

**AN EXPLORATORY STUDY OF NSW PRINCIPALS’  
ACTIONS AND PERCEPTIONS IN RELATION TO 21<sup>ST</sup>  
CENTURY EDUCATION**

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## **Table of Contents**

<b>Summary.....</b>	<b>4</b>
<b>Acknowledgements .....</b>	<b>5</b>
<b>Statement of Candidate .....</b>	<b>6</b>
<b>Chapter 1 – Introduction.....</b>	<b>7</b>
<b>Aims and Purpose of the Study.....</b>	<b>7</b>
<b>Significance.....</b>	<b>7</b>
<b>Chapter 2 - Literature Review .....</b>	<b>9</b>
<b>An Historical Perspective .....</b>	<b>12</b>
<b>Industrial-Age Education .....</b>	<b>12</b>
<b>Education in Australia.....</b>	<b>14</b>
<b>21<sup>st</sup> Century Education .....</b>	<b>18</b>
<b>Why 21st Century Education?.....</b>	<b>18</b>
<b>Defining 21<sup>st</sup> Century Education .....</b>	<b>25</b>
<b>School reform and the role of the principal.....</b>	<b>32</b>
<b>Styles of Leadership.....</b>	<b>34</b>
<b>Distributed leadership .....</b>	<b>35</b>
<b>Transformational leadership .....</b>	<b>36</b>
<b>Instructional leadership.....</b>	<b>37</b>
<b>Contextual tensions and challenges for principals .....</b>	<b>39</b>
<b>Research Problem .....</b>	<b>41</b>
<b>Key Research Questions .....</b>	<b>42</b>
<b>Research Design .....</b>	<b>42</b>
<b>Methodology .....</b>	<b>44</b>
<b>Limitations.....</b>	<b>45</b>
<b>Chapter 4 - Findings .....</b>	<b>47</b>
<b>Conceptualisation of 21<sup>st</sup> Century Education.....</b>	<b>47</b>
<b>21<sup>st</sup> Century Pedagogy .....</b>	<b>48</b>
<b>The Influence of Context .....</b>	<b>50</b>
<b>Change Management.....</b>	<b>51</b>
<b>Leadership styles.....</b>	<b>54</b>
<b>Challenges.....</b>	<b>57</b>
<b>Chapter 5 - Discussion and Implications for further research .....</b>	<b>59</b>
<b>Motivations behind conceptualisation.....</b>	<b>59</b>
<b>Contextual Application.....</b>	<b>60</b>

<b>Leadership Styles .....</b>	<b>61</b>
<b>Innovation Adoption.....</b>	<b>66</b>
<b>Conclusion .....</b>	<b>71</b>
<b>References .....</b>	<b>73</b>
<b>Appendix 1 – Interview Schedule .....</b>	<b>81</b>

## **List of Tables**

<b>Table</b>	<b>Page</b>
1      Categorising 21 <sup>st</sup> Century Education Variations .....	33
2      Leadership styles identified, participant vs researcher .....	56
3      Participant enactment of instructional leadership practices .....	63

## Summary

Education today stands at a cross roads. There is a growing pressure on schools to reform towards a vision of 21<sup>st</sup> Century Education, with key education stakeholders demanding a radical re-envisioning of schooling to meet the needs of dynamic and ever-changing world. Yet Australian schools also exist within a neoliberal culture of external surveillance and accountability which narrow the curriculum towards a focus on performance in standardised testing in an unprecedented era of global school competition.

With dozens of competing models and variations of 21<sup>st</sup> Century Education emerging over the past 20 years, significant ambiguity exists around the concept. This poses a difficulty for schools as they seek to interpret and apply the concept of 21<sup>st</sup> Century Education into their unique contexts. This is compounded further by the lack of significant research in the area, given that it is emergent best practice.

Principals are therefore in a place of key tension. With competing demands for school improvement and reform, principals must determine if and how they approach the concept of 21<sup>st</sup> Century Education. This study therefore explores, through interviews and observations, how three principals in NSW, Australia are interpreting the concept and then leading school reform within their local contexts. Analysis extends to include the leadership styles and change management processes that are enacted. Similarities and differences between the case studies are identified and the implications discussed.

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Soli Deo Gloria

## **Statement of Candidate**

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

The research presented in this thesis was approved by the Macquarie University Human Research Ethic Committee, reference number:

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David James Andrew Cole

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## **Chapter 1 – Introduction**

### **Aims and Purpose of the Study**

The aim of this study was to undertake a preliminary exploration of the perceptions and actions of school principals in leading school reform toward what is variously termed 21<sup>st</sup> Century Education.

Specifically, the objectives of the study were to:

1. Explore how the concept of 21<sup>st</sup> Century Education is being interpreted and implemented by principals in three case studies of schools in Sydney, Australia
2. Identify the successes and challenges in 21<sup>st</sup> Century school transformation within these schools in an Australian context.

The purpose of this exploratory study was to address an identified gap in the literature with regard to the unique forces at play within an Australian, and specifically New South Wales, context which influence both the need for, as well as the challenges to, school reform in implementing what is variously described as 21<sup>st</sup> Century Education.

As an exploration of emergent good practice, this study drew, of necessity, on a number of relevant theoretical areas such as leadership theory, innovation adoption and change management theory, and 21<sup>st</sup> Century Education literature, rather than relying on a single framework of analysis.

### **Significance**

Given the significant pressure on schools and principals to move toward enacting 21<sup>st</sup> Century Education within their schools, this is a contemporary issue for schools. However, perhaps more importantly, very little research about precisely how schools are interpreting 21<sup>st</sup> Century Education from the many and varied conceptions exists. This study therefore proves useful in providing insights into the perceptions, challenges, successes and difficulties faced by school principals attempting to make the transition toward an understanding of 21<sup>st</sup> Century Education and the steps seen to be necessary to overcome these challenges. These insights are analysed within a framework of competing educational paradigms as well as key educational leadership frameworks. These insights could prove to be useful to schools and principals in similar circumstances seeking to make such a transition.

Furthermore, in their review of Australian research related to the work of principals, Gurr and Drysdale (2016) state that “less evident is research that addresses school leadership issues associated with government or community-identified national issues, such as quality teaching, community partnerships, school autonomy, new technology, and twenty-first-century schooling” (p. 203). This proposed project therefore addresses an identified gap in Australian research literature, exploring the leadership practices of principals in affecting school transformation within an Australian, and specifically New South Wales, context.

As an exploratory study, this study seeks to identify potential areas where future, larger-scale studies may be valuable.



## Chapter 2 - Literature Review

*“The world is moving at a tremendous rate – no one knows where. We must prepare our children not for the world of the past – not for our world – but, for their world – the world of the future.”*

John Dewey, 1941

Education today stands at a crossroads. Sweeping educational reforms can be seen across the globe, with “an unstable, uneven, but apparently unstoppable flood of closely inter-related reform ideas [which are] permeating and reorienting education systems in diverse social and political locations” (Ball, 2003, p. 215). This change is marked by a growing ideological dispute between two camps. In one camp, governments and policy makers pursue what Sahlberg (2015, p. 142) terms the Global Education Reform Movement (GERM), characterised by an application of neoliberal ideology to schools. That is, a focus on efficiency, performativity, traditional core subjects, standard-setting and test-based accountability (Sahlberg, 2015, pp. 142-145). In the other camp, is the pursuit of a new wave of educational transformation, broadly called 21<sup>st</sup> Century Education. While this is a nebulous term used by a variety of voices in the educational sphere, with varying motives and purposes (Abbiss, 2013, p. 6), this movement is often seen as the antithesis to the current dominant educational paradigm, which some term Industrial Education (Benade et al., 2014; Gerver 2015, Criswell Jones, 2016; Watson and Reigeluth, 2008; Kivunja, 2014). Yet, while this term might be ambiguous, it is increasingly pervasive in global educational policy, discourse and academic literature (Abbiss, 2013, p. 5), as is pressure for schools to reform.

In an effort to distinguish the 21<sup>st</sup> Century Education movement from other historical protest movements against the prevailing educational paradigm, Claxton and Lucas (2016) suggest that the educational world can be seen in three distinct lenses or paradigms. The First Paradigm, termed the ‘Traditionalist’ or ‘Trad’ paradigm is essentially the Industrial Age approach to education. The Second Paradigm, termed the ‘Radical’ or ‘Rad’ paradigm are the historic voices of dissent against the dominant discourse of education; voices such as Rudolph Steiner, Maria Montessori and A. S. Neill (Claxton and Lucas, 2016), although this list could easily include other names such as John Dewey, Paulo Freire, Michael Apple and Maxine Green (Jefferson & Anderson, 2017, p. 1). The Third (emerging) Paradigm is what Claxton and Lucas (2016) call the ‘Moderate’ or ‘Mod’ paradigm.

This paradigm shift has been simply stated as “teaching our students so that they become well-equipped with the 21st century skills” (Kivunja, 2014, p. 85). The shift, however, is more profound and underpinned by a fundamental change in the philosophy of education which flows through to distinct curriculum, instructional design and, arguably, fundamental objectives of education. Claxton and Lucas’ (2006) use of the term ‘Moderate’ may therefore be contested, as some proponents demand “a paradigm shift, as opposed to piecemeal change” (Watson & Reigeluth, 2008, p. 42). This is what Banathy (1988, in (Holly, 1990, p. 195) might term ‘Third Wave’ change – fundamental restructure or redesign of the education system – or what Cuban (1988, in Holly, 1990, p.196) might term Second Order Change – questioning the very goals and structures underpinning the existing system. There are, however, a many competing voices in this debate calling for various changes, some more radical than others.

While the precise nature and purpose of 21<sup>st</sup> Century Education remains ambiguous and contested, it is undoubtedly a fundamental challenge to the core notions of the current education system. Representative of what might be described as a Kuhnian notion of paradigm shift (Kuhn & Hacking, 2012), many authors have argued that the current status quo of education is breaking down for a variety of reasons and that a complete rethink of every facet of education system is necessary in order to build an egalitarian system which produces students ready to thrive in, and adapt to, the modern world (Fullan, Quinn, & McEachen, 2018). In many ways, this discussion is also seen by some as representative of a broader socio-economic dispute about the failings caused by the influence of neoliberalism in education. Indeed, as a part of his manifesto for a new socio-political paradigm, Monbiot (2018, p. 56) suggests that the failings of education primarily relate to the narrowing of the curriculum to pursue economic purposes. Monbiot (2018, p. 56) therefore paints the failure of Industrial Education as a small part of the impending collapse of the overall neoliberal narrative.

There are two core reasons why this debate carries significance within both a global and Australian context. Firstly, the 21<sup>st</sup> Century Education movement is gaining significant momentum and has been doing so for the last two decades (Watson & Reigeluth, 2008). Moving beyond Youtube sensations such as Sir Ken Robinson or a trend in the Educational ‘Twittersphere’, 21<sup>st</sup> Century Education rhetoric and rationale has increasingly worked its way into global educational discourse led by organisations such as the OECD (Ananiadou & Claro, 2009; OECD, 2013, 2018) or Partnership for 21<sup>st</sup> Century Learning (Partnership for 21st Century Learning, 2019). In the Australian context, the Australia National Curriculum bears

many markers of 21<sup>st</sup> Century Education (Lingard & McGregor, 2014, p. 107), as does the Melbourne Declaration (Kivunja, 2014, p. 86) from which the National Curriculum was born (Lingard, 2018, p. 60). With the recent release of the ‘Gonski 2.0 Report’ recommending more equitable approaches to the disbursement of school funding (Department of Education and Training, 2018) and the current review of the New South Wales Curriculum (NESA, 2018), there is a clear government policy push, at least in rhetoric, toward changing the nature of education in Australia to meet the needs of the 21<sup>st</sup> Century learner. While the motives of such a push will be examined in more depth later in this review, schools must nevertheless be prepared to participate in this change, or in the least, have engaged critically with the claims of the 21<sup>st</sup> Century Education movement, rather than simply ignoring it.

Secondly, and perhaps more importantly each generation of educators must engage with, “the question of ‘what knowledge is of most worth?’ [...] since the kinds of knowledge and the contexts within which knowledge is accessed, learned, and applied evolve and change, often dramatically, over time” (Mishra & Mehta, 2017, p. 6). That is, the questions which the 21<sup>st</sup> Century Education movement bring, challenge the very core of our understanding of education (Kivunja, 2014, p. 82). This is critical because “an effective and systematic design of instruction will determine the quality of learning and teaching practices. It is the ‘heart’ of the teaching profession” (Zain, 2017, p. 5). By extension, this conversation must engage with the curriculum, which ultimately determines which knowledge “counts as valid knowledge” (Bernstein, 1973, p. 85). Once the very construct of schooling is questioned, so too is almost every aspect of schooling; learning spaces, leadership, community involvement, timetabling, teacher work, professional learning practices and assessment (Jefferson & Anderson, 2017, p. 40). If the 21<sup>st</sup> Century Education movement is characterized as an “attempt to break free from the traditions, assumptions, and inertia of current schooling practices [in order to be] creating more effective systems of education” (Reigeluth, Carr-Chellman, Beabot, & Watson, 2009, p. 145) then educators and policymakers alike must be prepared to answer the fundamental question which is posed: Is our current system of education outdated and outmoded?

It is important, therefore, to review the literature to first of all explore the conceptualisation of the current system of education as an ‘Industrial-Age’ system. The unique trappings of the Australian education system will then be considered as the current operating environment for schools within this study. The review will then explore the arguments proffered for 21<sup>st</sup> Century

Education, before attempting to define the concept of 21<sup>st</sup> Century Education. Once clarified and defined, this review will then consider leadership theory surrounding the effective implementation of school reformation and innovation adoption.

## **An Historical Perspective**

### **Industrial-Age Education**

The term ‘Industrial-Age Education’ or ‘Industrial Education’ is increasingly being used in a pejorative manner to describe the current model of school-based education which exists not only in Western democracies, but in any country utilising mass-education. Made popular by individuals such as Sir Ken Robinson, Guy Claxton and Richard Gerver, the 21<sup>st</sup> Century Movement is built on a criticism and rejection of the Industrial Model of Education. Indeed, Sir Ken Robinson’s talk ‘Do Schools Kill Creativity?’ (K. Robinson, 2006) is the single most viewed TED Talk of all time with over 65 million views.

These populist, impassioned speeches about the plight of today’s students, in what is held to be a broken education system, often start with the problems or symptoms inherent in the educational system. There are many and varied issues which are identified: students have the “learning stuffing knocked out of them” (Claxton & Lucas, 2016, p. 7); schools kill creativity and joy (Robinson, 2007; Claxton & Lucas, 2016, p. 7); students become “anxiously fixated on grades, losing the adventurous, enquiring spirit they had when they were small” (Claxton & Lucas, 2016, p. 7); many countries have growing rates of school dropout, truancy and youth unemployment (Gerver, 2015, viii); and the current education system does little to account for the individual needs of students, instead simply sorting those who “can” and those who “can’t” (Criswell Jones, 2016, p. 1). What is the cause of all of these issues? They are all symptoms of the broken schooling model which “is no longer suited for the present times” (Fullan et al., 2018, p. 3), which has led some to question “the future of existing schools today” (Firat, 2012, p. 16).

While 21<sup>st</sup> Century Education advocates often speak of present issues and the needs of the past (Fullan et al., 2018, p. 3), they also point to an historic reason for the cause of these issues; the very foundations of mass education. Gerver points back to the Victorian Age and the Butler Act of 1944 as the origins of mass education as we know it today (Gerver, 2015, p. 6). It is alleged that this system had a simple purpose; to “sort students into laborers and managers”

(Watson & Reigeluth, 2008, p. 42). It therefore provided a standardised model of education which mimicked assembly line efficiency; desks were set in rows, with didactic, teacher-centred learning, heavy use of a standardised textbook and a focus on compliance (Criswell Jones, 2016, p. 1; Holly, 1990, p. 199). Students were provided with the same input, as a factory might apply identical processes in an assembly line; the same time, same textbooks, same teaching and learning, with a focus on memorization of a standardised curriculum – what Benade et al. (Benade, Gardner, Teschers, & Gibbons, 2014, p. 48) term a ‘one size fits all’ approach. This has therefore led some to argue that the core sociological purpose of mass education was in fact the “desire for a homogeneously conceived citizen for the state” (Kress, 2000, p. 134). However, unlike a factory, where the same input and processes would typically result in an identical product, because humans were the subject of the process, “not surprisingly, given the diversity of our societies and the varying backgrounds of students, the consequence was that the standards achieved, ‘the output’, became the variable” (Barber, 2001, p. 1). Hence, those who achieved were sorted as white-collar workers, and those who did not were sorted as blue-collar workers (Watson & Reigeluth, 2008, p. 42) with a focus on learning “how to follow directions carefully and attend to a specific task” (Criswell Jones, 2016, p. 108); that is, they were trained for “obedience” (Kaplan, 2013, p. 124). This also had an impact on the curriculum, which was compartmentalised and specialised (Watson & Reigeluth, 2008, p. 43), as this was seen to increase productivity and profit in the workplace, as it might on a production line (Kivunja, 2014, p. 84).

The criticisms of the Industrial model of education are many and come from a wide variety of sources. These criticisms begin with the assertion that since the original creation of the industrial model of schooling, the world has dramatically changed, resulting in distinct social and economic requirements of education (Fullan et al., 2018, pp. 3-4), and schooling systems have failed to appropriately reform (Criswell Jones, 2016, p. 42; Firat, 2012, p. 16). Instead, they have remained stagnant while the world has left it behind, which means schools are increasingly losing relevance (Firat, 2012, p. 17; Gerver, 2015, p. 3).

The arguments for the need for a pedagogical paradigm shift to align schools with the needs of the 21<sup>st</sup> Century (Kivunja, 2014, p. 81) will be examined in further depth shortly, however, the assertion that schools have not changed, and remain fundamentally the same as their Victorian industrial predecessors first must be scrutinized, particularly within an Australian context. Much of the critique of the current schooling system which laments the state of ‘the education

system’, discusses British or American schooling and not the Australian education system specifically.

### **Education in Australia**

While the Australian education system was founded on an inherited liberal humanist system from Britain (Bowskill, 2012, p. 4), the contemporary Australian education system has evolved into a unique system. Australian education historically rested with the state and territory governments, however, over recent decades there has been an increase in the centralisation of education under federal authority, which has resulted in a uniquely dynamic and complex mix of overlapping federal and state government controls over education (Gurr & Drysdale, 2016, p. 187; Savage, 2016, p. 847). This is seen through the inception of both the Australia Curriculum, Assessment and Reporting Authority (ACARA) and the subsequent Australian National Curriculum (Gurr & Drysdale, 2016, p. 187).

The increasing centralisation of education policy nationally began in the 1970s and 1980s with the growth of globalisation, which saw the Australian government shift its focus to create more competitive industries and companies (Marks & McCulla, 2016, p. 48). The curriculum was therefore centralised, “changing toward a more prescriptive, outcomes-based model” (Marks & McCulla, 2016, p. 50). This point in Australian history saw a distinct shift in education on two levels. Firstly, education policy began to be viewed as “a central arm of national economic policy” (Lingard, 2018, p. 58), whereby education was seen as an essential component in the development of the human capital necessary to create a productive and globally competitive economy (Brennan, 2011, p. 259; Lingard, 2018, p. 57; Tan, Chua, & Goh, 2015, p. 311). Secondly, it began the transition away from viewing education as a public good, toward being viewed as a “private, individuated service for personal advantage” (Marks & McCulla, 2016, p. 51).

The history of Australian educational policy since this shift has been one of the increasing centralisation under Federal direction, which has been accompanied by an unprecedented wave of external accountability measures, testing regimes and a new Australian National Curriculum (Gurr & Drysdale, 2012, p. 415). This shift has fundamentally caused the economisation of education (Ball, 2016, p. 1047) in order to pursue a neoliberal agenda (Ditchburn, 2012, p. 262; Savage & O’Connor, 2015, p. 613; Wrigley, Lingard, & Thomson, 2012, p. 96). Indeed,

Ditchburn (2012) goes so far as to argue that the Australian National Curriculum is “almost entirely focused on economic needs as dictated by global neo-liberal conditions” (p. 267). In this sense, Australian educational policy is not unique, and is reflective of a global trend toward centralisation and nationalisation of educational policy (Savage & O’Connor, 2015, p. 610). This has ultimately led to a significant focus on both international and domestic testing regimes which create cultures of performativity in schools, monitored through extensive surveillance and regulation (Marks & McCulla, 2016). This is equally reflected in the growth of teacher regulation and accreditation processes, such as through the creation of the Australian Professional Teaching Standards in 2010 (Education Services Australia, 2018), which are now used to measure and standardise teaching practice across Australia.

One significant example of this is the use of NAPLAN results within the ‘MySchool website’ which allows public comparison, and subsequently judgement and criticism, of the literacy and numeracy performance of individual schools throughout Australia (Howell, 2017, p. 569). This can be seen as an external accountability measure on schools (Lingard & McGregor, 2014, pp. 95–96), that will inevitably narrow the curriculum as teachers refocus pedagogy toward achievement in standardised tests (Fehring & Berenice, 2012, p. 10). Indeed, Binkley et al. (2012) argue that “high visibility tests serve to focus the content of instruction [and that] teachers tend to model the pedagogical approach reflect on high visibility tests” (p. 20). Furthermore the recent attempt in New South Wales to link NAPLAN performance to a student’s ability to graduate with a school leaving certificate has placed significant pressure on students and teachers to raise literacy performance, despite the government’s assertion that NAPLAN is a low-stakes test (Howell, 2017, p. 569; Lingard & McGregor, 2014, p. 103). This pressure is furthered for schools, and subsequently teachers, by the annual publication of school leaving certificate results in league tables, which occurs in New South Wales (Gurr & Drysdale, 2012, p. 415). This issue is exacerbated further by the high rates of independent schooling in Australia (Gurr & Drysdale, 2016, p. 187), which means most schools, including Government schools, exist within a highly marketized environment characterised by significant competition among schools (Ditchburn, 2012, p. 262; Wrigley et al., 2012, p. 101). Given that standardised test results are now one of the simplest and most accessible ways of inter school comparison, schools place great significance on performance in these tests (Levin, 2015, p. 138) which reorients the focus of many teachers and leaders within these institutions, thereby narrowing the curriculum (Gurr & Drysdale, 2012, pp. 415–416). This situation has created a culture of performativity in schools where there has been a reorientation of “pedagogical and

scholarly activities towards those which are likely to have a positive impact on measurable performance outcomes” (Ball, 2016, p. 1054). This unhelpfully narrows the curriculum toward a specific and constant focus on that which will be measured in external tests (Ball, 2003, p. 220). An informal narrowing of the curriculum away from a broad variety of pedagogical strategies that may develop the whole child (Howell, 2017, p. 566), toward a narrow focus on that which is tested, is therefore a key feature of many Australian schools (Brathwaite, 2017, p. 435; Jefferson & Anderson, 2017, p. 16).

Along with a fixation of test-results has come a pressure of accountability placed upon principals and teachers alike (Gurr & Drysdale, 2012, p. 415). This pressure, created by the government’s increasing levels of intervention in schools with an agenda of standards-based reform, has led to an erosion of teacher professionalism and morale (Lofty, 2003, pp. 194–195). This has therefore lead to a redefinition of teacher professionalism away from the exercise of expertise and discretion, toward a system of accountability and hierarchical authority, where teachers are constantly expected to better their practice, “yet that ‘better’ is constantly held out of reach” (Moore & Clarke, 2016, p. 668). Neoliberalism has therefore not only reframed the purpose of education and by extension the curriculum, but also the very role of the teacher.

Indicative of the Global Education Reform Movement, Lingard and McGregor (2014) argue that our current educational policy, including the National Curriculum, is characterised by “prescribed curriculum, a focus on literacy and numeracy, top-down, test-based accountability, standardised teaching and learning, and market-oriented reforms” (p. 102). Such a curriculum, with a narrow ‘back to basics’ focus on literacy and numeracy, as well as a “tightly controlled, discipline base” (Lingard & McGregor, 2014, pp. 95–96), would stand as the antithesis to what the 21<sup>st</sup> Century advocates argue.

Australian education, therefore, seems to stand in a place of contradiction – with one foot staunchly in the neoliberal, GERM camp, yet with growing calls from the government for school reform to implement 21<sup>st</sup> Century Education. This inherent contradiction can be seen in both the precursor agreement to the National Curriculum, the ‘Melbourne Declaration’ (Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2008) and the Australian National Curriculum itself (Lingard & McGregor, 2014, p. 93). This declaration simultaneously presents an aspirational vision of “the need to teach critical thinking, creativity, and problem solving” (Kivunja, 2014, p. 86), hallmarks of the 21<sup>st</sup> Century



Education movement, whilst using globalisation and the need for a culture of performativity to compete internationally as a rationale for a national curriculum (Lingard, 2018, p. 60). Indeed, even the structure of the national curriculum itself bears this incongruity, with a content-heavy and strict, discipline-based structure, which is overlaid with “general capabilities [and] cross-curriculum priorities”, that are designed to equip “young Australians to live and work successfully in the twenty-first century” (Australian Curriculum and Reporting Authority, 2019).

Further to this, the newly released review of Australian education draws heavily from the rhetoric of the 21<sup>st</sup> Century Education movement, even including an entire chapter on “Equipping Every Student to Grow and Succeed in a Changing World” (Department of Education and Training, 2018). This has subsequently led to the current review of the NSW curriculum, with an eye to include a greater focus on 21<sup>st</sup> Century skills (NESA, 2018). How can such a contradiction be comfortably held, without concern, by the Australian government? One could argue perhaps that the concept of 21<sup>st</sup> Century Education has been repurposed by the Australian Federal Government (among others), who see the characteristics proffered by the 21<sup>st</sup> Century Education Movement as vital to remain competitive in global markets. Or alternatively, it could be argued that 21<sup>st</sup> Century Education itself is nothing more than an extension of neoliberalism; that is, it is the next evolution of industrial education and is perhaps the truest form of industrialism, rather than an alternative to it. This will be considered in the next section of this review.

It is pertinent to return to a key question in this area: Is it fair to say that education today is the same as it was in the Industrial-era, or that “schools are largely not changing” (Jefferson & Anderson, 2017, p. 1)? Even on a global level, to say that schools remain the same as they have for over a century is far too simplistic of a view of the history of Western education. In the least, there have been at least two key shifts in educational paradigms since the inception of mass education, with the work of Jean Piaget and Lev Vygotsky respectively (Kivunja, 2014). Constructivist views of education, which are now relatively universally held in Western education systems have, at least in part, changed the nature of schooling, through fundamentally different understandings of instructional design. Furthermore, as has been discussed, decades of increasingly rapid neoliberal reform (Savage, 2016, p. 833) has had a dramatic impact on the nature and purpose of education, both globally and within Australia (Ball, 2016, pp. 1049–1050). Indeed, for better or for worse, “Australian education has

certainly been ‘modernized’ by the movement towards privatization and marketization. There is little doubt that Australian schools have become far more dynamic, corporate, goal-centred, results-driven and competitive” (Marks & McCulla, 2016, p. 69). As Savage and O’Connor (2015) argue, despite significant common global drivers for educational agendas, “distinctive features differentiate the national policy space of each country and have provided different conditions of possibility for reform” (p. 626).

Therefore, to assert that schools today are essentially unchanged from their Industrial-era predecessors is naïve and simplistic in many senses; it ignores the national and regional evolution of schools over 100 years, based on distinct contextual forces, including government policy, as well as the significant impact of the evolution of pedagogical and psychological theory since the inception of mass-education.

## **21<sup>st</sup> Century Education**

### **Why 21st Century Education?**

Even if it is accepted that schooling *has* changed over the last 100 years, there remain significant, valid criticisms of the current state of education, globally and within Australia. This review has already identified several key criticisms in an Australian context. These criticisms, in part, account for the dissatisfaction with the current model of education which is expressed by leaders of the 21<sup>st</sup> Century Education movement. However, as raised, the concept of 21<sup>st</sup> Century Education is used by a broad variety of groups for a diverse socio-political purposes, often to simply indicate that something is visionary, innovative or progressive, rather than denoting a specific model of schooling (Abbiss, 2013, p. 6). This necessitates that the purposes of the 21<sup>st</sup> Century Education movement must be clarified and explored, which is difficult, given that lack of unity and coherence amongst proponents of 21<sup>st</sup> Century Education. Nevertheless, the criticisms of the current paradigm of education serve as a helpful guide to gaining an understanding of the various underlying purposes or rationale of the 21<sup>st</sup> Century Education movement. A deeper understanding could therefore be derived from the following typical criticisms of education today:

- 1. The current system does not equip students with the skills to function and adapt to today’s - and tomorrow’s - workplaces.**

It is indeed undeniable that the world has changed dramatically due to “prolific advances in technology and the globalisation of our society” (Little, 2013, p. 86), meaning that “the industrial society and the nation state that prompted their existence have had their day, giving way to the new economy and globalization” (Barber, 2001, p. 1). The assertion then is that this has had an indisputable impact on the nature of work, which is changing for most, if not all, people within the OECD nations (Roberts, 2000, p. 437) and that the “previously established linking structures of school and work no longer exist” (Kress, 2008, p. 256). Change in the workplace has typically resulted from the digitisation and automation of many lesser cognitively demanding roles that historically existed in society (Fullan et al., 2018, p. 3; Jefferson & Anderson, 2017, p. 13; Monbiot, 2018, p. 57; Schleicher, 2011, p. 282; Voogt & Roblin, 2012, p. 300). The claim of 21<sup>st</sup> Century Education advocates is that while the world has moved on, schools have not (Straub, 2009, pp. 632–633), still focusing on developing and testing lower-order, routine cognitive skills despite their growing redundancy, partly because they are “easiest to teach and easiest to test” (Schleicher, 2011, p. 282). These changing demands of capital (Roberts, 2000, p. 440) require a much broader and more complex skill set for the average citizen (Ananiadou & Claro, 2009, p. 5; Barber, 2001, p. 1; Jefferson & Anderson, 2017, p. 18), given that we are now operating in an “information-age” (Criswell Jones, 2016, viii), characterised by the rise of the “knowledge economy” (Kozma, 2003a, p. 2; W. O. Lee, 2012, p. 507) and some now argue the “creative economy”. These skill sets include the ability to think critically and solve problems, communicate effectively, be creative, work collaboratively, synthesise information across multimodal formats, take initiative and bring diverse perspectives to work (Criswell Jones, 2016, p. 2; Gerver, 2015, p. 7; Jefferson & Anderson, 2017, p. 8; Kivunja, 2014, p. 89; Stover, 2018, p. 5; Swartz, 2011, p. 19). This has led Sir Ken Robinson (2006) to go so far as to claim that “creativity now is as important in education as literacy, and we should treat it with the same status” (3.15-3.23). Many advocates in this field therefore argue for an abandonment of the current curriculum structures in favour of much more flexible learning styles which are not trapped within rigid and complex traditional disciplines (Schleicher, 2011, p. 282). So and Kang (2014) attempt to reconcile these two viewpoints, by arguing that “it is not only imperative to focus on new learning that emphasizes innovation, creativity and exploration, but also to sustain excellent academic standards” (p. 796). Indeed, Kereluik et al. (2013) support this

notion, stating that “disciplinary knowledge and domain knowledge are as important as ever and will continue to be so well into the foreseeable future” (pp. 132-133).

Furthermore, there is a repeated emphasis that the changing nature of the workplace will continue to occur over the coming decades, in an unpredictable way (K. Robinson, 2006; The Foundation for Young Australians, 2017). While this assertion is perhaps vacuous, it is nevertheless touted as the basis for significant criticism of the current system, which fails to predict the unpredictable future. The argument typically follows that education should therefore “take into account the uncertainty of the future and help individuals develop their ability to act in response and adapt to that uncertainty” (So & Kang, 2014, p. 798); that is, schools should provide “future-proof learning” (Kirschner & Stoyanov, 2018, p. 3). 21<sup>st</sup> Century Education advocates purport that schools should then focus on developing what Schleicher (2011) calls ‘versatiles’; people who ‘apply depth of skill to a progressively widening scope of situations and experiences [...] and are capable not only of constantly adapting, but also of constantly learning and growing in a fast-changing world’ (p. 283).

In addition to ongoing changes in the nature of work, it is argued that the current and impending problems facing societies have also changed and subsequently so too have the required solutions (Swartz, 2010, x). These issues, such as global warming, are highly complex and are unable to be solved by a siloed, disciplines-based approach. Instead, they require the fusion of disciplinary knowledge and the creation of “new ways of knowing” (McPhail & Rata, 2016, p. 64). Schools must therefore “provide learners with the ability to think between, outside and beyond current paradigms [in order to] solve the currents social, environmental and economic challenges” (Bolstad, 2017, p. 86).

*Derived Principle 1 – Schools should prepare students to participate in, and contribute to, the world (read, economy and society) both today and tomorrow.*

- 2. The current system focuses on a small set of attributes and skills, which has narrowed the curriculum and placed significant pressure on students to the detriment of their wellbeing.**

The narrowing of the current curriculum, due to neoliberal education reform, has already been established and is widely acknowledged as having an impact on schools and students alike within Australia. The curriculum is certainly narrowed, both intentionally and unintentionally, through the implementation of high-stakes testing and growing surveillance of teachers (Binkley et al., 2012, p. 20; Jefferson & Anderson, 2017, p. 13). While this has been discussed at length, one issue raised by the 21<sup>st</sup> Century movement which is yet to be explored is the implications of such narrowing of the curriculum for student wellbeing.

Prominent speakers and authors such as Sir Ken Robinson, Richard Gerver and Guy Claxton all make similar claims that the current system of schooling has a profoundly negative impact on many students. 21<sup>st</sup> Century Education advocates point to apparent crises in relation to student disengagement and school drop-out rates (Benade et al., 2014, p. 48), prescription drug abuse (Gerver, 2015, viii), increased anxiety and lack of resilience (Claxton, 2011, pp. 24–25), and the death of curiosity and creativity in students (Claxton, 2011, pp. 24–25; K. Robinson, 2006). These impacts are said to be side effects of a curriculum focused on rote learning information which has no meaningful connection to the real world (Criswell Jones, 2016, p. 44; Kress, 2008, p. 259; Swartz, 2010, x; Wrigley et al., 2012, p. 98), which is then repeatedly assessed in high-stakes testing (Jefferson & Anderson, 2017, p. 12). Because these tests are very narrow in their nature (Jefferson & Anderson, 2017, p. 16), and teachers are increasingly held accountable to test results, this has led to the development of a schooling system which fails to develop the whole student, both in thinking and in character (Claxton, 2011, p. 27; Fehring & Berenice, 2012, p. 9; Jefferson & Anderson, 2017, p. 2).

There is certainly evidence that high-stakes tests, which are increasingly being used in Australia (Fehring & Berenice, 2012, p. 10), do cause anxiety in students (Howell, 2017, p. 565). Some of the other claims in this area are questionable, at least within an Australian context. For example, school retention rates in Australia are not in decline as they are in the United States, nor are they even stagnant; rather, they have been steadily increasing over the past two decades, growing from 72% in 2000 to 84.8% in 2017 (Australian Bureau of Statistics, 2018; Australian Institute of Health and Welfare,

2015). This small example highlights that some of the demonization of the current school system may not be generalizable to an Australian context.

*Derived Principle 2 – schools should not, by their very structure and purpose, harm the wellbeing of students by narrowing the curriculum, but should instead develop the whole child.*

**3. The current system does not sufficiently meet the needs of every student, instead delivering a ‘one-size-fits-all’ approach (Benade et al., 2014, p. 48).**

Different authors attribute a variety of rationales to this critique, however, they generally revolve around the concept that the Industrial model of education was fundamentally indifferent to the individual needs of each child. Mimicking factory processes, Industrial schools apply identical processes to all students. However, unlike raw materials in a factory, children come with huge variances in their prior knowledge, developmental level, literacy development and cognitive abilities, resulting in substantially different outcomes from the process (Barber, 2001, p. 1). For some this is part of a broader sociological issue, in which schools served to homogenise students and “sort” them (Criswell Jones, 2016, p. 1; Kress, 2000, p. 134; Watson & Reigeluth, 2008, p. 42), thereby reproducing social structures, and subsequently social advantage and disadvantage (Kress, 2000, p. 140). Watson and Reigeluth (2008) argue that, by its very nature, the current system of education “strives for standardisation and was not designed to meet individual learners’ needs” (p. 42).

Advocates of 21<sup>st</sup> Century Education therefore argue that a new paradigm of education is needed, one where success for all is made a reality (Barber, 2001, p. 1). This presents an opportunity to break the shackles of the economisation of education, which will lead to greater social justice (Lingard et al., 1993, p. 238) through adopting a “skills and adaptable dispositions approach [which] will increase opportunities, particularly for those from marginalised groups” (McPhail and Rata, 2016, p. 54). Information technologies are seen to play a key role in effectively catering to the individual needs of each student (Wrigley et al., 2012, p. 97), in a way that was never possible in previous generations (Abbiss, 2013, p. 6; Barber, 2001, p. 1). This is ultimately because 21<sup>st</sup> Century Education “revers(es) the logic of education systems so that the system is built around the learner, rather than the learner being required to fit with the system”

(Bolstad, 2012, p. 82). Jefferson and Anderson (2017, p. 47) have therefore posited that 21<sup>st</sup> Century Education is about empowering students to learn, reflect, take action and transform, rather than simply acquire knowledge, as they would in the current system.

*Derived Principle 3 – schools must be fundamentally constructed to cater to the individual needs of every single student; they must be student-centred.*

**4. The current education system is significantly lagging behind the digital revolution in a way that no other industry is (Prensky, 2001).**

The digital revolution has not only fundamentally changed the way we live (Chu, Reynolds, Tavares, Notari, & Lee, 2017, p. 17) and the way 21<sup>st</sup> Century industries and occupations are operated (Kivunja, 2014, p. 84), but it is argued that “students today think and process information fundamentally differently from their predecessors” (Prensky, 2001, p. 2). Prensky (2001, p. 4), points to the ubiquity of digital technology in the lives of Millennials and Gen-Z members, arguing that this fundamentally rewires their brains to process information more rapidly and increase their ability to multitask. Labelling them as ‘digital natives’, Prensky (2001, p. 2) established a dichotomy between digital natives and the ‘digital immigrants’ who existed prior to the digital revolution. This divide creates significant problems for schools, which have failed to change to meet the needs of a new generation of students who possess “unique characteristics compared to their predecessors” (Criswell Jones, 2016, p. 36), making them ill-suited to fit a system that has fit so many generations before them. So profound is the impact of ICTs that some authors have argued that students’ brains are “wired for innovative learning and [they] are bored by the ‘chalk and talk’ school environments” (Criswell Jones, 2016, p. 39). which are all too common in the current system. Schools are therefore filled with students who straddle the old order of society and the new and are not effectively catered to in the learning environment (Kress, 2008, p. 256).

It is further asserted that the longer schools hesitate to fully embrace the use of digital technologies to transform learning, they run the risk of becoming “sidelined, irrelevant and ultimately marginalized” (Jefferson & Anderson, 2017, p. 8), or as Firat (2012) more bluntly suggests, will become “Neolithic and old” (p. 17). Given that students not only seek more engaging learning, but they possess unique digital talents which are neither understood, nor valued or accessed by the current education system, this leaves

learners increasingly disenfranchised with the education on offer to them (Criswell Jones, 2016, p. 43). Therefore schools should not only view digital literacy, and by extension digital citizenship, as equally important as the traditional literacies (Benade et al., 2014, p. 49; Kivunja, 2014, p. 89), but technology should be used as a vehicle to transform the very fabric of pedagogy, acting as the “great accelerator” (Fullan et al., 2018, p. 46). The conclusion then drawn is that if schools were to focus on utilising technology to meaningfully engage students, it would transform the possibilities of learning (Abbiss, 2013, p. 6; Barber, 2001, p. 1), as well as enhance student engagement, and thereby achievement.

However, there is a more radical assertion which often accompanies the digital schooling revolution argument. Wilbert (2016) suggests that students are now able to use digital technologies to immediately access vast amounts of information that were traditionally inaccessible, so the focus of schooling must “leave behind the days where education was built on the paradigm that learning involved a process where information was transferred from one higher authority to another” (pp. 17-18). That is, the focus of school should not be consumption of knowledge (Gunn & Hollingsworth, 2013, p. 202; Kozma, 2003a, p. 13), but instead, students should be taught how to access, process, scrutinise and utilise information; how to think, rather than simply to know (Bolstad, 2017, pp. 87–88; Kereluik et al., 2013, p. 132). This pairs with the focus on generalised skills in many frameworks of 21<sup>st</sup> Century Education, which will be explored shortly. It is also one of the more contentious aspects of the 21<sup>st</sup> Century Education movement, attempting to appeal to a ‘common sense’ logic of the need for educational change in a rapidly changing world (Bennett, Maton, & Kervin, 2008, p. 779). However, this fundamentally changes the epistemology of learning (Abbiss, 2013, p. 14), making the assertion one which must be carefully scrutinised if it is to be accepted (Bennett et al., 2008, p. 776).

*Derived principle 4 – Schools must be responsive to the technological use and demands of the day. Schools must also utilise and develop the talents of the ‘digital natives’ who inhabit our schools (Prensky, 2001, p. 2).*



The criticisms of the current educational paradigm are therefore significant and extensive. They also come with a vision of what might be; the education system of tomorrow, today.

### **Defining 21<sup>st</sup> Century Education**

As the criticisms of the current education system(s) have come from varied corners – philosophical, sociological, economic, industrial, governmental, pedagogical etc. – so too have the visions of possibility. Referred to in the literature under a number of pseudonyms, such as ‘future-oriented education’, ‘future-focused’, ‘future-oriented learning’ and ‘21<sup>st</sup> Century Learning’ (McPhail & Rata, 2016, p. 54), there is significant ambiguity in the concept of 21<sup>st</sup> Century Education which has been used by a variety of groups for wildly divergent purposes. Abbiss (2013, p. 6) suggests that the concept has become a catchphrase to mean any visionary or progressive educational thinking. As a result of this, it is difficult to define the concept in a way which truly encompasses all of its uses and purposes, with some going so far as to state that the concept of 21<sup>st</sup> Century Education has become an empty signifier (Kereluik et al., 2013, p. 127). Indeed, while it is more helpful to view 21<sup>st</sup> Century Education as “an emerging cluster of ideas, beliefs, knowledge, theories and practices” rather than as a monolithic concept (Bolstad, 2017, p. 78), there are nevertheless common principles which underpin much of the discussion around what constitutes 21<sup>st</sup> Century Education:

#### **1. It seeks to grow general capabilities or competencies in students, rather than simply knowledge bases.**

While this is an almost ubiquitous feature of any discussion of future-oriented education (Silva, 2009, p. 630), it carries with it a reasonable level of disagreement (Fullan et al., 2018, p. 42). From what is perhaps the ‘original’ 21<sup>st</sup> Century Education framework, the 4Cs approach; Creativity, Critical Thinking, Communication and Collaboration (Jefferson & Anderson, 2017, p. 34), the commonly accepted list of general capabilities now extends to at least 16 different skills and dispositions (Kirschner & Stoyanov, 2018, p. 3). Indeed, the varying voices in this field proffer up “hundreds of descriptors of skill sets, including life skills, workforce skills, interpersonal skills, applied skills, and noncognitive skills. Even more definitions exist for the individual skills that fall under the broader category of 21<sup>st</sup>-Century skills” (Silva, 2009, pp. 630–631).

Yet, despite the variations, “all frameworks converge on skills that are

multidisciplinary, multimodal, and transferable” (Tan et al., 2015, p. 308). This typically comes from a view that with the dramatic pace of technological and social change, comes a radical shift in the nature and availability of knowledge (Kress, 2008, p. 260; Mishra & Mehta, 2017, p. 6; So & Kang, 2014, p. 796). Moreover, the issues facing our society are increasingly complex and interdisciplinary (Schleicher, 2011, p. 282; Swartz, 2011, x). Therefore, it is argued that children should be developing general capabilities which can be flexibly applied to novel, real life situations (Tan et al., 2015, p. 308), rather than developing stagnant, discipline-based bodies of knowledge that were the product of the industrial systems of schooling (So & Kang, 2014, p. 796).

As more and more frameworks are developed and offered as ‘the’ solution to 21<sup>st</sup> Century learning, there remains a point of significant difference in 21<sup>st</sup> Century Education advocates here. Many are focused solely on the growth of general capabilities at the expense of the traditional model of discipline-based knowledge. This is based on the view that we now exist within knowledge economies or information societies where everybody has open “access to university-level knowledge without ever attending one” (Benade et al., 2014, p. 48). Therefore, those who know how to access, use, and innovative with, knowledge will be the best equipped to operate within the knowledge economy (Kivunja, 2014, p. 89; Silva, 2009, p. 630). Where such skills were once the exclusive necessities of professionals, they are now required by all. If schools then fail to grow these skills in students, they will not only penalise a nation’s global economic competitiveness (Tan et al., 2015, p. 308), but will give rise to social justice issues (Barber, 2001, p. 1). These arguments tend to be centred on a rejection of rote learning and memorization as “superficial learning” (Swartz, 2011, x) in that it only consumes knowledge (Gunn & Hollingsworth, 2013, p. 202; Kozma, 2003a, p. 13). Instead, it is suggested that schools should engage in “meaningful learning and focus on higher-order thinking skills” (Criswell Jones, 2016, p. 44). For many, skills such as critical thinking, adaptability and creativity are viewed as “more important than knowledge per se” (McPhail & Rata, 2016, p. 54; L. D. Newton & Newton, 2014, p. 575). Amongst the more extreme assertions here is the derision of knowledge itself as something essentially pointless, given that students can simply use technology to access knowledge, thereby eliminating the need to actually memorise it (Mishra & Mehta, 2017, p. 7).

Others in a more moderate 21<sup>st</sup> Century Education camp are quick to emphasise that education must not abandon “formal knowledge deriving from academic disciplines” for the sake of generalisable capabilities (Wrigley et al., 2012, p. 100), but must instead achieve a space where “subject-matter is balanced fairly and squarely with an equal emphasis on the development of a broad repertoire of useful, transferable qualities of mind” (Claxton, 2011, p. 24). Jefferson and Anderson (2017) emphasise this balance by asserting that the 4Cs “must be informed and lit up by knowledge, new understandings and wisdom. Without [these] the 4C capabilities are a prism without light, or hollow vessels without substance” (p. 34). Such a balance would even include explicit instruction (Swartz, 2011, p. 29), which would somewhat limit a full transformation to teachers as ‘facilitators’. Fullan et al. (2018) instead pitch a vision of teachers as “activators [who have a] wide range of pedagogical capacities and use thinking tools and explicit questions to scaffold learning” (pp. 67-68). Indeed, even the P21 Framework for 21<sup>st</sup> Century Education (Partnership for 21st Century Learning, 2019) has evolved from its early, simplistic 4Cs approach, to a broader framework which holds that 21<sup>st</sup> Century skills must “be learned in conjunction with core knowledge and support systems” (Gilbert, 2016, p. 16).

This division is a critical one, as it defines the epistemology of the new educational paradigm and will either validate or rebut key criticisms against the 21<sup>st</sup> Century Education movement. It also has significant implications about the role of the teacher and the student and by extension the curriculum itself (Voogt & Roblin, 2012, p. 310). Depending on how participants view the ongoing role of knowledge acquisition by students, it will inform, to some degree, their interpretation of 21<sup>st</sup> Century Education.

It should also be noted here that while the term ‘critical thinking’ is regularly touted as essential to learning in the 21<sup>st</sup> Century (Little, 2013, p. 88), it is rarely clearly defined. It is most often used to refer to “cognitive processing skills to analyse, evaluate and construct or create new ideas” (Criswell Jones, 2016, pp. 39–40), however, it is broadly attached to other concepts such as problem solving, curiosity, creativity, accessing information, entrepreneurialism and innovation. This is problematic; if it is crucial to the success of students, it requires clear definition and justification if schools are to practically implement and assess these skills. As it stands, there is a significant lack of clarity in the definition and assessment of such competencies (Ananiadou & Claro,

2009, p. 15) which poses an important point of investigation for this study (Voogt & Roblin, 2012, p. 312).

Paired closely with general capabilities, is an emphasis on meta-cognition in order to activate students as owners and drivers of their own learning (Criswell Jones, 2016, p. 9), both during and after school. Teaching students not only to think for themselves, but how to understand the thinking and learning process, is posited to empower them as learners, promoting student agency in their learning (Fullan et al., 2018, p. 62). Therefore, 21<sup>st</sup> Century Schooling must deliberately, explicitly and directly teach “what these procedures, mental behaviours, and metacognitive moves are and how to apply them” (Swartz, 2011, p. 29) in order to allow students to promote skilful thinking.

## **2. It seeks to promote cross-disciplinary learning, often through real-world problem solving or Project Based Learning.**

Once the old, restrictive disciplinary boundaries to learning have been broken down, knowledge can be fluidly constructed, reconstructed and co-constructed in any format that becomes relevant in a particular setting, whether based on inter alia, themes, topics or projects (McPhail & Rata, 2016, p. 55). This allows the broadening of knowledge from cognitive and academic contexts to transdisciplinary ‘real world’ applications (Kirschner & Stoyanov, 2018, p. 27; So & Kang, 2014, p. 796; Tan et al., 2015, p. 308). Due to the influence of post-modern and post-structuralist literature on the 21<sup>st</sup> Century Education movement, knowledge is seen “as a process, not a product” (McPhail & Rata, 2016, p. 58). Knowledge, and by extension curricula, should therefore “not be standardised as it offers multiple and limitless pathways and experiences for teacher and student creativity” (Jefferson & Anderson, 2017, p. 38).

Not only is cross-disciplinary learning design seen as helpful for student engagement and the application of knowledge, it is purported to be essential to the current generation of students (Tan et al., 2015, p. 308). As is often highlighted by 21<sup>st</sup> Century Education advocates, the contemporary workplace is changing as a result of the knowledge economy and increasingly demands innovative and expansive knowledge, rather than siloed, highly-specialised knowledge (Criswell Jones, 2016, pp. 37, 39). Cross-disciplinary curriculum design is therefore critical if students are to use “imaginative skills to connect the dots or anticipate the next invention” (Schleicher, 2011, p. 282). It

is further argued that this breaking down of the traditional silos in favour of thematic approaches to knowledge construction allows learning experiences to become more authentic to the real world (Kirschner, Sweller, & Clark, 2006, p. 76; McPhail & Rata, 2016, p. 60; Stover, 2018, p. 5). Regardless, such an approach to learning design is suggested to assist students in the development of general capacities, thereby “providing problem-solving skills and competencies that are relevant not just to present conditions but to a predicted future” (McPhail & Rata, 2016, p. 60).

Therefore, one of the common threads of 21<sup>st</sup> Century Learning advocates is Project Based Learning (Chu et al., 2017, p. 106). While this goes by many names - project-based learning, problem-based learning, inquiry-based learning, case-based learning, or team-based learning – Criswell Jones (Criswell Jones, 2016, p. 53) summarises these as ‘active’ methods of learning, compared to ‘passive’ methods such as direct instruction. Built on a post-structuralist epistemology (McPhail & Rata, 2016, p. 55), this form of learning sees students discovering, (co)constructing and applying knowledge, “rather than merely understanding knowledge that is relatively stable, abstracted, differentiated, and classified within disciplinary contexts” (So & Kang, 2014, p. 796). It is argued that a by-product of this style of learning is that learning activities will be more engaging and enriching as students are immersed in real-world, meaningful applications of knowledge to complex and challenging problems (Little, 2013, p. 87). While this is partially a response to the current generation of students who typically will not want to learn if they cannot see a clear purpose in it, it is also deemed to be ‘better’ learning design, as it is touted as increasing not only engagement, but the depth of student understanding and skills (Criswell Jones, 2016, p. 86). This therefore enables the enhancement of “the learner’s ability to problem solve, communicate, evaluate, and synthesize information across multimodal formats” (Stover, 2018, p. 5).

### **3. It seeks to make learning individualised to the student.**

This post-modern and post-structuralist foundation requires a fundamental shift away from a teacher-driven, dissemination of knowledge model toward a student-centred and student-driven approach (Criswell Jones, 2016, p. 9; P. Newton & da Costa, 2016, p. 1288). Indeed, there is a common call for an increase of student agency in their learning by a variety of authors in this area (Boyer & Crippen, 2014, p. 351; Fullan et al., 2018, p. 63; OECD, 2018, 5). 21<sup>st</sup> Century Education is therefore viewed by some

as socially liberating in a way that the current education system prevents (McPhail & Rata, 2016, p. 54).

If this shift were to occur, it would have dramatic ramifications for the role of the teacher, who would have to adopt a role more akin to a ‘facilitator’ than the traditional construct of the keeper of knowledge (Bell, 2016, p. 52; Boyer & Crippen, 2014, p. 347; Chu et al., 2017, p. 108; Criswell Jones, 2016, p. 9). The teacher must thus carefully balance the needs of the individual with promoting the growth of collaboration and co-creation of knowledge (Watson & Reigeluth, 2008, p. 44). Some models go so far as to promote personalised learning plans for each student, built around mastery goals, which each child can work toward at their own pace (Watson & Reigeluth, 2008, p. 46). This stands in stark contrast to the current schooling system where “time is held as a constant, thereby forcing achievement to vary” (Watson & Reigeluth, 2008, p. 43) and would of course have significant implications for the structural elements of schooling as we know it. While this is yet another area of disagreement, learning which supports “every person to develop their full potential” (Bolstad, 2017, p. 83) is a common feature of 21<sup>st</sup> Century Education rhetoric, with the major frameworks being “predicated on an individualist view of education” (Tan et al., 2015, p. 310).

#### **4. It seeks to promote global citizenship as a matter of priority**

As a part of both a discussion of the globalised world, as well as the ever-growing challenges faced by humanity today, 21<sup>st</sup> Century Education supporters advocate not only for local or national citizenship, but for a model of global citizenship. That education should promote citizenship is certainly not a new concept (Gerver, 2015, p. 4), however, it should be noted that much of the early discussions of 21<sup>st</sup> Century Education lacked a values or citizenship focus, with many having a narrow focus on skill sets for employability in the 21<sup>st</sup> Century (Bell, 2016, p. 50; Little, 2013, p. 94). Discourse around 21<sup>st</sup> Century Education today has shifted to regularly and directly explore the need for schools to develop global citizenship (W. O. Lee, 2012, pp. 498–499). This is primarily due to the advent of globalisation and the technological revolution which have led to disruption and fragmentation of communities, as well as the destabilisation of the old certainties upon which our institutions, including schools, used to rely (Jefferson & Anderson, 2017, p. 8). Given that the pace of globalisation and technological development is only increasing, it is increasingly acknowledged

within 21<sup>st</sup> Century Education rhetoric that the need to equip students with transferable skills must also be accompanied by focus on development of character, cultural competency, moral integrity and values such as justice (W. O. Lee, 2012, p. 507; Little, 2013, p. 94; MCEETYA, 2008, p. 5; Stover, 2018, p. 4). Such citizenship is not only required to solve the complex ethical, social and environmental issues (among others) which continue to emerge in the world (Ananiadou & Claro, 2009, p. 10), but must also extend to digital citizenship, given the ubiquity of technology in society today (Benade et al., 2014, p. 49; Higgins, 2014, p. 562).

**5. It seeks to utilise technology as a powerful tool, as well as a ‘new literacy’ for students.**

As discussed, the digital revolution has unquestionably fundamentally altered our world (Chu et al., 2017, p. 17). Given that digital technologies saturate the very fabric of our society, let alone our work environments (Abbiss, 2013, p. 6), it is understandable that 21<sup>st</sup> Century Education advocates argue for an emphasis on ICT skills. On a basic level, training students in ICT skills and digital citizenship is essential for the schooling system to keep pace with the functional reality of the workplace into which students will progress into (Chu et al., 2017; Gerver, 2015, p. 17; Little, 2013, p. 86). Indeed, if schools fail to make this change, they will fail in their goal of preparing students to function in the workplace (MCEETYA, 2008, p. 5; Tan et al., 2015, p. 308).

However, beyond simply developing digital literacies in students, it is contended that schools should utilise technologies to transform the quality of learning design and delivery. Digital technologies open up a new world of possibilities in learning design (Fullan et al., 2018, p. 60), such as individualised learning hosted through digital Learning Management Systems which can not only engage students, but can individually track their progress toward learning goals. While technology has opened up new avenues for pedagogical practices (Abbiss, 2013, p. 6), Ball (2016) further argues that technology has fundamentally changed “what it means to be educated, what it means to teach and learn and what it means to be a teacher” (pp. 1049-1050). Paired with advances in neuroscience, Barber (2001) affirms this point, stating that technology creates the “potential to transform even the most fundamental unit of education: the interaction of teacher and learner” (p. 1). This is also accompanied by the assertion that students’ constant interaction with technology has caused their brains to evolve (Bell,

2016, p. 52; Criswell Jones, 2016, pp. 54–55; Prensky, 2001, p. 2), meaning that a new technologically driven format of education is not simply desirable, it is critical to ensuring students learn well (Gerver, 2015, p. 13). The 21<sup>st</sup> Century Education movement therefore proposes a system which is built upon “new kinds of learning and new forms of knowledge” (McPhail & Rata, 2016, p. 64; Mishra & Mehta, 2017, p. 6), although precisely what this is remains ambiguous and contested within the literature. The reality of this in a school may be revealed through this study.

The principles outlined above could be held to stand as the general principles of what 21<sup>st</sup> Century schooling might look like, despite the exceptionally broad (mis)use of the concept within public discourse, as well as in the academic literature.

### **School reform and the role of the principal**

While there are general principles of 21<sup>st</sup> Century Education forming, almost 20 years into the 21<sup>st</sup> Century, the discourse, and by extension various governments’ policies, lacks true clarity in this area. More significantly perhaps, and despite extensive discussions, there remains “little evidence of significant concrete change in learning and teaching practices” in many schools (Fullan et al., 2018, p. 17) thus demonstrating the need for research into the practical attempts at implementation by schools. This study therefore sought to address this identified gap in the literature, exploring how some schools are conceptualising and implementing the notion of 21<sup>st</sup> Century Education.

In understanding how schools are interpreting and enacting the notion, Firat (2012) provides a helpful distinction between transformative and radical approaches toward 21<sup>st</sup> Century Education, stating that the transformative approach “advocates the improvement of modern schools in compliance with contemporary conditions” and that the radical approach “radically questions the existence of schools in the new era” (p. 16). This aligns with Claxton and Lucas’ (2016) depiction of schools as either Traditional, Progressive or Radical. This provides a helpful benchmark by which this research can categorise and compare the participant schools. Table 1 merges Claxton and Lucas (2016) with Firat’s (2012) categorisations of 21<sup>st</sup> Century educational approaches and has been developed to assist in categorisation of the participants to this study. While Firat’s (2012) broad categorisation of transformative and radical school reform is helpful, Claxton and Lucas’ (2016) distinction between ‘Moderate’ and ‘Progressive’ educational reformers are useful in providing more precise definitions within Firat’s



‘Transformative’ classification to helpfully segregate more and less transformative approaches to working current schooling structures.

Table 1

*Categorising 21<sup>st</sup> Century Education Variations*

<b>Traditional</b>	<b>Moderate</b>	<b>Progressive</b>	<b>Radical</b>
Teacher-centred instruction	Student-centred instruction	Student-centred instruction	Heavy use of ICT based learning
Heavy knowledge focus	Teacher still heavily directive	Redefinition of teacher role	Student led curriculum – no standard curriculum
Rigid structure of subject disciplines	Traditional subject disciplines	Breakdown of traditional subject disciplines	Redefinition of teacher role, or may have no teacher
Focus on the traditional ‘core’ subjects	Knowledge still plays an important role	Focus on cross or trans-disciplinary learning	Significant student choice in learning
Didactic teaching methods	Focus on metacognition	Focus on transferable skills, such as enterprise skills.	

School principals must play a critical role in the leadership of any enactment of 21<sup>st</sup> Century Education. Given the complexity of schools as organisations, which can be viewed as “living systems” (Leithwood & Day, 2007, p. 201), skilled leadership takes on a crucial role in the change management process. Yet, “despite an abundance of research on principal leadership, understanding of what principals do to make a difference in teaching and learning remains limited” (Lai, 2015, p. 71). This study therefore seeks to focus primarily on the role of school principals as leaders of 21<sup>st</sup> Century Education change within schools.

While there has been a long history of research into the role and importance of educational leadership (Gurr & Drysdale, 2016, p. 189), educational management, or indeed principals, have not always been seen as having an important role the process of school improvement (Dinham, Elliot, Rennie, & Stokes, 2018, p. 9). However, “educational leadership, both formal and distributive, is now seen as fundamental in creating the conditions where teachers can teach and students can learn” (Dinham et al., 2018, p. 9). Indeed, there is now a wide body of research

literature which substantiates that principals play a significant role in school improvement (Drago-Severson, 2012, p. 8; Lai, 2015, p. 70). Smith and Smith (2015) go so far as to claim that “nearly 60% of a school's total impact on student achievement is attributable to effective teacher and principal practices, with the impact of leadership alone being described by some as the single most important factor in moving schools forward” (p. 1). Other authors suggest that “school leadership is second only to classroom teaching as an influence on pupil learning” (Leithwood, Harris, & Hopkins, 2008, p. 3). The importance of quality educational leadership to school change and improvement is therefore widely recognized in the literature (Dinham et al., 2018; Gurr & Drysdale, 2012; Harris, 2002; Lai, 2015; H.-H. Lee & Li, 2015; Leithwood et al., 2008; OECD, 2013; Voogt & Roblin, 2012; Wahlstrom & Louis, 2008).

However, there is some disagreement within this body of research. Primarily, there are some who view leaders as having only an indirect influence on the improvement of student outcomes, such as through establishing the conditions for teachers to “make a more direct impact on students” (V. Robinson, Lloyd, & Rowe, 2008, pp. 636–637). This challenge often arises out of quantitative research which has often found only negligible direct impacts of school leadership on student outcomes, such as John Hattie’s ‘effect sizes’ (Hattie, 2013) among other studies (V. Robinson et al., 2008). However, research which distinguishes between the various styles or types of leadership and explores the implementation of specific leadership styles and actions has provided clearer evidence for the significant and positive impact of school leadership on student outcomes (Leithwood et al., 2008; V. Robinson et al., 2008).

## **Styles of Leadership**

This literature review does not intend to engage in a protracted analysis of the countless formats of leadership styles which are propagated in the literature, but there are three specific types of leadership which are often referenced in discussions around 21<sup>st</sup> Century Education and school improvement: distributed leadership, instructional leadership and transformational leadership. These will present helpful frames for analysis of participants’ leadership practices in reforming their schools toward a vision of 21<sup>st</sup> Century Education.

### **Distributed leadership**

As the traditional heroic leader paradigm has begun to fall out of favour (Harris, 2009, p. 3; OECD, 2013, p. 66), it is being replaced by a model of distributed leadership that “is focused upon teams rather than individuals and places a greater emphasis upon teachers, support staff and students as leaders” (Harris & Spillane, 2008, p. 31). It is claimed that the distribution of leadership “promotes sustainability, renews overall vision and standards of practice, develops ownership, accountability and promotes better solutions” (Tong & Razniak, 2017, p. 38), as well as creating greater motivation, increasing trust and risk taking and building collective efficacy (Wahlstrom & Louis, 2008, p. 467). More broadly it is often claimed that distributed leadership is “more likely to equate with improved organisational performance and outcomes” (Harris & Spillane, 2008, p. 32). These benefits take on particular importance in dynamic times of change and organisational redefinition (Gurr & Drysdale, 2012, p. 409; Harris & Spillane, 2008, p. 31), especially when said change is complex (Lai, 2015, p. 90), as “no one individual in a particular school will necessarily have the requisite knowledge or skill to execute a particular leadership task well” (OECD, 2013, p. 67).

However, more pertinently, distributed leadership is seen as a necessary format of leadership for the requirement of the evolution of schools in dynamic times (Gurr & Drysdale, 2012, p. 409). Given the social constructivist foundation to the 21<sup>st</sup> Century Education paradigm, it is posited that “leadership arrangements that involve teachers in decision making within network structures that promote professional control and collegiality among teachers are more likely to be effective” (OECD, 2013, p. 65). It would therefore be plainly hypocritical and arguably dysfunctional if schools were to promote 21<sup>st</sup> Century Education, which is, by its very nature, driven by inquiry, innovation, creativity and collaboration, yet stifled these very characteristics in their own teachers by the use of didactic and restrictive change management processes. Indeed, in order for teachers to enact innovative and creative pedagogies, there must be a culture of trust and risk taking within the school (Fullan et al., 2018, p. 54; Tong & Razniak, 2017, p. 39). Not only should teachers therefore substantially participate in the change (Lai, 2015, p. 90), but some authors go as far as to argue for more extensive inclusion of parents and students in decision making processes (Kozma, 2003a, p. 14), in a shift toward “joint power and decision making” (Fullan et al., 2018).

Distributed leadership holds particular importance in the realm of 21<sup>st</sup> Century Education as the call is for a permanent redefinition of the purpose and role of schools. Such a change

requires sustainable leadership practices, and it is widely acknowledged within the literature that the distribution of leadership is one key way to make school reform more sustainable (Harris, 2002, pp. 76–77; Tong & Razniak, 2017, p. 38). Furthermore, through the distribution of leadership and the growth of a culture of continuous learning (Bolstad, 2017, p. 90), the organisation becomes more adaptive to future change; an important requirement given the unpredictability of the future (Drago-Severson, 2012, p. 36). It is important to note, however, that the distribution of leadership in no way undermines the critical importance of the role of a principal within a school (Harris, 2002, p. 66; V. Robinson et al., 2008, p. 636), and should not be seen as the “antithesis of top-down, hierarchical leadership” (Harris, 2009, p. 5). Certainly, the complete dispersal of leadership is not necessarily desirable in achieving positive organisational progress (Gurr & Drysdale, 2012, p. 409). As with 21<sup>st</sup> Century Education, distributed leadership has a certain degree of conceptual fluidity and has been misrepresented in various parts of the literature (Harris, 2009, pp. 4–5; Wahlstrom & Louis, 2008, p. 461). This may therefore lead to variance in the patterns of leadership distribution in the schools subject to this study (Harris, 2009, p. 5). Nevertheless, a view of leadership as fundamentally relational (Eacott, 2013, pp. 27–28; Smith & Smith, 2015, p. 32) and focused less on actions so much as interactions (Harris & Spillane, 2008, p. 31) provided a helpful frame of analysis within this study.

### **Transformational leadership**

Transformational leadership has a rich history in educational leadership discourse and remains a dominant form of leadership in empirical research (V. Robinson et al., 2008, p. 638). It is directly advocated as a necessary form of leadership to engineer the optimum culture of a school to develop “its capacity to innovate and bring about school improvement” (Lai, 2015, pp. 88–89). As discussed, any movement toward 21<sup>st</sup> Century Education calls for fundamental change in the role of the teacher (Bell, 2016, p. 52; Chu et al., 2017, p. 106; Fullan et al., 2018, p. 61; Holly, 1990, p. 200). This will necessitate a re-examination of the fundamental “deep-seated beliefs and identity structures [of teachers]” (Straub, 2009, p. 633). Indeed, such a change would go to the very core, or the first principles, of a teacher and may well “invoke a degree of anxiety and resistance within teachers” (Gunn & Hollingsworth, 2013, p. 203). Transformational leadership, which is centred on leaders inspiring staff to “new levels of energy, commitment, and moral purpose” (V. Robinson et al., 2008, p. 639) seems a natural fit with any such change process, given the inherent resistance to change which many teachers

and schools exhibit (Duignan, 2012, p. 26; Straub, 2009, p. 633). Indeed, if schools are to make such a significant shift in philosophy and practice, with the involvement of all staff, principals would therefore have to undertake significant work in changing culture and building a climate that supports teacher learning (Drago-Severson, 2012, p. 5; Lai, 2015, pp. 88–89).

However, one of the key criticisms of transformational leadership is that clear empirical evidence exists which demonstrates its negligible impact on student learning outcomes (V. Robinson et al., 2008, p. 655). Nevertheless, in their analysis of the differential effects of leadership types, V. Robinson et al. (2008) concluded that “clearly, the types of motivational, collaborative, and interpersonal skills that are emphasized in transformational leadership research are essential to leaders’ ability to improve teaching and learning” (p. 666). This study will therefore explore the relative importance of such transformational leadership practices for the participant principals.

### **Instructional leadership**

Despite finding its origins in the 1980s, instructional leadership is experiencing somewhat of a renaissance within educational leadership literature, with contemporary school reform literature consistently calling for principals to become instructional leaders (Wahlstrom & Louis, 2008, p. 478). It has emerged, alongside transformational leadership, to dominate empirical research on educational leadership (V. Robinson et al., 2008, p. 638). Indeed there are calls within educational leadership for the reinvention of the work of principals to “shift from the administrative to the educational” (Gurr & Drysdale, 2016, p. 200), or what is commonly called Leadership for Learning (Fullan et al., 2018, p. 70; Gurr & Drysdale, 2016, p. 198; Lai, 2015, p. 90; V. Robinson et al., 2008, pp. 657–658). Instructional leadership has developed into a relatively complex framework of leadership (Smith & Smith, 2015) which does share common elements with other frameworks, however, its defining difference is a fundamental focus on practically improving the pedagogical practices of teachers in order to improve student learning outcomes, or put more simply, “putting learning at the centre of everything” (OECD, 2013, p. 89). Indeed, when compared to transformational leadership, instructional leadership was found to have three to four times greater of an impact on student outcomes (V. Robinson et al., 2008, p. 655).

While it might seem trite, it is salient that educational leadership has not historically focused on the role of leaders in improving student learning (Dinham et al., 2018, p. 9), and for many

institutions around the world, including Australia, there is an historical lack of leadership for learning. Given that quantitative studies have clearly demonstrated that the practice associated with instructional leadership have a clear and positive impact on student outcomes (Dinham et al., 2018, pp. 9–10; OECD, 2013, p. 64), it would seem inherent that 21<sup>st</sup> Century Education literature would call for the implementation of Leadership for Learning (Dinham et al., 2018, p. 13). This demand is by no means isolated to the 21<sup>st</sup> Century Education debate, but rather extends to a general “new demand” on school leaders to “become more proficient at reflecting on current practices and thinking and working collaboratively in order to build something new” (Bolstad, 2017, p. 79).

However, it is pertinent to ask - does instructional leadership have any greater place in 21<sup>st</sup> Century Education leadership than simply reflecting effective school improvement practices? If 21<sup>st</sup> Century Education gives a fundamentally divergent answer to the question of “what knowledge is of most worth” (Mishra & Mehta, 2017, p. 6), which inevitably leads to a distinct curriculum, pedagogy and assessment model (Lingard & McGregor, 2014, p. 90; Voogt & Roblin, 2012, p. 310), any principal leading school reform toward 21<sup>st</sup> Century Education must therefore have a clear knowledge and understanding of the pedagogical directions that the school must take (Fullan et al., 2018, p. 70). It is subsequently a growing expectation in all schools, but particularly those progressing toward a 21<sup>st</sup> Century Education model, that the principal will assume the role of an instructional leader and that they are “expected to understand the tenets of quality instruction” (Wahlstrom & Louis, 2008, p. 459). Indeed, it would seem difficult for a principal to lead a fundamental shift in the core understanding of what schooling and education are within their institution if they lack an intimate, or in the very least substantial, knowledge and understanding of what the alternative pedagogy might entail.

This might appear to conflict with the previously discussed concepts of distributed leadership. One could hold, for instance, instructional leadership and distributed leadership in competition with one another given that one focuses on the work of the individual, yet the other firmly opposes an individualised view of leadership. However, this is a false dichotomy, with some authors proposing a blended, or ‘integrated leadership’ model, where principals incorporate “a strong capacity for developing shared instructional leadership combined with qualities associated with transformational leadership” (V. Robinson et al., 2008, p. 658). The false dichotomy is demonstrated in the finding that the frequency of various instructional leadership practices mattered more than the extent to which they were performed by a specific leadership

role (V. Robinson et al., 2008, p. 668). That is, distributed instructional practices have been found to be effective in improving student learning, despite the distribution of the instructional roles to those other than the principal. Given the complexity and depth of the change demanded by 21<sup>st</sup> Century Education, as well as the complexity of schools as organisations (Eacott, 2013, p. 19), it is posited that the distribution of instructional leadership would be necessary, and even beneficial, to some degree (Lai, 2015, p. 90).

This study will therefore utilise the models of distributed leadership, transformational leadership, instructional leadership and integrated leadership to explore whether this is reflective of the leadership practices of participant principals as they have lead school reform toward a model of 21<sup>st</sup> Century Education. This research therefore seeks to identify what principals actually do to make a difference in teaching and learning.

### **Contextual tensions and challenges for principals**

The role of the principal is no doubt one of significant and increasing pressure (Wahlstrom & Louis, 2008, p. 459). Dinham et al. (2018) argue that “there is much more pressure than ever on principals to improve measured learning outcomes in their schools, and to promote and market the school, regardless of the system or sector” (p. 194). This pressure is only exacerbated by the presence of external accountability and surveillance measures such as the My School website and the publication of school league tables (Ball, 2003, p. 220; Gurr & Drysdale, 2012, p. 415; Lingard & McGregor, 2014, p. 103), which has in turn increased social expectations on schools to improve academic performance for students, along with any other issue “that society appears unwilling or unable to deal with” (Dinham et al., 2018, p. 194; Gurr & Drysdale, 2012, pp. 403–404). There is also evidence that external accountability narrows the curriculum in many schools, refocusing pedagogy toward test preparation (Brathwaite, 2017, p. 435; Gurr & Drysdale, 2012, pp. 415–416). Eacott (2013) argues that the effect of such a culture of performativity upon principals is so great that it has become the “orthodoxy of school leadership” and has been legitimised “as the preferred, and more importantly, required practice” (p. 18).

This pressure takes on great importance when exploring the perceptions and actions of principals in leading 21<sup>st</sup> Century Education reform, as it acts as a potential barrier to meaningful or true change. Research shows that such accountability measures typically lead to

principals focusing school improvement efforts on student outcomes (Belchetz & Leithwood, 2007, p. 134) which may be detrimental to their ability to lead 21<sup>st</sup> Century Education reform, with its broader focus on transferable skills or student character. Indeed, even if principals do commit to leading such a change, one of the key roles of the leader then becomes “sustaining teachers’ idealism in the face of relentless pressures including competitive targets” (OECD, 2013, p. 86). Even within the school environment itself, leaders need to manage distractions in order to focus on the pursuit of goals despite constant distractions and demands “that threaten to undermine their best intentions” (V. Robinson et al., 2008, p. 667). This therefore leaves Australian principals with a key dilemma; how to meet accountability expectations such as performance on standardised tests, whilst also attempting to meaningfully promote the goals of the emerging 21<sup>st</sup> Century Education paradigm. Eacott (2013) certainly argues that this is possible, and that principals do not require “autonomy or liberation from a systematic authority as contemporary debates in Australia would suggest’ in order to disrupt the status quo” (p. 29).

Kozma’s (2003b) conceptual model of Innovative Pedagogical Practices presents a functional framework of analysis for leading innovation in schools at this point. Developed specifically for technological innovation, the model is easily extrapolated to the leadership of general innovation within schools. Kozma (2003a) proposes three concentric contextual levels that have an integral and transactional relationship with one another. Each level has its own “actors and factors that mediate change” (Kozma, 2003a, p. 11). These levels are:

- Micro Level – The teacher, the students and the classroom factors
- Meso Level – the Principals and other relevant senior leaders, Parents, and school context (size, location, history, culture, staff development etc.)
- Macro Level – Government policy, business leaders, external governance bodies, as well as factors such as curriculum, assessment standards, cultural norms and economic forces

The interplay of these three levels encapsulates much of the discussion thus far, and will present a clear frame of analysis for this research project, as participants reflect on their role in the Meso Level, attempting to lead change at the Micro level, with the ongoing influence of the Macro level. Within this model, each layer not only interacts with each other, however actors and factors within a layer may also interact, making the change process nuanced and complex.



## **Chapter 3 - Research Problem and Design**

### **Research Problem**

Principals find themselves in a difficult position. With a government demanding both performativity (Ball, 2016, p. 1054; Belchetz & Leithwood, p. 134; Dinham et al., 2018, p. 194; Fehring & Berenice, 2012, p. 9; Gurr & Drysdale, 2012, pp. 403–404), as well as future-oriented reform (Gurr & Drysdale, 2012, p. 406; Kivunja, 2014, p. 86), principals (and schools) are pulled in antithetical directions (Voogt & Roblin, 2012, pp. 300–301). If they are to pursue a dramatic re-envisioning of schooling, it is important to do so with the guidance of a research basis, lest they abandon the established and effective practices of education. Yet, many of the current efforts at radical school reform are not well executed and there is a critical need for a “detailed, well-researched approach to guide educators, school administrators, and policy makers through the intricate process of implementing twenty first century skill education” (Chu et al., 2017, p. 18). While this research is lacking on a global scale, there is even less research into how school leaders within an Australian, and specifically New South Wales, context both perceive and respond to the concept of 21<sup>st</sup> Century Education. Given that principals play a core role in guiding the philosophical and pedagogical direction of their school, it is vital for them to engage with the question of ‘what knowledge is of most worth?’, as responses to this question will change over time in response to one’s context (Mishra & Mehta, 2017, p. 6). Yet the system which demands reform may, itself, pose key impediments to the very change it seeks. Despite this phenomenon, there are principals and schools who are recognised as, and seen to be, making progress in implementing 21<sup>st</sup> Century Education. This study sought to explore the experiences of a small sample of principals engaging in this pursuit.

## **Key Research Questions**

Three key research questions which emerged from the literature review are:

1. How, and in what ways, are principals in NSW conceptualising 21<sup>st</sup> Century Education from the ambiguity and competing voices in this area?
2. How, and in what ways, are principals enacting this conceptualisation in the context(s) within which they work?
3. How can this conceptualisation and enactment be described in relation to theoretical frameworks informed by educational leadership and innovation and change management theory?

## **Research Design**

The literature review outlined above provided a broad conceptual framework within which to locate and analyse principals' individual and collective responses.

## **Research participants**

As an exploratory study, three principals from independent schools in Sydney, Australia make up the participant body. The above literature review established key principles relating to 21<sup>st</sup> Century Education. After the development of these principles, schools were identified using a typical-case sampling approach (Johnson & Christensen, 2012, p. 237). Given the ambiguity of the concept and the large variety of models of 21<sup>st</sup> Century Education, there was a necessary degree of latitude in participant schools meeting all of the identified principles of 21<sup>st</sup> Century Education. This latitude, it was thought, could serve to engage more deeply with how the notion is being conceptualised differently in participating schools. Only principals who have personally led the transition within their school were included in the study, so that the findings in relation to principal action and school reform might truly reflect the personal conceptualisations and actions of the participants, rather than their predecessors. While somewhat limiting, only Independent Schools in NSW were included in the study. This choice was made out of necessity to assist in the completion of the study within the time constraints of the MRes program, and also given the additional administrative requirements of approaching Catholic or Government Schools.

Participant principals were therefore chosen because they met either, or both, of the following criteria:

1. The school is intentionally in the process of adopting an identified model of 21<sup>st</sup> Century Education.
2. The school is widely recognized as intentionally reforming pedagogical practice toward a vision of 21<sup>st</sup> Century Education.

Once ethics approval was obtained for the study and suitable schools were then identified, an initial approach was made via email to explain the purposes and methodology of the study. A Participant Information and Consent Form was supplied to each participant to ensure informed consent was obtained prior to their participation in the study. The discussion below adopts pseudonyms for all schools and participants in order to de-identify participants and protect their anonymity.

As stated, all participant schools were independent schools in NSW. By coincidence, all participant schools are also faith-based, K-12, coeducational schools. All participant schools were between 15-30 years old. The absence of systemic schools from the study also removed this as an influential variable. This provided a degree of consistency between the schools, enabling some level of comparison between their transitions.

### **Participant A – Country View**

Participant A has been the principal of Country View for 6 years. The school is a regional school with an enrolment of approximately 1000 students. However, this school is in rapid expansion which has necessitated significant capital works programs which have provided the opportunity to further a progressive vision of student-centred learning environments. Participant A does not subscribe to any specific model of 21<sup>st</sup> Century Education, instead working to create a school-based vision of pedagogy which adopts aspects of various frameworks. They did state that they sit relatively comfortably with the New Pedagogies for Deep Learning model (Fullan et al., 2018) and their vision can be therefore be categorised as Progressive.

### **Participant B – Water View**

Participant B has been the principal of Water View School for 14 years. The school is a metropolitan school with an enrolment of approximately 1200 students. Participant B subscribes to the Building Learning Power model (Claxton, 2011); what can be

described as a Moderate approach to 21<sup>st</sup> Century Education. This model is relatively well embedded into Water View School's practice and culture, as they are 5 years into a structured transition process.

### **Participant C – Hill View**

Participant C has been the principal of Hill View School for 3 years. The school is a metropolitan school with an enrolment of approximately 1600 students. Hill View is also undergoing significant growth and is consequently undertaking capital works programs. The school has invested heavily in the concept of enterprise skills over the previous several years as they relate to 21<sup>st</sup> Century Education. However, they are currently participating in a pilot program with the Association of Independent Schools, which will see them formalise their previous efforts by adopting the New Pedagogies for Deep Learning model (Fullan et al., 2018). This model can be described as a Progressive model of 21<sup>st</sup> Century Education, with Participant C proposing the most significant shifts in the structures, curriculum and pedagogy of the school of the three participants.

## **Methodology**

An Adaptive Approach was applied to the case studies to address the purpose of this research, with a focus on the domain of social settings and contextual resources (Layder, 2013, pp. 70–71). Using this approach, data was gathered using a guided interview approach. The interview questions are attached as Appendix 1. Following the interviews with the participants, an initial summary of findings was provided to the participants for further comment. The use of participant feedback on an initial summary of findings also allowed for triangulation of the initial findings to improve the internal validity of the study. An Adaptive Approach was useful in drawing out common experiences, successes and challenges of principals in NSW schools attempting reform toward a 21<sup>st</sup> Century Education model of schooling, then identifying appropriate conceptual frameworks which may explain the lived experience of the participants.

## **Data Collection and Analysis**

As stated, data was gathered using an interview guide approach (Appendix 1). All interviews were digitally recorded and then fully transcribed for the purpose of analysis.

Once the data was transcribed it was segmented and coded using an ‘adaptive approach’ to coding (Layder, 2013), using the computer software application ‘Nvivo’. As per the adaptive approach, preliminary categories were identified from the preceding literature review to act as “preliminary orienting devices to be used as a departure point for critically exploring their explanatory limits” (Layder, 2013, p. 138). These preliminary coding categories, otherwise called a priori codes (Johnson & Christensen, 2012, p. 525), related to educational leadership theory, the Australian educational context and change management theory. The use of preliminary orienting concepts is a key part of the adaptive approach, as opposed to a Grounded Theory approach which calls for open coding (Johnson & Christensen, 2012, p. 400). Given the small scale of this exploratory project, adopting a Grounded Theory approach was not suitable due to insufficient data to produce original theory. An adaptive approach therefore allowed for a more incisive approach which avoided the risk of becoming “bogged down in the empirical details of the data” and overly focusing on descriptive rather than conceptual codes (Layder, 2013, p. 138). Yet the ability to adapt the preliminary coding categories through the inclusion of emergent concepts (Layder, 2013, p. 139), otherwise known as inductive codes (Johnson & Christensen, 2012, p. 524) which emerged from the data itself as the coding progressed, ensured that preliminary coding categories did not act as “blinders to what is in the data” (Layder, 2013, p. 138). For example, this led to the inclusion of innovation adoption theory which emerged as a key theme in the data.

Each interview was transcribed and coded prior to conducting the following interview. In this way, emerging themes were identified for exploration in subsequent interviews. Each interview transcript was then recoded as new themes or concepts emerged in subsequent interviews. Recoding occurred until saturation point of the data, where no further emergent inductive codes were identified. Codes were then examined for relationship or overlap with one another and were refined and categorised in relationship to one another. This therefore led to a more coherent and succinct

### **Limitations**

The limited size of the sample for the purposes of an exploratory study in the M. Research is acknowledged. This was necessary to complete the degree within the time constraints of the M. Research program.

The inclusion of Non-Government Schools only is limiting, as the exploration of the limitations on school reform may not be truly representatives of the challenges all schools in NSW face. Specifically, none of the participant schools are part of systemic groups that exert control over their operations and decision-making. These findings may therefore not be fully representative of the experiences of principals in Government or Systemic Non-Government Schools. Furthermore, the inclusion of NSW only schools means that any findings may not be representative of the experiences of Non-Government Schools in other states of Australia. These limitations can be addressed in a Doctoral Study with a larger and more comprehensive sample size.

## Chapter 4 - Findings

The data presented a number of key differences and similarities between the schools. There proved to be significant overlap in the leadership practices of the participants, albeit with a sensitivity to school context.

### **Conceptualisation of 21<sup>st</sup> Century Education**

As 21<sup>st</sup> Century Education is being conceptualised differently within the literature (Bolstad, 2017, p. 78), each participant similarly had a distinct understanding of what the term meant in their context. Participant B directly reflected the ambiguity of the concept, stating that the term “21<sup>st</sup> Century Education is bandied around a lot, and I think it means a lot of different things for different people”.

Each participant therefore held relatively distinct conceptualisations of 21<sup>st</sup> Century Education. Where Participant B adopted the Building Learning Power model (Claxton, 2011), Participant C was in the process of adopting the New Pedagogies for Deep Learning model (Fullan et al., 2018). Furthermore, Participant A did not adopt any one particular framework, instead opting to develop a school-based concept of 21<sup>st</sup> Century Education that was organically developed over time. While Participant A did acknowledge some alignment with Fullan’s ‘6Cs’ approach (Fullan et al., 2018), s/he stated “to be honest, if any one of [those frameworks] was it, we would all do it”. Instead, Participant A said “I just take grabs, and we then put it through the context of where we are and what our students’ specific learning needs are [...] so we would use elements of a number of [frameworks] in our own pedagogical framework”.

This is perhaps explained by their competing views on the necessity for school reform toward 21<sup>st</sup> Century Education; when asked, each gave different viewpoints. Participant C focused on the influence of technology on learning and how it has had a transformative impact on education, suggesting that “I think for many kids [technology] can render traditional approach to teaching and learning redundant, or just make schooling a very boring proposition for them”. S/he further engaged with the changing nature of work in Australia, as reported by the Foundation for Young Australians (The Foundation for Young Australians, 2017), as well as the shifting requirements of university entry as providing significant impetus to change the

focus of schooling away from an acquisition of knowledge to an acquisition of transferable skills, which Participant C terms “entrepreneurial skills”.

Conversely, Participant B focused much more on a framework which promoted resilience in all aspects of the student. In their view, schooling as it stands is not sufficiently equipping students with the skills to be resilient in a variety of settings. Participant B was explicit that their dual focus on student wellbeing and academic growth came from their personal leadership journey in schools.

Despite these differences, each participant explicitly emphasised holistic education as a core tenet of their view. Each reflected that they were seeking to equip students with “certain skills or a way of being” (Participant A) that enabled them to “flourish in a number of different settings and situations” (Participant B). Indeed, as Participant B stated, the goal “goes beyond just sort of a good ATAR, it goes to the very heart of who our kids are going to be, in terms of their whole personhood”. Each was therefore seeking to “change the narrative” (Participant C) as it were to a focus on holistic education.

However, it is intriguing to note here that the conceptualisation of 21<sup>st</sup> Century Education was derived from each participant’s understanding of the need for school reform. Given that their various understandings of the need for change were informed by relatively personal views, the manifestation of 21<sup>st</sup> Century Education was subsequently highly dependent on the personal beliefs and views of each leader.

### **21<sup>st</sup> Century Pedagogy**

While some difference was apparent, when asked how their conceptualisation of 21<sup>st</sup> Century Education extended into pedagogy, each participant held a relatively similar epistemological approach to pedagogy. All three articulated a belief that knowledge continued to hold importance in the learning process, with Hill View and Country View having conducted significant professional learning in the area of Direct Instruction with their teaching staff. While Participant B did not explicitly discuss Direct Instruction, their first response to the question of pedagogy was that “I think students still need to have a core of knowledge”. This was a relatively surprising finding, given that several of the voices in 21<sup>st</sup> Century Education debate are quite derisive of the need for knowledge, instead arguing only for the acquisition of



transferrable skills (Benade et al., 2014, p. 48; McPhail & Rata, 2016, p. 54; Mishra & Mehta, 2017, p. 7).

However, each participant was clear that knowledge acquisition was not the end point of schooling, but that schools should teach students to think. All participants therefore explicitly stated that pedagogy should also focus on how students are applying knowledge. However, where Participants A and C were relatively similar in their statements that the focus of learning should be on deep understanding and ability to functionally utilise this knowledge, Participant B, perhaps by nature of their chosen framework, focused more directly on metacognitive learning skills. Preferring the term “dispositions”, Participant B was more focused on self-regulation in learning and growth of resilience so that students “know what to do when they don’t know what to do” (Participant B). While this might seem like an arbitrary distinction to draw, it is suggested that there is a substantive difference between the development of transferrable skills versus the growth of dispositions. Despite this, each participant described, in some way, a desire to produce good “learners”, rather than simply producing “great exam sitters” (Participant C).

One commonality between the responses that was immediately obvious was the consistent focus on promoting greater student agency in the learning process. Participants A and C spoke most heavily of this focus, however, it was implicit in Participant B’s responses that the production of independent learners was a key goal for Water View School as well. This was an interesting finding. Where the literature focuses very heavily on the individualisation of learning, the participants focused more heavily on promoting student agency, so that they might speak into, design or create their own learning experiences (Participant A). Or, as Participant C put it, having “student led learning” where students are acting “more as agents and have that sense of control over their learning”. For Participants A and C this therefore influenced the role of the teacher to a much more fluid learning environment, with Participant C explicitly labelling the teacher as adopting a new role as a “critical friend” rather than the traditional role of a teacher. Participant B demonstrated some difference here, objecting to the conceptualisation of the teacher as a “facilitator”, instead preferring the notion of the teacher as an “instructional coach”. Nevertheless, the pedagogies described by Participant B could still be easily categorised as student-centred and not teacher-centred.

Given that technology is viewed as an enabling, and in many eyes defining, component of 21<sup>st</sup> Century Education, it was intriguing how secondary technology was in the discussion with each participant. It was mentioned by both Participants A and C as causal factor in the need for school form. It was not a main focus, however, in any participant's responses throughout the interviews. It is suggested though that this is not a result of the insignificance of technology in each school, but rather that it is embedded into each school and is simply an assumed part of practice. When each participant gave an example of pedagogy occurring within the school, each mentioned a variety of technological applications in pedagogy.

### **The Influence of Context**

The literature is clear that “the school context in which the principal works is unique and of critical importance” (Dinham et al., 2018, p. 35). This sentiment was reflected by each participant as they explored the positive and negative implications of their school context on their reform journey. Each leader clearly read and assessed the history and culture of their school in order to transform it as required (H.-H. Lee & Li, 2015, p. 4).

Participant A reflected that their context has enabled significant flexibility in school reform. Working with a “green field site” and a “young staff”, s/he reflected that building a “future focused” vision is relatively uninhibited by an embedded traditional culture or by restrictive school resources. Therefore the “vision dictates what the facilities are and how they are going to be used” which was distinct from Water View and Hill View schools which are more established schools, both in staff culture and in infrastructure. While Participant A stated that having a young staff brought “energy, enthusiasm, creativity, a love of the students, life and teaching” as well as a “teachability” and aspiration, s/he reflected that, at times, “their capacity probably isn't as large as what you would want it to be” and that they lack “awareness of what excellence in students looks like”. As a result, Participant A intentionally chooses to work in the transformational sphere, arguing that “if I can win hearts and minds, a lot of the time, then it's not about [...] you'll do this because I said so, or it's your job” but is instead about inspiring, motivating and supporting staff to willingly adopt the reform.

In contrast, Participant B was very sensitive to the context of the school, stating that “the history of this school still dominates its present” which manifests as a “degree of resentment about the leadership of the school” and an “undercurrent in the school of ‘we can't trust you’”. While

s/he still spoke extensively about vision, s/he was clear that, due to the history of the school, s/he “didn’t wait for a groundswell of support from staff, because it was never going to happen”. Participant B was therefore the most sensitive to the history and culture of the school and was subsequently very intentional in the pace and scale of change to ensure the success of the change.

Upon becoming principal, Participant C inherited a relatively complex school structure that prohibited some of the broader changes they desired to implement. To that end, s/he entered the role and “started from day one, setting an agenda of change”, leading to a complete organisational restructure. Participant C reflected that the key benefit of this restructure is that “we no longer talk about structure now and trying to make it work, we just get on with the focus on teaching and learning”. Therefore, the organisational idiosyncrasies needed to be addressed in order to prepare the more progressive reforms to school structures. Through diagnosing and addressing the potentially prohibiting school factors, Participant C was able to establish a fresh platform for effective future change.

### **Change Management**

One key difference in the change management approach between the three participants was the structure of their approach toward the change. Participant A, perhaps by virtue of not adhering to any one particular framework, took the least structured approach to change management. This was potentially also enabled by the fact that Country View is the youngest of the schools and was very much in a foundational development phase as a school at the beginning of their journey to 21<sup>st</sup> Century Learning. Participant A reflected:

I think we started with maybe just two classes starting something together, talking to a couple of staff who were interested at that time... um... they then reflected on their experience, which led to a little bit larger, which led to then saying, ok, what if a space looked differently? Would that facilitate more opportunities? So, then we changed some spaces. And then we found ourselves coming to a new school [site], so then we had the opportunity to build something custom built, so the junior school was where we were first able to completely build it in that fashion. So then building the spaces then forced us straight away into, ok, well what is this going to look like, sound like...

This organic and unstructured approach to change was in line with Participant A’s description

of themselves as a transformational leader, who worked to convince teachers of the need to change, rather than force them to change. It is interesting to note, however, that Participant A acknowledged that there was inconsistency in their staff's adoption of new pedagogies, compared to Participant B who believed all staff were actioning the new vision of education.

Participant B sat somewhere between Participants A and C in terms of structure and approach. Adopting a clear framework gave Participant B a clear vision of the desired change. This was assisted by their extensive engagement with other schools who had already made this change, as well as one of the creators of their chosen framework. However, due to the history of the school causing a mistrust in leadership, Participant B's first response when asked how they approached change management was:

I was very slow. I made a promise to staff. I promised them that for 5 years I would not go off to another conference and find the next shiny thing... that I would make this total commitment to this. So in the very first year, we literally asked people to just trial introducing one disposition into one class initially.

Participant B therefore reflected the same slowness of progressive change as the other participants, yet had a clearer structure and design. Some 5 years into the transition, Participant B reflected that one of their key successes was that "80% of my staff are doing it, and committed [...] the other 20% are compliant". The uniformity of this change is perhaps attributable to their description of themselves as both transformational and transactional as a leader, stating that there are "non-negotiables" for them as a leader. When probed, they stated "the non-negotiables are that we are doing [Building Learning Power] and you have to get on board with that. You have to change your language, you have to change your practice".

Participant C has taken the most structured and planned approach to change. While Hill View School have been working in the entrepreneurial skills space for several years, their impending adoption of the New Pedagogies for Deep Learning model (Fullan et al., 2018) is a highly structured and planned change management process. Participant C spoke of extensive consultation with staff, community stakeholder groups and a 2-year planning and notice period for staff. Training processes were explicitly planned and implemented prior to the extensive curriculum changes which were planned. Not only have they modelled the curriculum changes to ensure success, as well as NESA compliance, they have also extended their planning to include an explicit strategic cultural change plan for staff. Participant C's approach to change

is so structured that they have even approached a university to measure the change in student outcomes to ensure that the change process is fruitful. The success of this transition is yet to be seen, given that Hill View is in the early stages of their transition.

While each approached the change management process with different levels of structure, there was a common acknowledgement that the process must be managed carefully and slowly, with a consistent focus on creating a shared vision and language in the change process. Such sensitivity to the pace of change is highlighted as an important aspect of school reform within the literature and would prove to be an important factor in the success of such a transition (Drago-Severson, 2012, p. 22). As a key strategy to assist the process of change, each participant repeatedly raised that they constantly returned to the vision with staff:

Well it comes down to casting a vision... creating a preferred future... recognizing the need for change... and then being able to help people go on that journey of change... see some different models, experiment, risk... you know? – Participant A

I've pretty much held the line of this is what we're going to do, this is why we are going to do it, and I keep reiterating that... and I actually tell the story of those two girls who took their lives. That for me was the wakeup call. What's the good of sending kids who aren't... with ATARS of 99 if they then go jump off a cliff? We've failed... if at the first adversity in their life, they can't cope. – Participant B

We have worked very hard on communicating why the need for change [...] So I have said the same message and repeated that message at the start of every term for ten terms now. Same message, same reasons for change, same challenges... – Participant C

This fixation with vision is pertinent to their leadership of a significant departure from conventional understandings of school; as Kozma (2003a) argues “innovations are likely to be more successful if they are relevant to some need or problem that is articulated in the environment” (p. 14).

Further to having a constant focus on vision, each participant also explicitly or implicitly discussed the need for a common language around the change in order to gain organizational coherence:

So, the kind of change is really in regards to the culture amongst the staff, having a shared understanding and a shared responsibility in that, so that we are all talking the same talk and thinking the same things, so how do we therefore go about that. - Participant A

We changed the lexicon of the whole staff. So, we have a common language, that's the other thing that I think really matters [...] I think every school needs a common language for how they talk about learning. – Participant B

I would say our purpose statement, you could walk out that door now and any staff member would tell you our purpose statement. And a lot of the kids too [...] so I'd sum all that up in a shared sense of purpose. – Participant C

Therefore, vision and language were seen as critical by each principal, in an effort to focus direction and unify organizational energy toward the transition, which Fullan and Quinn (2016) identify as a key driver of successful change management in schools. The concept of generating a shared vision is common across school improvement literature (Smith & Smith, 2015).

Each participant also placed great emphasis on staff professional learning in order to successfully transition to the new model of education. Each spoke of the use of staff professional development days as pivotal in practical pedagogical training, however, Participants A and B had also implemented embedded Professional Learning Groups which met in an ongoing capacity to prompt peer observation and trial of new practices. Participant C mentioned that Hill View would be adopting a similar structure in the coming year.

### **Leadership styles**

In the interviews, each participant represented themselves as a driving force behind the change in their schools. While Participant B was the most direct in this, stating that “this is my big thing, I think the principal has to lead it. I don't think you can outsource the learning”, both Participants A and C reflected similar sentiments about the centrality of the principal in casting vision, creating an enabling culture where staff could take appropriate risks, yet also

maintaining clear standards and expectations. Tong and Razniak (2017) assert that such a culture is “essential in fostering twenty-first century learning” (p. 39).

Yet, despite each emphasising the importance the role of the principal, when asked, each described their leadership style and practice distinctly. Participant A explicitly identified themselves as a transformational leader and also spoke about themselves as a visionary leader. While Participant B also identified with aspects of transformational leadership, they acknowledged that they were transactional in their approach to change at times, having “non-negotiable aspects” of their vision. Conversely, Participant C spoke only of being an authoritative leader when asked to describe their leadership style. It is interesting to note that despite Participant C being the only participant to identify with authoritative leadership, both Participants A and B exhibited its traits through their responses.

Transformational leadership was a key emerging theme across each of the interviews, with a particular focus on cultural transformation. Indeed, Lai (2015) emphasises that a key function of transformational leaders is “changing the culture of the school and developing its capacity to innovate to bring about school improvement” (pp. 88-89). This was certainly reflected in the interviews, where Participant C said “I see my principal role as school culture”; a sentiment which Participant A echoed, going one step further to say that “culture is king”. Each leader therefore clearly acknowledged the critical importance of a good quality school culture to the success of their transition (H.-H. Lee & Li, 2015, p. 3).

As V. Robinson et al. (2008) highlight, “clearly, the types of motivational, collaborative, and interpersonal skills that are emphasized in transformational leadership research are essential to leaders’ ability to improve teaching and learning” (p. 666). This was apparent in this study, with each of the participants clearly reflecting on the importance of these skills in their leadership of change. Yet the framework of instructional leadership set out by Smith and Smith (2015) includes not only many of the elements of transformational leadership, such as the generation of shared vision and culture (p. 47), but it depicts a more nuanced and intricate style of leadership which more specifically describes the work of educational leaders in school reform processes. The importance of instructional leadership styles will therefore be analysed in further depth in the Discussion section, along with the apparent embodiment of authoritative leadership (Dinham, 2016, pp. 261-262) by each participant. Table 2 therefore summarises the

leadership styles each participant identified with, as compared to the styles observed by the research through the process of the interviews.

Table 2

*Leadership styles identified, participant vs researcher*

	<b>Participant A</b>	<b>Participant B</b>	<b>Participant C</b>
<b>Leadership styles identified by the participant</b>	Transformational Leader	Transformational Leader  Transactional Leader	Authoritative Leader
<b>Leadership styles identified by the researcher</b>	Authoritative Leader  Instructional Leader (partial)  Transformational Leader	Authoritative Leader  Instructional Leader	Authoritative Leader  Instructional Leader

While each participant demonstrated a clear understanding of the importance of their role in driving change in the school, there was also an emphasis on working with other leaders in the school to achieve the change. This distribution extended to both members of the senior executive, working in unison to achieve the vision, as well as working with middle managers and teaching staff who could act as champions for the cause. Each participant distributed functions of their leadership slightly differently. Participant B had a working party of senior executive who strategized and enacted change throughout the leadership. S/he employed a specialist staff member who oversaw professional learning with the goal of embedding the Building Learning Power model into the school; a staff member who s/he had great difficulty replacing when they left the organisation. Participant B also appointed “Learning Mentors” who were outstanding practitioners who were resourced to facilitate the professional growth of other staff. Similarly, Participant A was emphatic that other leaders “have to take up the mantle”, suggesting that “I would hope the distributed function is something that I’m good at. I work very closely through my senior leaders”. Participant A also then spoke about working through “champions” throughout the school who were able to facilitate the expansion and



further adoption of 21<sup>st</sup> Century pedagogies alongside their work with executive leaders at the school.

Participant C focused more on working with middle management, implementing a structured leadership training program for all team leaders within the school. This was led personally by Participant C, but included the utilisation of various staff members who had prior expertise or experience, such as two senior leaders who had experience as project managers in the corporate sector. The motivation behind the distributed functions of leadership are intriguing and will be examined further in the Discussion section.

## **Challenges**

Surprisingly, the area of challenges or inhibitors to change bore less commonality between the schools than other areas of discussion. It was hypothesised prior to the interviews that the stringent culture of surveillance and accountability (Lofty, 2003, p. 196; Marks & McCulla, 2016, p. 49) which has subsequently led to a culture of performativity in Australian schools (Ball, 2016, p. 1054) may have posed a significant blocker to change. While Participant B acknowledged that “yes, I think there’s always the pressure for the HSC” for teachers, s/he stated that “if we focus on developing really good learners, I think they’ll do well in the HSC. We are not focused on the HSC and as we’ve increased our focus on learning over the last two years, our results have started to head up”. Similarly, Participant C acknowledged that while the HSC is an important “health check” of learning, they were emphatic that “the HSC is not our story” and “I feel we’ve failed if all we can do is get kids to pass the HSC test”. They therefore demonstrated a resistance to a culture of performativity in their school.

Participant A was unique here in identifying that while their primary teachers had embedded 21<sup>st</sup> Century Educational practices, they felt that secondary staff had not embraced the new model of learning. When probed as to why, Participant A stated “I think the only thing holding them back from being more open to different ways of learning [...] is the HSC monster that hangs over their heads”. While s/he stated that success in the HSC was valued, they were emphatic that it was certainly not the only, or even the most important, measure of success that the school celebrated. Nevertheless, their transition to 21<sup>st</sup> Century Education has been slowed by the HSC, with Participant A noting that they had put some reform efforts on hold to focus on improving HSC results. This difference is perhaps explained by the relative youth of both

Country View as a school and as a teaching staff when compared to Water View and Hill View, generating a different contextual force.

Interestingly, only one principal, Participant C, found government policies particularly constraining in their attempt to reform their school towards a vision of 21<sup>st</sup> Century Education. Participant C expressed quite strong views in this regard, describing the NSW Education Standards Authority (NESA) as “an antiquated body” who made schools “jump through hoops”. While Participants A and B did not discuss any constraint by government policy and regulations, Participant C was enacting the most significant shifts in the foundational structures of schooling which would explain the constraints they felt. Where Participants A and B had primarily focused their transition on pedagogy, and by extension learning spaces for Participant B, Participant C is implementing a completely new curriculum structure which impacts lesson timing, subject allocation, cross-curricular learning design, as well as pedagogical practices. It is therefore suggested that more moderate visions of 21<sup>st</sup> Century Education are functional within current curriculum requirements, if the principal is resistant to the pressures of performativity. However, as one’s vision of change becomes more progressive, system regulations and constraints will begin to interfere with the true re-imagining of school.

## **Chapter 5 - Discussion and Implications for further research**

This study has produced several interesting insights into the various ways in which 21<sup>st</sup> Century Education is being understood and implemented into schools within NSW. Key themes which emerged relate to the motivations and role of the principal in contextualising 21<sup>st</sup> Century Education to their school. This discussion then explores the various styles of leadership identified and implemented by participants, including an analysis of their adoption of innovation using Kozma's framework (Kozma, 2003a).

### **Motivations behind conceptualisation**

As noted, each participant principal had ultimate sway in the conceptualisation of 21<sup>st</sup> Century Education within their school. What stood out most in the participants' responses was the impact of the personal views of the principals in guiding the model of 21<sup>st</sup> Century Education chosen for implementation. For example, Participant B explicitly referenced their personal leadership journey as having a balance between student welfare and academic oversight, which therefore influenced their choice of the Building Learning Power model as addressing both of these issues. By contrast, Participant C did not mention student wellbeing at all in their rationale and justification for their framework choice, focusing instead on transferrable skills. The influence of the principals' personal views and values may therefore account for the varying choices of schools in 21<sup>st</sup> Century Education frameworks. Interestingly two of the participants, A and B, suggested that there were multiple correct frameworks for 21<sup>st</sup> Century Education and that no one framework was the universally correct way forward.

The significant influence of the principal here may be problematic in certain settings. While the participants studied had clear visions of 21<sup>st</sup> Century Education, many principals in schools may not. This could ultimately mean that schools may adopt incomplete or perhaps even unhelpful conceptualisations of 21<sup>st</sup> Century Education in the event of poor principal leadership. The success of the transformation of Australian education being so reliant on the individual choices and beliefs of principals is potentially problematic for its future.

Further research with a larger participant body would be beneficial in providing further insights into this area.

## Contextual Application

While Participant A took the most fluid approach to their conceptualisation of 21<sup>st</sup> Century Education, both Participants B and C took clear steps to modify their chosen framework to make it contextually relevant. Perhaps most significantly, Participants B and C, who had opted to adopt a pre-existing framework both explicitly identified that their chosen framework lacked a spiritual dimension, which they saw as a deficiency in the framework.

There were only four components in [Building Learning Power] [...] but as a faith-based school, we wanted to go beyond that. And we wanted to say, well, actually, part of being an all-rounded person is about the academic, the spiritual and emotional... I mean, the model we've got [...] is a holistic model, but they leave out the spiritual. So, for us we are putting in the spiritual component, because we said, actually, that really matters – Participant B

They have the 6Cs [...] which are often called the 21<sup>st</sup> Century Skills [...] their sixth one is character. So we've sort of modified it, a tad ourselves, so at our heart we have this idea of an extraordinary learner [...] which includes academic mastery, enterprise learning, which are those 5Cs, and the third one is Christian character [...] obviously the Christian character one we will develop further with our own spin on that, because [the framework] is a secular document – Participant C.

While Participant A did not have a pre-existing framework to amend, they did state that as staff were encouraged to look for opportunities to develop the 6Cs into the classroom, they were also encouraged to seek opportunities to “bring a faith perspective as a faith-based school” (Participant A).

One key question here for further research is the extent to which the spiritual dimension of holistic education is being addressed by other schools, whether faith-based or secular. It may be easy to assume that the concern raised by the participants about the absence of spiritualism in 21<sup>st</sup> Century Education frameworks is simply the unique perspective of three faith-based schools, seeing a deficiency in frameworks that may not be seen by nondenominational or government schools. Yet the Melbourne Declaration, which establishes the government's vision for Australian Education, explicitly mentions the spiritual aspect of students in several places (MCEETYA, 2008). For example, in the preamble to the declaration, it states “schools play a vital role in promoting the intellectual, physical, social, emotional, moral, *spiritual* and aesthetic development and wellbeing of young Australians, and in ensuring the nation's

ongoing economic prosperity and social cohesion” (MCEETYA, 2008). It would stand to reason then that any holistic view of education, including 21<sup>st</sup> Century Education models, could, or perhaps should, encompass the spiritual dimension of the child. Yet, if one looks to the dominant frameworks of 21<sup>st</sup> Century Education, almost none bring any mention of spiritualism. The closest they come is to mention ethical concerns such as sustainability and citizenship. However, even here, Tan et al. (2015) raise a concern that most 21<sup>st</sup> Century Education frameworks fall short of acknowledging the “beliefs, values and attitudes that shape a person’s identity, life goals, relationships with others, and, ultimately, purpose and quality of life” (p. 311). It therefore stands that many 21<sup>st</sup> Century Education frameworks, as they are currently conceptualised, may not be truly representative of the holistic education which many schools seek to implement.

### **Leadership Styles**

As identified in the key findings, each participant identified as possessing a distinct leadership style, yet all demonstrated traits of authoritative and instructional leadership. It is the observation of this researcher that both appear to be critical to the success of the transition in each school.

Participant C was the only participant who directly characterised themselves as an authoritative leader, stating that “I’m very much the model of an authoritative leader; highly supportive, but highly demanding”. While Participant B did not explicitly use the term authoritative leadership, they did state that “I would hope that I’m quite encouraging, yet...ah... hold people accountable [...] I would suggest that’s how I try to operate... friendly, approachable, whatever... but, I got standards”. Participant B therefore clearly identifies with the traits of an authoritative leader. Participant A used less direct language again, but they stated that they have worked hard to reach a place where they feel they “have a lot of relational trust now”, yet they were very clear that in their leadership there were key “non-negotiables” that they would not compromise on. Thus, all participants met both of the ‘relational’ and ‘demandingness’ aspects of authoritative leadership (Dinham, 2016, pp. 261-262).

The presence of authoritative leadership in each leader is vitally important for the success of their leadership of the 21<sup>st</sup> Century Education transition within their respective schools. The delicate balance of high relational capital with clear expectations serves to ensure that staff

exist within a culture of trust and yet, are held accountable to the desired change within the organisation. As Chu et al. (2017) argue “successful teacher adoption of twenty-first century skills [...] hinges on their attitude toward, awareness of and willingness to learn and use them” (p. 106). If leaders fail to set an appropriate culture (H.-H. Lee & Li, 2015) and do not cast a clear vision of the need for, or nature of, the change, staff are unlikely to successfully complete the transition. Yet, as Dinham (2016, p. 260) argues, if a leader lacks high expectations, they will operate as a permissive leader. As noted in the literature review, teachers are typically inherently conservative and, given permission, will resist change. Straub (2009) helpfully highlights that “the role of the teacher is ingrained with a long-standing history and tradition of the profession” and if not properly addressed “these deep-seated beliefs and identity structures can lead to resistance to change” (p. 633). Therefore, the changes proposed and/or enacted by the participants are likely to “invoke a degree of anxiety and resistance within teachers” (Gunn & Hollingsworth, 2013, p. 203) due to the significance of the shift being required, which can be quite daunting (Jefferson & Anderson, 2017, p. 38). Indeed, Participants A and C both reflected that they dealt with some resistance in their transition so far, and that while they engaged in dialogue, they ultimately maintained an expectation that staff would engage with the change process. It is therefore argued that authoritative leadership has clear importance in the change management process toward 21<sup>st</sup> Century Education, and its presence may contribute to more a more effective transition.

As identified in the key findings, instructional leadership was also noted as present to varying degrees in each of the participants. Yet, it is interesting that, when asked to describe their leadership practices, no participant mentioned instructional leadership. Only Participant A discussed instructional leadership when probed, stating:

Instructional leadership, whilst 100% has a place and results show it's good, for me, this will come through my senior leadership that I work most closely with. It's very hard for me to be [an instructional leader] for a year 2 teacher that I see in the staffroom in lunch, or once every 2 terms. Whereas my take on instructional leadership is that there is an accountability that comes to the senior leaders of the school. I can't be an instructional leader for 100 odd staff.

Yet, despite their apparent objection, Participant A exhibited many aspects of instructional leadership, whether these functions were distributed or not. Likewise, Participants B and C

consistently exhibited leadership practices consistent with instructional leadership. For each of these leaders, aspects of the role were distributed, however, this does not discount the existence of these practices which are the result of their leadership. As discussed in the literature review, Smith and Smith (2015) establish a framework of instructional leadership for evaluating leadership practices. While this was not applied as an evaluative framework in the interviews, it became apparent in the coding process that the participants were demonstrating many, if not all, of the elements of this framework. This is summarised in Table 3. While Table 3 only records the five elements of instructional leadership ability identified by Smith and Smith (2015) and does not go to the extent of including the subsequent nine theories of practice, many of these theories of practice were also evident in the participants' responses.

Table 3

*Participant enactment of instructional leadership practices.*

	<b><u>Participant A</u></b>	<b><u>Participant B</u></b>	<b><u>Participant C</u></b>
<b>Vision/Expectations</b>	<i>Explicitly shown</i>	<i>Explicitly shown</i>	<i>Explicitly shown</i>
<b>Strategic Resourcing</b>	<i>Explicitly shown</i>	<i>Explicitly shown</i>	<i>Explicitly shown</i>
<b>Staff Effectiveness</b>	<i>Distributed, Explicit Coaching and PLCs</i>	<i>Partially distributed, Professional Learning Groups</i>	<i>Partially distributed, PLCs to be implemented in the coming year</i>
<b>Teacher/Leader Development</b>	<i>Explicit Teacher and Leader development</i>	<i>Explicit Teacher development, Leaders not discussed</i>	<i>Explicit Teacher and Leader development</i>
<b>Orderly, Safe Environment</b>	<i>Explicitly shown</i>	<i>Not discussed</i>	<i>Not discussed</i>

While the focus of this study is not to evaluate the extent to which the participants embodied instructional leadership, it is a critical finding that each nevertheless demonstrated a significant

portion of the core practices of this theory of leadership. It is argued consequently that instructional leadership practices are critical to the success each participants efforts of school reform. This is perhaps due to the nature of the reform; by its very nature, 21<sup>st</sup> Century Education seeks to shift the foundations of the current paradigm of education as it relates to pedagogical practices within schools (Firat, 2012, p. 16). While this may therefore entail organisational structural changes (Gurr & Drysdale, 2012, p. 416; Harris & Spillane, 2008, p. 31; Tong & Razniak, 2017, p. 40), learning spaces and building programs (OECD, 2013, p. 69), timetabling, resource allocation and staffing, none of these structural/procedural changes are the end goal of the change; they are only pursued to serve the goal of pedagogical reform. While achieved through slightly different means for each participant – Participant A redesigned learning spaces, Participant B mandated a particular model of practice, Participant C made significant modifications to timetabling, assessment and organisational structures – each principal worked to structure and strategically resource the way teachers do their work to affect more meaningful change. Smith and Smith (2015, p. 61) highlight this as a required skill of highly successful school leaders operating as instructional leaders. This is also representative of the clear strategic resourcing which was represented by each participant; the focus of their use of resourcing, whether time, budgeting or building programs, was for the advancement of 21<sup>st</sup> Century Education reform.

This can also account for the significant emphasis placed on staff professional development and embedded coaching models which were present in each school. Each school had embedded models of ongoing Professional Learning Groups, which frequently incorporated formal or informal coaching. Most notably, Participants B and C intentionally participate in, if not lead, a significant portion of the professional learning which they ask staff to undertake. Where Participant A suggested that this function was primarily distributed to their key executive leaders, they still demonstrated informal learning conversations with staff on a regular basis.

The importance of ongoing professional learning is obvious in the context of the change; 21<sup>st</sup> Century Education demands a redefined approach to pedagogy which will necessitate professional learning for staff to embody this change. Yet professional learning was viewed as more than a by-product of the reform for the participants; it was discussed as a central theme in each of the interviews. The literature surrounding principal leadership asks what principals do to actually affect change in their context (Lai, 2015, p. 71). It is suggested that encouraging



staff professional learning by implementing and participating in professional learning programs is one key action of principals leading effective change in their schools.

Yet Participant A's response of "I can't be an instructional leader to 100 odd staff" rings true to a degree. Perhaps even more so for Participants B and C in larger schools, with Participant C having closer to 160 teaching staff. None of the participants could truly embody the requirements set out in the "Ensuring Teacher and Staff Effectiveness" dimensions of the instructional leadership framework (Smith & Smith, 2015), providing effective instructional advice through ongoing dialogue with the broad variety of staff under their leadership. Each leader therefore pointed to the need for distributed leadership within their organisation, supporting Dinham's (2005) assertion that "leadership has both formal and 'distributive' aspects". As identified, each leader chose to work through different structures with different levels of leadership and staff in the distributive process, yet there was a consistent understanding between the participants that they could not effectively reform their school whilst operating under the heroic leader paradigm (Harris & Spillane, 2008, p. 31; OECD, 2013, p. 66). This finding aligns with Gurr and Drysdale's (2012) argument that an ideal school structure is where the principal acts as the "main leader responsible for interacting with the wider context, developing school direction, motivating staff and providing a supportive environment" (p. 410), yet this is done with the support of a senior leadership team.

Does the distribution of leadership therefore undermine the extent to which each participant could be described as truly embodying instructional leadership? Certainly not. A growing body of literature has identified that the distribution of instructional practices does not impair the effectiveness of the practice (V. Robinson et al., 2008, p. 668). One key conclusion that could be drawn here is that V. Robinson et al.'s (2008, p. 658) proposed model of integrated leadership, which combines the key functions of distributed, instructional and transformational leadership seems to most accurately describe the leadership practices exhibited by the participants in the study. It is proposed that a doctoral study with a larger sample size could confirm the initial finding that principals affecting 21<sup>st</sup> Century Education reform are embodying integrated leadership practices in order to successfully lead their transition.

It is pertinent to note that, due to the research design, it is difficult to ascertain the accuracy of each leader's description of their own leadership practices. Indeed, Participant A acknowledged

this when asked to describe their leadership practice, stating “Gosh, that’s always hard to say... what you think you are and the way that you actually come across are probably two different things aren’t they?”. While this is a clear limitation of the nature of this research project, the way in which each principal views their leadership practice provides insight into the lived experience of each participant as they seek to lead 21<sup>st</sup> Century Educational reform, revealing the aspirations of each leader and their core beliefs around leadership.

### **Innovation Adoption**

Kozma (2003c) proposed a conceptual framework for understanding the implementation of technology related innovation into the classroom and its subsequent effect on learning outcomes. As discussed in the literature review, Kozma’s (2003a) framework argues that innovative pedagogical practices are “embedded within a concentric set of contextual levels that effect and mediate change” (p. 11) . These contextual levels are the classroom (micro level), the school or local community (meso level) and state, national or international entities (macro level). While this model is focused on ICT innovation adoption, it is argued that it is equally effective in describing broader pedagogical innovation, such as 21<sup>st</sup> Century Education, which frequently includes innovative ICT use. Drawn from literature relating to “comparative education, school improvement and reform, technology and education, evaluation, cultural psychology, and the adoption and diffusion of innovations” (Kozma, 2003a, p. 10), the framework provides a basis for analysis of the interaction of contextual forces which may promote or inhibit change.

Applying Kozma’s framework for analysis, it becomes apparent that different contextual factors are influential at each layer of the framework.

### **Macro Level**

It was hypothesised prior to conducting this study, that Macro Level factors would play a significant role in influencing the ability of schools to move toward a model of 21<sup>st</sup> Century Education. Given that NSW has relatively strict curriculum requirements, particularly for Independent Schools, it was hypothesised that governmental requirements around curriculum and school structure would be inhibitive of the participants’ ability to reform their school. Yet only Participant A felt particularly constricted by the regulations imposed by the NSW Education Standards Authority. It is argued that the more progressive the vision of education,

the greater influence Macro Level factors will have in restricting potential change, which may lead schools to choose more Moderate models of 21<sup>st</sup> Century Education in NSW.

The influence of the HSC as a school matriculation certificate and the subsequent requirements of university entry also entered into each participant's thinking in relation to their reform. Where Participant A expressed that they believed that "as that magical ATAR number... I think is slowly disappearing, I think you'll see a far more engaged secondary staff into what some of the possibilities are", Participant C had directly engaged with universities concerning their entry practices and drawn the conclusion that "universities are changing". While Participant B did not discuss this directly, they questioned the point of gaining exceptional matriculation results if students were not "life ready". Each participant subsequently expressed that they did not see the HSC as their purpose and that they are pursuing different measures of success in schooling. However, each participant acknowledged that it bore some influence on their transformational capacity. Likewise, when asked, each participant viewed NAPLAN as a helpful diagnostic tool at most, and not an end to be pursued in and of itself. To a degree, economic factors and the changing nature of the world acted as influencing Macro Level factors on the conceptualisation of 21<sup>st</sup> Century Education and the participants' understanding of the need for the reform. However, it is posited that this interaction between Macro and Meso Levels is most significant for its influence on the possibilities for pedagogical reform at a Micro Level. In the absence of the mediation of the Principal (Meso Level), reducing the potentially defining influence of the standardised testing and government surveillance (Macro Level) it is suggested that achieving real change to the nature of teacher practice and the delivered curriculum (Micro Level) would become significantly more difficult. Indeed, each participant clearly resisted the typical result of external accountability measures – to become overly fixated on student academic achievement (Belchetz & Leithwood, 2007, p. 134) – and instead persisted with a vision of holistic education, thus enabling their staff to do the same.

It is important to note a key limitation of this study is the inclusion of Independent Schools only. This removes the Macro Level influence of systemic school control that Government or Systemic Independent Schools are subject to. This could be addressed in a Doctoral study by including cross sectoral case studies for comparison.

## **Meso Level**

As noted, the principal plays a significant mediating role between Macro and Micro Level contextual factors. However, it is argued that the role of the principal is even more significant than this. Out of all identified factors in the Macro, Meso and Micro Levels, the Principal stood out as the key actor who exerted influence on the actual progress of change in the organisation. Whether working with other actors at a Meso Level, such as parents, school boards, community leaders and other school leaders, or working directly with students and teachers at a Micro Level, the participants presented as the key driving force behind the change. For example, while engaging dialogically with various parties, it was clear that each participant was ultimately determining the future pedagogical directions for their school.

Not only were the participants driving the change, they were working extensively to mediate the influence of other factors, or directly engineering Meso and Micro Level factors in order to ensure a more successful transition toward 21<sup>st</sup> Century Education. Kozma (2003a, p. 14) identifies a number of influential Meso factors, such as school organisation, school culture, intended curriculum, staff development procedures and school infrastructure which can mediate change. In the interviews, participants had variously interacted with most or all of these factors within their context in order to create more effective conditions for the desired change. While this is representative of strategic resourcing to achieve the desired organisational goals as discussed by Smith and Smith (2015, pp. 55-61), the participants' influence was broader than this; it was cultural and relational. Each participant was working in their own way to clearly define the moral purpose of schooling within their context and was creating an environment of trust in which teacher professionalism could grow (Marks & McCulla, 2016, p. 70; Tong & Razniak, 2017, p. 47). Fullan et al. (2018, p. 70) suggests that a school leader's active participation in professional learning with staff only serves to further build relationships and trust.

One surprising theme which emerged from the interviews was the relatively insignificant role which parents had played in the transition process. Where Participant A reflected that parents were broadly supportive of the transition, Participants B and C spoke more directly about engaging with parents about the direction of the school, with Participant C discussing this at greatest length. However, none of the participants spoke about engaging in parental

consultation about the direction and nature of the change; the parents seemed to be a recipient of the change, rather than a participant in the change management process.

As noted earlier, school history did play an influencing role on the change management process and each participant was clearly aware of their context, responding sensitively in the pace and level of change expected of staff. As Gurr and Drysdale (2012) suggest, each participant was not simply managing the present, but were dreaming of “possible and preferred futures, whilst being cognisant and respectful of the past, securing the present and responding to the many challenges that are faced in schools” (p. 405).

### **Micro Level**

The Micro Level was seen to be the focal point of desired change by each participant, with each participant working to engineer Meso and Micro Level factors and mediate Macro Level factors in order to facilitate this change. However, the teachers themselves, the key actors at the Micro Level in Kozma’s framework are not simple subjects to the change, but are influential factors themselves. This interactive and dynamic relationship between the principal and teaching staff is key to the success of the transition in each of the participant schools. The fundamental goal of each participant was a tangible change on a pedagogical level which represented the manifestation of their conceptualisation of 21<sup>st</sup> Century Education. It was clear that each participant understood that teacher practice was the hinging factor in whether the transition occurred. For this reason, each principal worked extensively in establishing a shared vision and continually returning to this with staff. This was paired with an implicit or explicit focus on goal setting and/or a culture of ongoing staff professional learning in each organisation; a practice which Smith and Smith (2015, pp. 126-130) identify as best practice in improving motivation and focusing action. However, the participants did not simply attempt to railroad their staff with a vision. Instead, each not only modelled dialogic processes which engaged with staff concerns and feedback, but they sought to build a learning community characterised by collaboration, shared values and reflective practice (Wahlstrom & Louis, 2008, p. 463). This was representative of each participant’s understanding that the change management process needed to respond to constant organisational and contextual changes which created a continuous need for collaborative problem solving and structural refinement (Leithwood & Day, 2007, p. 201).

The participants' primary focus on working with staff therefore supports V. Robinson et al.'s (2008, pp. 636–637) finding that the primary impact that principals have on student outcomes is indirect, as they instead establish the correct conditions for teachers to make more direct impact. This was clear in the actions of each principal as they sought to orchestrate the desired organisational culture and conditions for effective change. For example, Participants B and C both sought to redesign learning spaces in order to enable staff to exercise new pedagogical practices more fluidly. Labelling this influence as indirect in no way undermines the importance of their influence; without the guiding influence of each principal, the coherent realisation of their vision of 21<sup>st</sup> Century Education would have been unsuccessful.

What is perhaps more intriguing is the importance of the interaction between Micro Level factors in creating the desired pedagogical change. Each participant took a different approach to the role of the teacher in their model of 21<sup>st</sup> Century Education and this would inevitably impact the Micro Level interactions. However, each explicitly desired a more student-centred pedagogical approach where greater student agency existed in the learning process. This perhaps elevates the role of the student to be a greater influencing factor on the Micro Level, rather than simply being a recipient of the change. Saliently though, no participants spoke at all about student consultation or engagement in the change process. Students were more frequently discussed as the subject of the change, with the focus of the participants on their interaction with the teacher as the key actor at the Micro Level. Whether this is due to the absence of student consultation, or simply that it was not explicitly raised by the participants is unclear. This therefore poses an area for further research, as to whether student engagement in the change management process towards 21<sup>st</sup> Century Education is necessary to the success of the change.

These findings begin to address a gap in the literature that recognised that “while there is a considerable body of evidence about classroom and school conditions directly influencing student learning, much less is known about how principals successfully influence those conditions” (Leithwood & Day, 2007, p. 193). Certainly, the small scope of this study does not fully address this question by any means. It does provide, however, a helpful platform for further research into the role of principal as mediating the relationship between, and engineering the nature of, Macro, Meso and Micro Level influences, in order to create an organisational environment conducive to change. The significance of this interaction could be

explored in greater depth with a larger sample size in further research, including a Doctoral Study.

## **Conclusion**

The data revealed in this study that in the participant schools, transformation toward 21<sup>st</sup> Century Education was led directly by the principal. This is not said to undermine the importance of the role of other school leaders or indeed teachers themselves in this change, but it simply highlights that each participant was a clear and central driver of change within their organisation. That said, one of the key limitations of the study was that it focused specifically on the role of the principal and the perspective of other leaders or teachers was not collected, due to the limited scope of the study. Follow up studies could well incorporate other actors including school executive, learning leaders or teachers.

It is not surprising that, as the conceptualisation of 21<sup>st</sup> Century Education is nebulous within the literature, its manifestation in the participant schools subsequently varied. While this was expected, as each school sought to adopt leadership practices which responded to their unique context, the extent to which the personal views of each principal held sway in the ultimate choice of which model of 21<sup>st</sup> Century Education to adopt was unexpected. This perhaps speaks to the importance of the role of principals in school reform; while the participants had clear visions of change for their school and enacted many of the aspects of integrated leadership to affect change in their schools, the potential implications of poor principal practices are significant. If principals adopt ambiguous, incomplete or problematic conceptualisations of 21<sup>st</sup> Century Education, they may well lead significant reform in schools which may prove ultimately unhelpful to student learning. Conversely, if principals adopt clear visions of 21<sup>st</sup> Century Education, but adopt ineffective leadership practices, it is posited that little if any change may be affected in their environments.

This study revealed that further investigations of this area would be of value to ascertain the accuracy of these preliminary findings with a larger participant body. Eacott (2013) argues that “school leaders have historically been powerful definers of the culture, organisation and relative success of schooling and its relationship to wider society” (p. 18). Dinham (2005) furthers this notion, stating that leadership plays a key importance in ‘creating positive, innovative learning cultures and the facilitation of quality teaching and learning (p. 34). In the

view of this study, this would seem to have been the case in each of the participant schools and emphasizes the important role that principals play in defining and enacting the future of 21<sup>st</sup> Century Education in Australia.



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## **Appendix 1 – Interview Schedule**

### ***PROJECT: School principals' perceptions and actions in developing 21<sup>st</sup> Century Education in schools in New South Wales, Australia: an exploratory study.***

Thank you for volunteering your time to meet with me to talk about your school leadership practice as it relates to how you understand and act upon the concept of “21<sup>st</sup> Century Education” within your school context.

#### **Some questions to guide discussion.**

#### **Focus 1 – Defining 21<sup>st</sup> Century Education.**

1. When you hear the term “21<sup>st</sup> Century Education” what does it mean to you?
2. What do you see as the core purpose of “21<sup>st</sup> Century Education”?
3. What would you see as the core components, principles, or key characteristics of “21<sup>st</sup> Century Education”?
4. Is there a specific model of, or approach to, “21<sup>st</sup> Century Education” to which you subscribe?

#### **Focus 2 – Leadership, including issues of adoption and adaption**

1. How and in what ways is “21<sup>st</sup> Century Education” taking shape in your school?
2. How would you describe your school’s process of change thus far with regard to 21<sup>st</sup> Century Education?

3. What systems and processes have you put in place to assist in the transition to 21<sup>st</sup> Century Education?
4. How would you describe your leadership style and practices in this transition?
5. What have been the successes of this transition?
6. What issues or challenges have you experienced?
7. What do you see as the next steps in the future directions for reform in your school?
8. Is there anything else you would like to add?