affect leadership self-efficacy and may impact levels of experience. Factors such as support for change and job autonomy may affect the volume and quality of leadership experience an individual receives. Opportunities to gain experience are also more likely within organisations that are open to change and encourage risk taking and problem solving (Kanter, 1983; Howell and Higgins, 1990; Scott and Bruce, 1994).

The interview transcriptions from part two of the research highlighted the perceptions of importance linked to experience and to the antecedents referenced above. References to changes in job role leading to diminished responsibilities were seen as reasons for reduced experience. A lack of autonomy was cited as another reason why leaders were unable to gain the experience, they felt they needed in order to feel high levels of self-efficacy. Interviewees made frequent reference to the positive impact of past experience, supporting (Bandura, 1977)'s view that experiences viewed as successful serve to increase self-efficacy.

Professional development designers and organisations should acknowledge the importance of experience in the development of confidence. If they are able to proactively build programmes that provide it and organisational opportunities to deepen it post-training, then the education system can benefit from confident leaders by design.

Professional Recommendation 5 - *Leadership training courses should contain experiential elements.*

The results from both phases of this research highlight the importance of experience and support Bandura's (1997) suggestion that past experience is the largest contributor to self-efficacy beliefs. Personal experience of attending and delivering leadership training is that the emphasis is often on the development of knowledge and understanding which leaves

very little space for practice or experience. The format of leadership courses is also often large groups situated away from the school environment further reducing the opportunity for realistic experience. The literature on the transfer of training (Baldwin and Ford, 1988) highlights that often employees gain additional knowledge, understanding and skills during training but that this learning alone is not sufficient enough to deem the training effective. The literature suggests that organisations need to provide individuals with opportunities to practice and perform in order to successfully transfer training into the workplace. These opportunities should be sufficiently resourced (time, equipment, people) and occur with minimal delay after training completion. The inclusion of such elements within training may increase its effectiveness and positively affect self-efficacy beliefs.

Professional Recommendation 6 - *Leaders should be provided with experience of future role requirements.*

The variety of roles and specialisms within school leadership may mean that individuals reach senior levels of leadership without the necessary experience or expertise. Interview respondents in this research commented on particular skills gaps such as pastoral care and financial management that had occurred due to their career path being heavily focused on other priorities. This perceived knowledge and skill gap was then cited as a reason for lower levels of self-efficacy. Clearly defined role requirements and a strong knowledge of educational leadership should enable professional development designers to map out future needs and identify key experiences that may be required. One key extract from the interviews described how they had reached a high level of confidence across a wide range of capabilities only due to the foresight of their superior and the provision of development opportunities. Proactive individuals will seek out those experiences but effective leadership development within an organisation should not be left to the will of individuals but proactively provided. Opportunities to shadow more senior individuals or to assist in processes serve to raise self-efficacy levels as the individual is vicariously reassured about

achievability and also able to build mental images of effective practice. Organisations can support self-efficacy development and future leadership effectiveness by therefore proactively providing experiences outside of a leader's current role.

Professional Recommendation 7 - *Organisations must actively support the transfer of training.*

The impact of organisational change and the behaviour of superiors on leadership self-efficacy were two key themes within this research and the literature on the transfer of training supports their importance. Organisations play a large part in the successful transfer of training into the workplace which in turn increases the chances of success and generates the accompanying positive impact on self-efficacy levels. The culture of an organisation has been shown to have an impact on transfer through the normative messages around expectations, recognition, and remediation of training outputs (Grossman & Salas, 2011). Support from both superiors and peers has been shown to positively influence the process through encouragement, goal setting and feedback. The importance of providing opportunities for post-training practice is also key to the acquisition of contextual experience and the implementation of newly acquired knowledge and skills into the workplace. Organisations must recognise and act upon their role in training transfer and not passively assume or hope that performance changes will occur simple as a result of training attendance or completion. Organisations must engage in post-training follow up where outcomes are reflected on and transfer is tracked, measured, and evaluated. These organisations are more likely to support the transfer of training and support the development of positive self-efficacy beliefs within their leaders.

7.1.4 Conclusion D

Superiors have a significant impact on the leadership self-efficacy of their subordinates.

This conclusion supports the work of Paglis and Green (2002) and their identification of superiors as a key antecedent to self-efficacy beliefs. It adds to the literature through its focus on educational leadership self-efficacy and its coverage of different leadership contexts.

Support for this conclusion comes from interview references to developmental factors such as experience, feedback, modelling, and trust regularly linking back to the influence of a superior. Respondents highlighted the presence of positive role models, the provision of effective feedback and opportunities to gain experience.

The self-efficacy literature supports the impact of superiors through the moderation of efficacy appraisal information. It could be suggested that all of the external sources of information identified by Bandura (1977), mastery experience, vicarious influence and verbal persuasion are influenced by superiors. Access to development opportunities either within role or through promotion typically lie within the power of superiors. Superiors can also impact vicariously on leader's efficacy levels through cognitive modelling which incorporates modelled explanations and demonstrations with verbalizations of effective practice (Meichenbaum, 1977, Schunk, 1987). Feedback both informal and more formally through performance management is a key action for superiors and a significant influence on a leader's perceived self-efficacy. A general finding within the literature is that individuals who receive positive feedback on their performance experience higher levels of success in subsequent activities and vice versa (Palmer, 2011, Dupret, 2016).

Many of the negative comments surrounding the impact of superiors were focused on levels of autonomy and the provision of opportunity. Respondents spoke negatively about micromanagement and how a lack of delegation can trigger perceptions of distrust.

The leadership literature highlights the importance of the senior leadership role and recognises many of the negative impacts reference above. Superiors exert a great deal of influence over their subordinate through the allocation of resources, promotions, and performance evaluations (Bass, 2008). Yukl (2006) highlights the role superiors play in setting the stage for sensemaking by selecting evaluation variables and controlling the flow of information.

The literature on leadership self-efficacy is also supportive of the impact of superiors on subordinates' self-efficacy levels. Bandura (1986, 1989) highlighted how perceived leadership capabilities can be shaped through role modelling and verbal persuasion. Gist & Mitchell (1992) found that observing a leader can provide valuable information about the resources and strategies that can be applied to difficult tasks which in turn helps the subordinate to view them as more manageable. The self-efficacy leadership literature also highlights the benefits of feedback and encouragement from superiors in the raising of performance expectations. These higher expectations can be perceived by subordinates as belief in their ability and subtly persuade them to think favourably about the chances for success (Gist, 1987). Paglis and Green's (2002) work on the antecedents of leadership self-efficacy as previously mentioned also highlights the impact that superiors can have on a leaders' perceptions of self-efficacy through modelling and coaching. Paglis (2010) goes further to suggest that the combination of subordinate and superior may be a crucial factor in self-efficacy development. Elements such as credibility and gender (Barclay et al., 2007) may have an important impact on the effectiveness of modelling, linking to Bandura's (1977) work on vicarious influence where perceived incongruence can have a negative impact.

Superiors are directly and indirectly responsible for much of the efficacy information an individual uses for their self-efficacy appraisals and so must be mindful of the power they hold to provide or rob individuals of self-efficacy building opportunities. If superiors can proactively create these opportunities and experiences, then they can reap the benefits of having confident leaders by design.

Professional recommendation 8 - *Professional development relationships should be intelligently arranged.*

The qualitative results of this research highlight the important role that superiors play in the development and management of the self-efficacy beliefs of their subordinates.

Numerous interviewees referenced the positive impact of observing superiors and being matched with effective mentors and coaches. Superiors and professional development providers play a key role in providing self-efficacy appraisal information in the form of vicarious influence, verbal persuasion, and the provision of practice opportunities. Where possible, line management, mentoring, coaching, and training deliverer arrangements should be decided so as to maximise the impact of efficacy information. When this is done effectively, individuals gain benefits from role modelling because of a perceived contextual congruence between them and the model. They accept guidance and feedback because they perceive the provider to be a credible source of information and they are proactively provided with experience through delegation. In contrast, interview respondents also spoke negatively about the line management and support relationships they had which they perceived to be negative influences on their self-efficacy. Poor delegation was seen as distrust and limited experience. The superior's practice was ineffective and so modelling opportunities were limited and where they did exist the benefit was more aligned with what not to do.

7.1.5 Conclusion E

Organisational changes have a dynamic impact on self-efficacy levels.

This conclusion supports the work of Paglis and Green (2002) and recognises the impact that organisations can have on the self-efficacy of their leaders. It strengthens the literature by highlighting the connection within educational leadership self-efficacy and across contextual factors.

Support for this conclusion came from the responses from the interviews in part two of the research where respondents spoke both positively and negatively about the impact of the organisation on their self-efficacy levels. Change was a key trigger cited by many of the respondents which aligns with the literature's view of self-efficacy as sensitive to change (Bandura, 1997; Yeo and Neal, 2013). Large-scale change within organisations such as restructuring, culture shift or systems change can be destabilising and create increased levels of uncertainty which as this research has shown can have a negative influence on self-efficacy.

Interview transcripts revealed regular references to the impact of the environment and either the systems or people within it. Self-efficacy levels were positively influenced when the team of people around the leader were effective and changes to that environment such as team size, work location or team membership were perceived as a negative influence. The reference to environment as a stimulus aligns with Bandura (1977)'s work on reciprocal dynamism and the belief that human behaviour is driven by the interaction of personal, behavioural, and environmental factors. Roles changes can cause reductions in confidence through the loss of skills or new role requirements for which they perceive themselves to be unskilled in. Changes to team size and membership can impact confidence by increasing or decreasing workload, levels of interdependence and altered

perceptions of credibility between staff members. Changes to team membership can also increase self-efficacy through new opportunities for positive modelling and social persuasion as staff with differing attributes join.

A final reference to the environment within the data was that of resource allocation and again it was viewed as both a positive and negative influence on leadership self-efficacy levels. The literature cites resource allocation as a result of self-efficacy beliefs as people use self-efficacy perceptions when determining the amount of time, effort, and resources to expend on a given task (Beck and Schmidt, 2012; Schmidt and DeShon, 2010; Vancouver and Kendall, 2006). The results of this research suggest that the provision or lack of these resources completes the cycle and also is used to appraise self-efficacy levels prior to action.

One particular interview extract stood out as a surprisingly positive organisational impact on leadership self-efficacy levels. One respondent said

“I think one thing that did help was when we went in special measures. Special measures give you a mandate for change and so you've got to change things.”(SS2).

‘Special measures’ is a term used after the governmental inspection of a school which signifies particular concern and the need for additional support to ensure improvement. This seemingly negative label was seen positively in terms of the increased levels of agency, resourcing and creative thinking that resulted from the application of this label. Paglis and Green’s work (2002) into leadership self-efficacy support the influence of environmental factors on changes to self-efficacy levels. Organisations that are open to change and encourage creative thinking, risk taking, diversity of opinion and problem

solving contribute more positively to leaders' levels of leadership self-efficacy (Kanter, 1983; Howell and Higgins, 1990, 1999; Scott and Bruce, 1994).

Organisations must be mindful of the impact that change has on the self-efficacy levels of their leaders. Fluctuations in self-efficacy levels due to changes in role requirements or levels of resourcing need to be anticipated and proactive support provided. If schools can leverage the positive benefits of change and support when negative, then they have every chance of developing confident leaders by design.

Professional Recommendation 9 – *Leadership training must be provided prior to the commencement of a role and evolve with changes to role requirements.*

The changing demands of a role that come with promotion or role evolution typically require improvements in knowledge, understanding and skills and thus additional professional development. The absence of this additional support may leave leaders underprepared for role requirements and may trigger perceptions of low self-efficacy.

Interview respondents from this research commonly referenced role changes as a reason for lowered self-efficacy beliefs. In the literature these initial decreases in self-efficacy at the start of a new role are termed 'self-efficacy lulls' (Bennet, 2008). These lulls occur because the increase in demands often outpaces the individual's professional development causing a perceived inability to meet demands. This lull causes the negative impact associated with low self-efficacy beliefs and if not addressed can lead to a spiralling effect which leads to cyclically decreasing efficacy levels. Training provided prior to role commencement does not necessarily erase the lull but can decrease its severity and soften its impact. Training should include the required knowledge, develop the necessary understanding, and enable skill development through scenario-based practice. A lack of

training prior to role commencement invites the onset of a self-efficacy lull and often leads to individuals coping or possibly developing ineffective practices.

Professional Recommendation 10 – *Organisations must be mindful of the impact of change on the self-efficacy levels of their leaders.*

As referenced in this research, school leadership is a complex and dynamic working environment that regularly leads to both planned and unplanned change. The interview transcripts from part two of the research regularly cited change as a key influence on self-efficacy beliefs. If not acknowledged and carefully monitored there is a danger that change leads to reduced self-efficacy and without a response to address it in the form of support can persist and affect performance long after the change has occurred. Support could come in the form of coaching or mentoring which was cited regularly as an effective support measure by interview respondents and which is supported by the self-efficacy and leadership development literature (Solansky, 2010; Vargas-Tonsing, 2009).

7.1.6 Conclusion F

There are a range of internal trait and state factors that affect self-efficacy beliefs.

The final conclusion of the research represents a key consideration for both leaders and those with the responsibility for developing those leaders. The results from part two of this research highlighted a range of internal and often hidden influences on self-efficacy beliefs such as gender, personality, overconfidence and understanding which may precede the use of efficacy information during self-appraisal.

Individuals perceived associations between self-efficacy and traits such as gender or personality can produce a fixed mindset (Dweck, 2006) about self-efficacy levels and predispose them to interpret efficacy information in a fixed way. The literature on self-

efficacy and leadership supports the influence of personal attributes on both constructs and the transfer of training literature also emphasises the role of the individual. The self-efficacy literature supports the influence of internal traits such as personality and gender. Kokkinos, (2007) linked low levels of self-efficacy to high neuroticism and low conscientiousness. Judge, (2002) found that highly efficacious people tend to be extroverted and agreeable. Effective leadership has been associated with certain personality traits with conscientiousness being positively linked to interpersonal leadership (Grehan et al., 2011) and neuroticism being found to have an inverse relationship to transformational leadership (Johnson and Hill, 2009).

Other traits such as gender possibly affect self-efficacy levels indirectly through the volume of experience an individual can draw upon. Sanchez and Thorton (2010) identified barriers to educational leadership for females such as limited pathways to senior leadership, role conflicts, high job demands and low salaries. Coleman et al., (2016) recognised that despite the large number of females in the teaching profession there is still a gross underrepresentation in leadership.

The presence of traits such as proactivity can support self-efficacy development through the active pursuit of professional development or support by the individual where externally it is absent. Internal state factors such as overconfidence can also affect self-efficacy beliefs. Individuals with extreme levels of confidence often reduce their allocation of time or effort to a task and suffer an unconscious blindness to task details.

Overconfidence is an internal state which is commonly referenced in the leadership literature. Hubris as it is often called is characterised by excessive self-confidence, exaggerated self-belief, contempt for the advice of others and an absence of humility (Russell, 2011). The term is typically used negatively as the symptoms often include isolation, impulsiveness, and recklessness, (Owen and Davidson, 2009). The state of

overconfidence may pre-dispose individuals to high levels of self-efficacy regardless of the task. High levels of self-efficacy could be deemed similar to overconfidence and have been linked to the perception that less resources in the form of time and effort are required to successfully complete a task (Beck and Schmidt, 2018)

Another internal state that may affect self-efficacy beliefs is that of spiralling, a concept studied by a range of researchers (Bandura and Jourden, 1991; Lindsley et al., 1995; Shea, 2000) and referenced within the interview transcripts. Respondents described the reciprocal causation that can occur between self-efficacy and performance. Feelings of either high or low efficacy affected performance respectively which in turn affected the growth or decline of efficacy beliefs and the spiralling continued. ‘Efficacy-performance spirals’ (Lindsley et al., 1995) describe the process of self-efficacy and performance continuing to amplify themselves either positively or negatively after each successive appraisal. Strong efficacy beliefs drive successful performance which in turn fuel further growth in efficacy and so on.

If schools can put systems in place to identify internal antecedents of self-efficacy beliefs early and provide development support, then they increase their chances of creating confident leaders by design.

Professional Recommendation 11 - *Leadership support processes should explore the internal antecedents of self-efficacy.*

The exploration of personal attributes during support processes such as coaching or mentoring is not new, but this research suggests that there are some internal self-efficacy antecedents that are not commonly explored and yet may be useful. The literature on self-efficacy management is dominated by references to Bandura’s sources of efficacy information and the provision of experience, vicarious influence, and social persuasion. There is a danger that professional development efforts are entirely focused in these areas

and ignore the concept of self-efficacy antecedents proposed by Paglis and Green (2002) and support by this research.

Of particular interest are the individual traits highlighted in this research which may have a larger and longer-lasting impact of self-efficacy beliefs. Exploration of traits such as proactivity may indicate an individual's ability to manage self-efficacy levels through self-directed professional development. Traits such as imposter syndrome can lead individuals to mistrust positive efficacy development information such as success or feedback because of a predisposition to attribute those outcomes to luck or external support. Individuals who perceive their personality to be of a certain type often subsequently enact the associated behaviours and this can have an impact on self-efficacy beliefs. High levels of neuroticism have been linked to low levels of self-efficacy (Kokkinos, 2007) as individuals enter situations with pre-disposed feelings of inadequacy. Awareness and exploration of these internal self-efficacy antecedents may lead to more accurate self-efficacy appraisal and also highlight additional professional development and support needs.

Table 36 - Research conclusions and professional recommendations

The table below draws together the conclusions, the research questions (RQ) they support, the discussion points (DP) they emerged from and the professional recommendations they generate.

Conclusion		RQ	DP	Professional Recommendations
A	Educational leadership self-efficacy is contextually and temporally sensitive.	1, 2, 3, 4	2a, 2b, 3a, 3f, 3g, 3h, 3i, 3j	Leadership development design must consider the leadership level and experience of its participants.
				Self-efficacy measurement linked to professional development must be regular and context specific.
B	Leadership development must be mindful of self-efficacy information sources.	3, 4	2a, 3i, 3j, 3k, 3l, 4d, 4e	All leaders should be engaged in effective coaching / mentoring relationships.
				Leaders should have regular opportunities for networking across a range of contexts.
C	Experience is vital to the development of leadership self-efficacy.	2, 3, 4	2a, 2b, 3f, 3g, 3i, 3j, 4a	Leadership training courses should contain experiential elements.
				Leaders should be provided with experience of future role requirements.
				Organisations must actively support the transfer of training.
D	Superiors have a significant impact on the leadership self-efficacy of their subordinates.	3, 4	3i, 3j, 3k, 3l	Professional development relationships should be intelligently arranged.
E	Organisational changes have a dynamic impact on self-efficacy levels.	3, 4	1a, 2b, 3f, 3g, 4a	Leadership training must be provided prior to the commencement of a role and evolve with changes to role requirements.
				Organisations must be mindful of the impact of change on the self-efficacy levels of their leaders.
F	There is a range of internal trait and state factors that affect self-efficacy beliefs.	3, 4	2c, 3a, 3b, 3c,	Leadership support processes should explore the internal antecedents of self-efficacy.

7.2 Contributions to Knowledge

The results, discussion, conclusions and professional recommendations that have emerged from this research have provided a range of contributions to knowledge.

Educational leadership self-efficacy contextuality

The exploration of self-efficacy across different levels of leadership, areas of leadership and varying levels of experience has added an original contribution to the literature where previous researcher had been limited to principal level. The varying levels of self-efficacy found across these contextual factors in the results contributes to leadership development design by highlighting the need to add an appropriate level of differentiation between leaders.

Educational leadership self-efficacy measurement

The use of both quantitative and qualitative data collection methods in this research has contributed to the leadership self-efficacy literature where the dominant methods have been quantitative. The perceived dynamism of self-efficacy beliefs and the presence of the social desirability bias contribute to leadership developers seeking to use self-efficacy as a measure of professional development needs.

Educational leadership self-efficacy antecedents

The emergence of a range of self-efficacy antecedents within the interview data supportively contributes to the literature base and in particular the work of Paglis and Green (2002). The perceived importance of these factors contributes to the knowledge of superiors and organisations wishing to develop leadership self-efficacy and professional development partners wishing to support the management of self-efficacy beliefs.

Educational leadership self-efficacy management

The emergence of key levers for self-efficacy development within the interview data contributes to the literature on self-efficacy management by supporting the established view on the value of experience and coaching. The identification of these strategies also contributes to the knowledge of leadership developers aiming to provide improvement opportunities and guides them towards some key levers.

7.3 Limitations & Delimitations

Despite a rigorous approach to the design of the research there are a number of limitations linked to the research. Limitations are numbered below followed by delimitations in italics.

1. The choice to focus on one organisation as a bounded case reduces the opportunity for generalisability. *The choice of case study as a methodology satisfies the desire to increase the focus on my own organisation and the research will not seek generalisability by exploring leadership self-efficacy outside of the schools within the bounded case.*
2. The sample size only represents 49% of the projected leadership population within the organisation and so limits generalisability within the bounded case. *49% remains a sufficient sample to provide an initial insight into the phenomenon. The respective sub-group samples (Leadership level and leadership area) were of sufficient size to produce a balanced sample.*
3. Leadership in schools does not only occur within individuals with formally assigned leadership titles or responsibilities and so results cannot purport to represent whole school and organisational leadership self-efficacy. *The research acknowledges that individuals in a variety of roles will at times required to demonstrate leadership qualities and actions however the sample was limited to only those with formal leadership positions for reasons of practicality.*
4. The choice to assess a bespoke set of leadership capabilities selected by the bounded case organisation reduces generalisability to leadership in other educational settings and does not fully represent leadership self-efficacy. *The focus of the research was to explore self-efficacy levels within the bounded case for*

professional development purposes and was not an attempt to redefine or conceptualise leadership self-efficacy as a construct.

5. The self-report nature of both the questionnaire and interview processes may have invited a level of variability due to memory and response biases. (Schwartz, 1999; Mabe and West, 1982; Moorman and Podsakoff, 1992); Donaldson and Grant Vallone, 2002). It is possible that respondents were reluctant to admit low levels of confidence within their professional roles and increasingly so as leadership level increases. *The introductory research information given to respondents and the strict confidentiality measures attempted to reduce the impact of self-report biases and power dynamics. Respondents were not required to comment on experiences from their childhood or pre-leadership time frames to reduce memory related errors.*
6. The reporting of contextual data may have introduced limitations to the validity of the correlational analysis. The interpretation of leadership levels (middle / senior / Principal) may vary between schools and the categories for time in role and educational leadership lack precision (11 months = <1, 13 months = 1-2 yrs.). *Guidance during the introductory research information attempted to reduce questionnaire completion errors and misidentification of contextual information.*
7. Participants volunteered for both the questionnaire and interview stages of the research which may be a limitation due to the positive rating bias that volunteers introduce. Participants with low levels of self-efficacy may have chosen not to engage with the research process. *Research information attempted to satisfy concerns about confidentiality.*

8. The research acknowledges that the questionnaire element invites variability in the understanding of the individual capabilities and thus variability in the accuracy of response. *Questions were kept as simple as possible and the research's rationale clearly communicated so that motivation is high, errors in semantic understanding and common methods bias can be avoided.*
9. Differences in interview timing (length / time of the day) and location may have affected the candour and depth of respondents' responses. *Interview location was chosen by the respondent to increase levels of comfort and time requirements were published upfront to ensure adequate time was allocated.*
10. There was the possibility of errors during the transfer of questionnaire data into the computer program (Excel) and during the transcription process. *Questionnaire data and Interview transcripts were checked against original sources before the analysis stage.*
11. There was the possibility of confirmation bias during the interview process and the thematic analysis due to the presence of an existing theoretical framework (self-efficacy). *Prompts were kept to a minimum during the interview process so as not to impact participant's responses and no additional questions were used for probing. I was mindful of confirmation bias during the qualitative analysis process.*

Chapter Summary

This chapter served to bring the results and discussion from the previous chapters together and provided six conclusions which can be seen below in order of highest perceived importance with the accompanying professional recommendations in italics.

1. Educational leadership self-efficacy is contextually and temporally sensitive.

The questionnaire data showed enough variance and statistical significance in self-efficacy beliefs across leadership levels, organisational areas, and amounts of experience to support the impact of context at an individual level but less so at a group level. The interview data further supported the impact of an individual's context on their self-efficacy beliefs and also highlighted how dynamic those beliefs were. The range of both internal and external factors affecting self-efficacy development suggest that it is an intensely dynamic construct and that efficacy perceptions are isolated to small windows of time. For these reasons it is important that leadership development designers are mindful of a leader's context and the temporal specificity of self-efficacy beliefs.

- *Leadership development design must consider the leadership level and experience of its participants.*
- *Self-efficacy measurement linked to professional development must be regular and contextually specific.*

2. Leadership development must be mindful of self-efficacy information sources.

The interview data strongly highlighted the impact of experience, modelling and feedback as reasons for high or low self-efficacy beliefs. Professional development design that does not include these elements or consider the effectiveness of their application may damage the self-efficacy development of its participants. Professional

development designers must acknowledge the importance of experiential learning, access to effective modelling, the provision of regular feedback and opportunities to explore physiological and emotional states.

- *All leaders should be engaged in effective coaching / mentoring relationships.*
- *Leaders should have regular opportunities for networking across a range of contexts.*

3. Experience is vital to the development of leadership self-efficacy.

Experience emerged as important during the questionnaire data and was firmly supported during the interviews as a crucial factor in determining a leaders' self-efficacy beliefs. The literature supported the view that successful experience improves levels of confidence towards future challenges and unsuccessful or a lack of experience has the opposite effect. The provision of experience should therefore not be left to chance during leadership development and opportunities provided both during and after formal training experiences.

- *Leadership training courses should contain experiential elements.*
- *Leaders should be provided with experience of future role requirements.*
- *Organisations must actively support the transfer of training.*

4. Superiors have a significant impact on the leadership self-efficacy of their subordinates.

The interview data showed how superiors have a significant impact on their followers' levels of self-efficacy. Superiors hold the power to moderate levels of experience as well as be a key provider of modelled practice and feedback, all elements that either built or erode self-efficacy. Relationships between leaders and their superiors are also

key to self-efficacy development as weaknesses in perceived trust, respect or credibility can diminish the impact of modelling and feedback. These considerations are not isolated to line management but also include additional relationships that feed into leadership development such as coaches and mentors. These arrangements must be carefully organised so as to leverage the greatest benefits on self-efficacy development.

- *Professional development relationships should be intelligently arranged.*

5. Organisational changes have a dynamic impact on self-efficacy levels.

The interview data also strongly highlighted how organisational change can impact self-efficacy beliefs. Role changes if not supported by additional professional development provide self-efficacy lulls as the individually gradually acquires the required knowledge and experience. Role changes involving the removal of responsibilities can reduce skill sets and generate perceptions of distrust and a lack of belief which in turn decreases self-efficacy. Organisational changes that provide leaders with clear mandates for change can however increase self-efficacy levels through additional resource allocation and a need for innovation. It is important that organisations consider self-efficacy development and the subsequent implications for performance when designing or reacting to change.

- *Leadership training must be provided prior to the commencement of a role and evolve with changes to role requirements.*
- *Organisations must be mindful of the impact of change on the self-efficacy levels of their leaders.*

6. There is a range of internal trait and state factors that affect self-efficacy beliefs.

The research concluded that there is a range of internalised factors that affect an individual's self-efficacy and can govern appraisals and beliefs. Personality traits such as neuroticism or the presence of a perceived imposter syndrome can predispose individuals to reflect negatively on their levels of self-efficacy. These individuals have a default position of low self-efficacy which stubbornly rejects any positive experience, vicarious influence, or feedback. In contrast, those personalities that generate extreme positivity and agreeableness risk instances of overconfidence and decreased performance through unrealistic goals and lower resource allocation. Not understanding task requirements, role expectations, success criteria or the absence of a clear model of effective practice all seem to predispose individuals to low self-efficacy appraisals or reduce appraisal accuracy. It is important that leadership development designers consider the potential impact of these antecedents which may overshadow the provision of other supportive elements such as experience, modelling and feedback. The literature highlights coaching and mentoring as useful methods for the exploration of personal attributes and their impact on self-efficacy.

- *Leadership support processes should explore the internal antecedents of self-efficacy.*

Chapter 8. Dissemination and Further Research

The completion of this research has been a deeply personal experience and at times an almost participatory experience as my self-efficacy for both leadership and academic writing have increased and decreased. The seemingly constant fluctuation in my levels of confidence serves to drive an even greater desire to deepen my understanding of the construct.

The final chapter of the research is aimed at highlighting the past and future dissemination of the research and the possible avenues for future research which have emerged from the literature review, results, and discussion.

8.1 Dissemination

During the final stages of the thesis writing, I have been afforded a number of opportunities to showcase my research and its findings. These are described below alongside upcoming events and additional plans for dissemination.

- **ISLC 2019** – I had the pleasure of presenting my research at the 18th International Studying Leadership Conference in December 2019. The theme ‘Putting Leadership in its Place’ spoke strongly to my suggestion that leadership self-efficacy is a deeply contextual construct. The opportunity to present to peers, attend workshops and make professional network connections was a great experience.
- **UWE ACE PGR Conference 2020** – I had the pleasure of presenting my research to other post-graduate research students and supervisors at the University of the West of England’s conference in June 2020. The questioning and challenge created a great deal of reflexivity at a critical stage in the thesis write-up.

- **CLF Summer Conference 2020** – I presented my research results to the leadership teams of the Cabot Learning Federation at their summer conference in July 2020. The audience contained 200+ leaders from varying levels and areas of leadership and resonated with my focus on self-efficacy beliefs across contextual factors.

- **Chartered College of Teaching Impact Journal Nov 2020** - An opportunity arose in November 2020 to write an article on the impact of self-efficacy on social action in schools for the journal of the Chartered College of Teaching. Much of the literature review from this research was used to write the article.

- **Edgecumbe Consulting Associate Conference March 2021** – David Pendleton who created the Primary Colours leadership model which forms the organisational leadership framework used in this research founded Edgecumbe Consulting. Correspondence during the literature review for this research evolved into an invitation to present at their 2021 conference to all of the company’s associates. The timing of the conference allowed me to present a more complete version of my research and the dialogue and questioning both supported my thesis decisions and challenged my thinking.

- **BELMAS conference July 2021** – In July 2020 I was invited to present my research at the British Educational Leadership, Management and Administration Society’s annual conference. Covid restrictions unfortunately meant that the conference was cancelled and so the speaking roster has been moved forward to this year’s conference.

8.2 Further research

The importance of school improvement and leadership coupled with the impact of self-efficacy have created multiple avenues for possible future studies and the suggestions below represent those deemed to have the most leverage.

8.2.1 Longitudinal studies

The dynamic nature of self-efficacy beliefs and issues surrounding reflective accuracy over time indicate the potential worth of longitudinal studies of self-efficacy in education leaders. Longitudinal studies of self-efficacy have been conducted with teachers (Brouwers and Tomic, 2000; Schwerdtfeger et al., 2008), students (Caprara et al., 2006; Eccles and Midgley, 1989) and leaders (Dvir and Shamir (2003); Van Dierendonck et al. 2004) but studies in educational leadership are rare. The ongoing assessment of efficacy beliefs could enhance the identification of efficacy information sources and key influences on rises and falls in efficacy strength. It could also help to highlight periods of self-efficacy stability and their antecedents, information that would be useful to those responsible for leadership support. Another question that could be addressed by longitudinal studies is to what extent leaders bring self-efficacy to roles and how much is developed whilst in role. This would add or reduce weight to the view that self-efficacy is developable and would have implications for those tasked with leadership development and training.

8.2.2 Self-efficacy Vs performance

The impact of self-efficacy on leadership performance was not within the scope of this research and so the assumption of a positive relationship remains a core limitation. Studies that push past correlation and explore the causal relationships between efficacy beliefs and leadership performance would add weight to the subject's importance as a lever for school improvement. This research highlighted varying levels of self-efficacy across leaders and capabilities with quantitatively low and high results in some areas and qualitative reference

to overconfidence by some individuals. The relative impact of these extremes on leadership performance would be worthy of study.

8.2.3 Additional contextual factors

The complexity of effective leadership and self-efficacy beliefs suggests a multi-causal relationship between the two constructs. Although statistical correlations were found the data suggests that the inferential analysis from this research did not go far enough to adequately describe the range of contextual factors that may affect the leadership self-efficacy relationship. References in the interview data to gender, school context and personality indicate the value of further research into the contextual leadership factors that affect a leader's self-efficacy beliefs. Additional factors to those raised in the interview data could stem from Johns' (2006) categorical framework of leadership context. The framework includes both omnibus elements (culture, type of organisation, demographics, economic position) and discrete elements (task characteristics, social networks, time pressure).

8.2.4 Development interventions

The Identification of key influences on self-efficacy development came solely from the qualitative self-report data collected during the interviews. Despite there being some correlation, the small sample size and reliance on historical self-report data suggest value in the empirical study of specific self-efficacy development interventions. Further study into the impact of specific support strategies would add value to professional development courses and leadership support programmes. The results of this research supported the impact of Bandura's identified sources of efficacy information and further study into isolated influences could help to understand their relative impact weight.

8.2.5 Locus of control vs self-efficacy

One suggestion emerging from the discussion is that self-efficacy levels are higher in areas of leadership where tasks can be completed independently such as strategic thinking as opposed to those tasks within the interpersonal domain. This preference towards tasks where levels of personal control are higher may hint at a link between locus of control and self-efficacy. Locus of control is the degree to which individuals believe they have control within their lives in contrast to believing the control belongs to external forces. Locus of control and self-efficacy have been linked previously by researchers such as Judge, Locke, and Durham (1997) who placed it alongside neuroticism and self-esteem in their descriptions of self-evaluations which impact job satisfaction and performance.

Beheshtifar, (2015)'s finding of a statistically significant relationship between self-efficacy and internal locus of control also gives promise to further study. Particularly relevant to this research is research by Paglis and Green (2002) into leadership self-efficacy where an internal locus of control was cited as an antecedent of strong leadership self-efficacy.

8.2.6 Impact of federations of leadership self-efficacy

High levels of trust and effective delegation were highlighted by participants in the interview stage as key influences on the development of leadership self-efficacy. The emergence of federations has introduced a new level of educational leadership in the form of executive principals who oversee a number of schools and line manage the respective principals. A federation is formed when a number of maintained schools join together under a single governing body. This entity becomes the accountable body for all of the schools and sets the strategic direction. A possible future line of enquiry could be whether the presence of an executive leadership layer has a negative influence on levels of trust and effective delegation and thus a negative impact on self-efficacy.

8.3 A return to the purpose

As a final note, it seems wise to return to the original purpose of the research to reflect on its own efficacy.

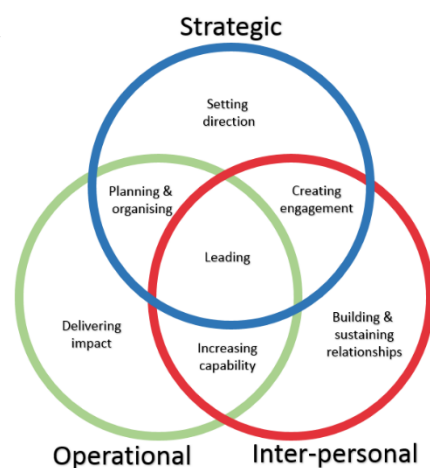
“The aim of the research is to explore educational leadership self-efficacy within a bounded case study to gain a greater understanding of the construct. The goal is that a greater understanding of how self-efficacy levels relate to different leadership capabilities will lead to improvements in the design of development programmes and greater insight into how those perceptions were developed will lead to improved programme delivery and leadership support.”

In response, I am confident that within the case organisation there is now a much greater understanding of self-efficacy and I have no doubt that this will positively impact on the design and delivery of future leadership development.

The research has strengthened my belief in the importance of educational leadership and the key role that self-efficacy plays within effective leadership. It has clarified the need for both quantitative and qualitative self-efficacy measurement tools if the full picture is to be realised and generated some key considerations for the design of such tools. The quantitative results from phase one highlighted the contextual sensitivity of self-efficacy and the need to design leadership inventories and measurement tools accurately so that they are contextually congruent and sensitive to self-report biases. The results from phase two highlighted the richness of qualitative self-efficacy information and the need for assessment to be regular due to the dynamic nature of the construct. The research provided a varied set of fascinating discussion points with the emergence of some clear conclusions. The influence of experience was hard to ignore and will go forward as a key output of the research. Many other conclusions linked back to it and many of the professional recommendations were driven by it. Educational leaders must be provided with the specific

experience that they need for their current and future roles if they are to generate strong self-efficacy beliefs. This must also be supported by the provision of effective modelling and feedback. The accumulation of these developmental experiences cannot be left to chance and through the effective construction of leadership training and development we can create **confident leaders by design.**

Appendix 1 - Case organisation's leadership model



Macro Level	Meso Level	Micro Level
Strategic	Setting Direction	Use contextual information to inform decisions
		Seek out and utilise research and best practice to inform decisions
		Collect, manage and analyse data to inform decisions
		Accurately define vision, values and strategy
		Purposefully develop and maintain the desired culture
Strategic Inter-personal	Creating Engagement	Seek out and utilise stakeholder voice to inform decisions
		Clearly articulate vision and ensure staff understanding
		Role model desired attitudes, behaviours and practices
		Remove barriers to success
		Keep stakeholders appropriately informed
Inter-personal	Building and Sustaining Relationships	Seek out, understand and respond to staff needs
		Actively build trust between yourself and others
		Recognise and reward performance
		Adapt or tailor Leadership and communication styles to suit needs
		Anticipate and manage conflict
Interpersonal Operational	Increasing Capability	Identify, understand and respond to professional development needs
		Administer effective performance management processes
		Proactively build and contribute to external partnerships
		Delegate tasks and devolve responsibilities as appropriate
		Review own practice, set personal targets and engage in deliberate practice
Operational	Delivering Impact	Monitor performance and ensure accountability
		Challenge underperformance
		Effectively plan and lead meetings
		Maintain high levels of visibility and interaction
		Make informed decisions
Operational Strategic	Planning and Organising	Manage time and tasks effectively
		Manage resources & risk effectively
		Manage financial matters effectively
		Effectively deploy change management tools and techniques
		Monitor, evaluate and adapt plans

Appendix 2 - Initial Questionnaire Design -

Where are we and how did we get here? – An exploratory case study of Self-efficacy in Educational Leadership



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of the
West of
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Contextual Information (Circle)	Leadership Level	Middle	Senior	Principal		Executive
	Leadership Area	Primary	Secondary	Central Team		
	Time in current role	Less than 1 academic year	1 -2 years	2-3 years	3+ years	
	Time in educational leadership	Less than 1 academic year	1 -2 years	2-3 years	3+ years	

Below are a series of tasks taken from leadership frameworks, qualifications and research. Please indicate how important each task is to your role and your current levels of confidence in completing it effectively.

	Importance to role (tick)					Current level of confidence (tick)				
	1	2	3	4	5	1	2	3	4	5
	Not important				Essential	Ineffective				Highly Effective
Use contextual information to inform decisions										
Seek out and utilise research and best practice to inform decisions										
Collect, manage and analyse data to inform decisions										
Accurately define vision, values and strategy										
Purposefully develop and maintain the desired culture										
Seek out and utilise stakeholder voice to inform decisions										
Clearly articulate vision and ensure stakeholder understanding										
Remove barriers to success										
Keep stakeholders appropriately informed										
Seek out, understand and respond to stakeholder needs										
Actively build trust between yourself and others										
Recognise and reward performance										
Adapt or tailor Leadership and communication styles to suit needs										
Anticipate and manage conflict										
Identify, understand and respond to professional development needs										
Administer effective performance management processes										
Proactively build and contribute to external partnerships										
Delegate tasks and devolve responsibilities as appropriate										
Review own practice, set personal targets and engage in deliberate practice										

Please Turn Over

	Importance to role (tick)					Current level of confidence (tick)				
	1 Not important	2	3	4	5 Essential	1 Ineffective	2	3	4	5 Highly Effective
Monitor performance and ensure accountability										
Challenge underperformance										
Effectively plan and lead meetings										
Make calculated decisions										
Manage time and tasks effectively										
Manage resources & risk effectively										
Manage financial matters effectively										
Effectively deploy change management tools and techniques										
Monitor, evaluate and adapt plans										

Please use the optional space below to identify any specific tasks that are important to your role and their respective level of confidence

Please indicate how effective the following types of professional development have been to you so far in your career. 1 = Not effective -----2-----3-----4----- 5 = Very effective N/A = Not been involved in this type	Face to face delivery	Independent enquiry / study	Observing others	Mentoring / Coaching	Practice
Are there any other forms of professional development that have been particularly effective for you?					



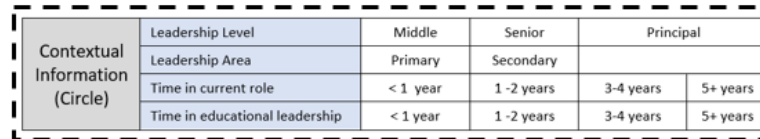
Further involvement in the study

The next stage of the study is focused on exploring the development of Self-efficacy beliefs and why individuals feel specific levels of confidence towards elements of their role. This will involve a 30 min interview completed during term six at a time of mutual convenience. If you would like to be involved in that process, please leave your contact details below.	
Name	Contact Email

Thank you for your time and engagement with this research - Chris Baker

This slip will be removed post-completion to protect confidentiality

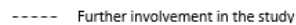
An exploratory case study of Self-efficacy in Educational Leadership



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 Cannot do at all Moderately certain can do Highly certain can do

		Rating
Setting Direction	Use contextual information to inform decisions	
	Seek out and utilise research and best practice to inform decisions	
	Collect, manage and analyse data to inform decisions	
	Accurately define vision, values and strategy	
	Purposefully develop and maintain the desired culture	
	Manage time and tasks effectively	
Planning & Organising	Manage resources & risk effectively	
	Manage financial matters effectively	
	Effectively deploy change management tools and techniques	
	Monitor, evaluate and adapt plans	
	Seek out and utilise staff voice to inform decisions	
	Clearly articulate vision and ensure staff understanding	
Creating Engagement	Role model desired attitudes, behaviours and practices	
	Remove barriers to success	
	Keep staff appropriately informed	
	Seek out, understand and respond to staff needs	
Building & Sustaining Relationships	Actively build trust between yourself and others	
	Recognise and reward performance	
	Adapt or tailor Leadership and communication styles to suit needs	
	Anticipate and manage conflict	

		Rating
Increasing Capability	Identify, understand and respond to professional development needs	
	Administer effective performance management processes	
	Proactively build and contribute to external partnerships	
	Delegate tasks and devolve responsibilities as appropriate	
	Review own practice, set personal targets and engage in deliberate practice	
	Monitor performance and ensure accountability	
Delivering Impact	Challenge underperformance	
	Effectively plan and lead meetings	
	Maintain high levels of visibility and interaction	
	Make informed decisions	



Name	Contact Email
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Appendix 4 - Interview Schedule

Where are we and how did we get here? — An exploratory case study of Self-efficacy in Educational Leadership



EdD Programme
Christopher Baker
Std No 10971007

Development of High Self-efficacy	
Thinking about the tasks within your role where you have high levels of self-efficacy, what has happened during your time as a leader to develop that perception?	
Development of Low Self-efficacy	
Thinking about the tasks within your role where you have low levels of self-efficacy, what has happened during your time as a leader to develop that perception?	
Progress from Low to High Self-efficacy	
Thinking about tasks where you feel you have increased your self-efficacy from low to high, what has happened to make you feel that way?	

Appendix 5 - Example of a full interview transcript

Interview 7 - Middle Leader - Secondary (MS1)

Interviewer [00:00:00] OK. Thanks for coming to the interview.

Interviewer let's start with the first question. Thinking about the tasks in your role where you have high levels of self-efficacy. What's happened during your time as a leader to develop perception.

Participant: I think it's me. Partly I think it's partly dispositional. I think it's just who I am as a person. So, if I look at where I've rated myself a lot of it comes under building and sustaining relationships and creating engagement. Those are two areas that I particularly find just easy. I think I build relationships with people really well. I have really good staff and student engagement is not just the staff. I don't know why.

I can't think of any particular sort of crunch point where I turned a corner. I think it's just something I always have very good bigging myself up for good people skills and I'm able to work with lots of different types of people and understand the motives behind behaviour. I think to some degree I'm just who I am, but I think I've probably developed far more working in that background. I find those. I find those particular areas. almost natural. I didn't really need to think about it.

When I come into conflict with people or where and maybe not be doing necessarily it has highly, I've actually if I look at it, it is actually to do with autonomy in making decisions.

So even as a leader I am given a certain amount of autonomy in how I develop my area of the curriculum what I do with the staff in my area. I often feel like I don't actually have autonomy about that. For me creates a major barrier. So, it's difficult for me to feel confident with doing something large scale and strategic which will be asked of us at some point for any given reason when I feel that or something that I have on a regular basis. So, if it's not something that's in my locker I just go and get it. Something that I do need to develop I would say is strategic leadership. And I've written on here that implementation impact is something that we need to work on. And I guess I think very much about the people. Rather than home school or in this case whole Federation. I think that that has become a barrier because that's not actually an opportunity that is given.

So therefore, I'm not able to develop the area. I know I need to develop there's no opportunity to develop that unless I want to take a senior leadership role. Really, I should be I think whether you are a senior leader whether you are somebody in the Federation of schools that's doing a really important role. It's about personal development of that individual and I think sometimes we think far wide strategic but not personally. And that's the bit I feel I'm good at and I probably need to work on the more strategic bit.

For the building and sustaining relationships there are quite a few for example to seek out understand and respond to staff needs. From a background in psychology that would be the sort of bread and butter of what we would do so I would be in a situation where I would have somebody who has a specific difficulty or trauma that I'm dealing with that I would have to almost tease that information out of them in order to help repair and be well and to function psychologically.

So, I guess the idea of responding and understanding needs I am quite acute at being able to understand what was bothering somebody and what they need. The building trust is key. You have to be able to trust the person you are working with in a therapeutic setting or counselling setting. So, I'm always very honest and clear and straight. Because then that's when you can build the trust.

The tailoring the leadership to communication styles being actually working with a child today and tomorrow I could have been working with a domestic violence victim very different people, very different needs will communicate in very different ways. So, I've learned to adapt to my environment and adapt to the people around very quickly and be what they need me to be. And I think that's. Within teach in that's really helped me with the students.

you go into a classroom and you're dealing with Jimmy today and tomorrow it's Dave and the next day it's Daisy and there are very different and it's the same with staff. you know you might have some staff that are very upbeat and happy and actually then you've got other staff that have got some other issues. So, it's just constantly adapting to your environment. I think that it goes back to that's where success is. If you look back through evolution, I think it was Charles Darwin who said it's those who can adapt to their environment that are most likely to succeed. People can say its survival of the fittest but what he was really talking about was adapting to change.

If you can adapt to change then you will be the fittest, not physically fit but psychologically and emotionally and it's something I think I do quite well.

Interviewer: [00:05:50] Thinking about the tasks in your role where you have low levels of self-efficacy, what's happened to cause that perception?

Participant: Barriers have been put in place. I think that much of the leadership styles I have been under from other leaders have been quite tough although I've adapted to it. I've sort of got through it fine. They have created pockets of lacking confidence. So, you would have one leader who will say here's something going and run with it. I believe in that so off you go. then you will have another leader who will say I want you to do this. Then you start doing it and then they will say I don't want you to do it like that, I want you to do it like this.

Just tell me what you want me to do and then I will do it, it's a lot easier. I mean you don't get the ability to develop the efficacy in yourself because you were carrying out somebody else's plan rather than them doing what they say they're doing which is helping the leadership in you they are just delegating responsibility for something but not actually allowing you to have the autonomy to make the decisions to make that area successful or not.

So, you obviously want guidance and leadership but what you don't want is a top down approach all the time whereby it's not really being lead, its being managed. And I say from my areas where they are lower. That is usually due to the leadership styles I've had. They've done it for you not allowed you to grow in that area not in a malicious way that's just their style but that that has been watered down so I don't have to do it. So then when you do end up having to do it you realize that you don't have a lot of confidence in doing it. For someone who's been teaching for quite a while it can be quite exposing. As a more experienced member of staff the expectation is that you can do it.

Interviewer [00:08:01]: So, thinking about the tasks where you feel you have increased your self-efficacy from low to high, what has happened to make you feel that way?

I would say under the delivering impact that has definitely if you ask me that maybe 18 months ago the numbers would definitely be lower. I think what's got me that confidence is me going out and seeking it for myself. So, I put myself on courses I've gone to talks. I sought out a coach. To coach me through how to do the things I say that I'm not confident with, but I've done it all personally, it's not been through my employer.

I can understand that schools are a busy place and there's not always the time for that, but I think is actually quite a shame because those are definitely areas that delivering impact is huge in education. And if I hadn't had the self-efficacy as myself as a person to go and seek that out, I would still be sat here talking with you now with those as low numbers because nothing is really changed in my area.

There are lots of diverging issues that cause barriers or possibly perceived barriers at times. So, I definitely improved in these sort of challenging underperformance for example. Yes I have good relationships with people but sometimes you have to have very direct conversations and they can be difficult conversations so I've done research and I have been coached by somebody in the business community on how to have a conversation with a colleague or sometimes with somebody who's within your department for you are their direct line manager about under performance and making it so that it's an open conversation rather than a dictatorial process so that you can get the best out of them and the best out of it for yourself as well. The maintaining high levels of visibility and interaction, just getting out there. You know and forcing the issue if you like so I've done that quite a lot over the last couple of years.

I've wanted to start things in school for example that other leaders have not necessary thought were that important and I pushed it because I think it's important and actually that has led to quite a lot of visibility among the students because now they're asking who I am. So, I've had that sort of long running issue where people think I'm probably the longest six former known to man.

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