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A New Organisational Architecture to Support Personalised Learning: The Role of the Academic Adviser

Author

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Published

2017-09

Thesis Type

Thesis (PhD Doctorate)

School

School Educ & Professional St

DOI

10.25904/1912/2057

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A New Organisational Architecture to Support Personalised Learning: The Role of the Academic Adviser

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Submitted in fulfilment of the requirements of the degree of Doctor of Education

September, 2017

Abstract

This study stemmed from an interest in the impact of disruptive innovations on school-based education. It was premised on a belief that a teacher-centric organisational architecture is at odds with the new technology-rich learning environment in which tomorrow's schools will operate. This informed the framing of the key research question explored by this study:

> In times that are characterised by disruptive innovation due to technological changes, what are the implications for the organisational architecture of schools?

This thesis presents a case study of one school's attempt to move from a teacher-centric organisational architecture to one focused on the needs of individual students. The Academic Adviser (AcAd) program represented an early stage of this multi-dimensional change process. In investigating the key research question, the following Supporting Research Questions were investigated.

1. What are the perceptions of students in the Academic Adviser (AcAd) program, particularly in relation to the role of the AcAds and the impact of the program on their level of self-regulation and learning power?
2. What are the perceptions of the parents/caregivers of students in the AcAd Program, particularly in relation to the role of the AcAd and the impact of the program on the students' level of self-regulation and learning power?
3. What are the perceptions of the AcAds in relation to their role, and the impact of the program on the students' level of self-regulation and learning power?
4. What are the perceptions of Heads of Year, as members of the traditional school architecture with responsibility for pastoral care, about the AcAds and the AcAd Program?

This research was conducted in an independent school in South-East Queensland, Australia between the latter part of 2015 and mid-2017. The focus of the research was one dimension of a strategy to change the school's organisational architecture from one that revolved around the needs of classroom teachers to one focused on the needs of students. The long-term goal was to harness the potential of emerging digital technologies

to personalise the learning experience for all students. To achieve this goal, the school's board and leadership team decided to build a team of specialist educators to circumvent teacher-related barriers to change and support students through the transition to personalised learning.

The research analyses the impact of a team of AcAds, who focused their attention on approximately 120 individual students who chose to participate in the program. Their role was to promote self-regulation and aspects of learning power in their 30-minute fortnightly meetings with individual students. The program was jointly funded by the school and parents. The perceptions of a sample of 36 students, 33 parents, ten AcAds and the Heads of Year, who had an important pastoral role in the existing organisational architecture of the school were gauged using surveys, interviews and focus groups. These provided a range of quantitative and qualitative data with which to answer the key and supporting research questions.

The thesis reviews a wide range of literature on frustrated attempts to integrate these technologies, adopt constructivist pedagogies and promote connectivism. The new organisational architecture would position students for a time when teachers would relinquish their position as gatekeepers of knowledge. It would also reduce the potential for teachers to impede change, because the delivery of services directly to students would mean that teachers would no longer be the focus of the school's service supply chain.

The research employed theoretical thematic analysis of qualitative stakeholder data and analysis of quantitative data to conclude that students, parents, AcAds and Heads of Year were supportive of the program and could identify benefits in the form of increased self-regulation, enhanced learning power and expanded learning networks that positioned students for success in a personalised learning environment. Data obtained from all stakeholder groups highlighted the significance of the relationships between the AcAds and the students in the program. The high level of trust provided a foundation for the work of the AcAds. Students, parents, AcAds and Heads of Year were able to clearly and correctly distinguish between the role of the AcAd and the role of the classroom teacher. The program's focus on strengthening student self-regulation and aspects of learning power was seen as important for success at school and in later life. These groups also

acknowledged that the organisational strategies and time-management skills developed in the program helped to reduce student stress levels.

While this research was designed to assess the impact of the program in the unique setting of the case study school, it provided insights that might be of value to other educators, policy-makers and researchers.

Keywords

Organisational architecture, blended learning, personalised learning, self-regulation, learning power, academic adviser, disruptive innovation.

Statement of Originality

This work has not previously been submitted for a degree or diploma in any other 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.

All research procedures reported in the thesis received the approval of the University Ethics Committee.

Signed: Date: 15/9/17

Jamie Dorrington

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Abbreviations

The following abbreviations were used throughout this thesis.

AcAd	Academic Adviser
D2L	Desire to Learn, which was the school's Learning Management System, also known as Brightspace.
FFPOS	Full Fee Paying Overseas Students
HOY	Head of Year
LMS	Learning Management System
MOOC	Massive Open Online Course
OP	Overall Position, the substitute for a Tertiary Entrance Rank in Queensland

Acknowledgements

As I come to the end of a long but worthwhile process, and reflect on my journey, I wish to acknowledge the contribution of several groups of people.

I begin by thanking my principal supervisor, Professor (now Professor Emeritus) Glenn Finger of Griffith University. He has been a supportive, enthusiastic, constructive, diligent and dedicated from the time I first approached him to ask whether he would supervise my research to the final stage of the process. He picked me up when I felt down and encouraged me to press on, always highlighting the best aspects of my work, while diplomatically suggesting changes. His feedback was always thorough and valuable. I am particularly grateful for his decision to continue to supervise me after his official retirement, even though it meant he was spending time on dry land with me and not out on his boat, fishing. I thank Dr Jason Zugami in his role as secondary supervisor and acknowledge the various members of the academic staff of the university who guided me through the eight semester-length courses that constituted the coursework component of the EdD. These helped to provide the platform for undertaking a substantial literature review, engaging in a rich range of research methods and developing the research proposal for this study.

The AcAds, students and staff of the case study school were open, honest and available to provide me with their insights into the AcAd Program. This initiative occurred during a time of significant change and pending disruption, yet they found time among the daily routines and other projects that occupied their time to complete surveys and be interviewed. I also acknowledge the contribution made by the parents/caregivers of students in the program. My Personal Assistant, Carolyn, assisted greatly with organising appointments and guiding me through computer glitches. She also took on the role of administering many aspects of the AcAd Program in recent years.

Finally, I wish to thank my wife, Grace, and my children, Tamara, Eden and Jed, for their support and encouragement – not just for this degree, but for all the study I have completed in virtually every year we have been together.

Conference Presentations during Period of Candidature

Dorrington, J. (2014, September). A new organisational architecture to support blended learning (strategic thoughts of a digital alien). *SchoolsTechOz.*

Dorrington, J., West, P. & Cuthbert, S. (2015, September). A new organisational architecture to support blended learning. ACER National Conference. Courage and Commitment to Lead, Sydney. Retrieved from http://www.acel.org.au/acel/ACEL_docs/Events/Conference%20Program%20at%20a%20Glance.pdf.

Dorrington, J. (2015, November). Establishing an organisational architecture to promote self-regulated learning in a blended learning environment. Bett Asia Leadership Summit, Singapore.

Dorrington, J. & West, P. (2017, August). Top down to synergy: There and back again many times. Leading and Digital School Conference, Gold Coast.

Articles Submitted for Publication

Dorrington, J. (2017) A new organisational architecture to support personalised learning: Parents' perspectives on the role of the Academic Adviser. Article submitted to *Issues in Educational Research* in May 2017.

Chapter 1
Introduction

1.1 Introduction

This chapter provides an introduction to this research study. It positions the research in the context of an education industry being disrupted, and about to be disrupted further, by rapidly emerging digital technologies. It explains why the change process is so complex and introduces the case study school that was the focus of this research project. The Key and Supporting Research Questions, which focus on the implications of disruption on the organisational architecture of the case study school and the intended impact of the Academic Adviser program – referred to throughout this thesis as the AcAd Program – are formally presented in this chapter.

Section 1.2 describes the area of focus for the research. Subsequently, the Key Research Question and Supporting Research Questions are presented in section 1.3. Section 1.4 provides a rationale for the research by situating it in the context of a school prepared to embrace the disruption associated with rapidly emerging digital technologies. Section 1.5 considers the complex nature of change. It focuses on the need for school leaders and researchers to abandon the teacher-centric approach that has, in my view, been an obstacle to change. This section also outlines the case study school's plans for a new, team-based organisational architecture, and explains why the AcAd Program represents an early and important step towards achieving this goal. The case study school is introduced to the reader in section 1.6. The structure of the thesis is explained in section 1.7 and the chapter concludes with a summary in section 1.8.

1.2 Area of the Research Focus

Emerging educational digital technologies stretch our understanding of what is possible, and thus establish a new set of aspirations for educators, parents/caregivers and students. Adaptive learning programs in subjects such as Mathematics are already shaping and reshaping the learning process to meet the needs of the learner, not the instructor/teacher (Atkins et al., 2010; Carroll & Foster, 2009; Christensen, Horn & Johnson, 2011; Green, Facer, Rudd, Dillon & Humphreys, 2005; Hannon, Patton & Temberley, 2011;

Knowledgeworks & Saveri Consulting, 2012; Murgatroyd, 2010; Prince, Saveri & Swanson, 2015; Siemens & Long, 2011). The algorithms that drive the adaption may soon be employed by the designers of Learning Management Systems (LMS), transforming them from being largely warehouses of content to enabling self-paced learning programs that can be synchronised to the pace of the individual student, rather than the class group. Analytics written into some of their programs already provide data from embedded assessment that constantly profile the learner (Observatory of Educational Innovation, 2014).

In the meantime, Massive Open Online Courses (MOOCS)[1] and online learning centres, such as the Khan Academy, unshackle the student from the classroom teacher and have an expanding market that already encompasses millions of learners worldwide (Anderson & McGreal, 2012; Murphy, Gallaher, Krumm, Mislevy & Hafter, 2014). Web 2.0 tools in general have broken the bounds of the physical campus and enabled learners to communicate and collaborate with others from different time zones, cultures, ages and perspectives, while game-based learning and virtual experiments/scenarios provide authentic learning in virtual environments (Lombardi, 2007; Papastergiou, 2009; Tuzun, Yilmaz-Soylu, Karakus, Inal & Kizilkaya, 2009). These technologies have made it possible for the individual student to be placed at the centre of twenty-first century learning, yet the organisational architecture (defined in this thesis as the way that physical, digital and human resources are organised to achieve the goals of the organisation) of all but a few schools – such as the Kunskapsskolan schools in Sweden (Hannon et al., 2011) – continue to revolve around the work of the teacher, and fail to meet the unique needs of the individual student.

> Though differentiated education has proven successful in some classrooms with master educators, it has not been realised on a large scale across entire schools or districts. In most cases, the traditional school system remains organised to provide a minimally adequate education to the largest number of students in the middle of the bell curve. (Bogden, 2014, p. 3)

[1] The conversation in this area was, at the time of writing, shifting to the 'adaptive MOOC' that will address the high attrition rate in MOOC enrolments. The Adaptive Mobile Learning (AMOL) platform was on the Amazon Web Services (AWS) cloud architecture and was being load-tested for the use in a MOOC (Sonwalkar, 2013). This is likely to be a major disruptor to both school- and tertiary-level education providers when it is perfected.

Therefore, the area of focus for this research was one school's attempt to engage with digital technologies that were threatening to disrupt the traditional model of schooling, by transitioning to a new organisational architecture that included AcAds as part of a team of specialist educators, focused on personalising the learning experience for each student.

1.3 Key Research Question

The key research question which this study explored was:

> In times that are characterised by disruptive innovation due to technological changes, what are the implications for the organisational architecture of schools?

To investigate this question, this thesis presents a case study of one school's attempt to transform its organisational architecture from one designed to focus on the needs of classroom teachers to one that focused on the educational needs of individual students, initially through the introduction of the AcAd Program. The AcAd Program represented the first stage in developing an education team to serve the needs of individual students in the case study school.

1.3.1 Supporting Research Questions

In investigating the key research question, the following Supporting Research Questions were investigated.

1. What are the perceptions of students in the Academic Adviser (AcAd) program, particularly in relation to the role of the AcAds and the impact of the program on their level of self-regulation and learning power?
2. What are the perceptions of the parents/caregivers of students in the AcAd Program, particularly in relation to the role of the AcAd and the impact of the program on the students' level of self-regulation and learning power?
3. What are the perceptions of the AcAds in relation to their role, and the impact of the program on the students' level of self-regulation and learning power?

4. What are the perceptions of Heads of Year, as members of the traditional school architecture with responsibility for pastoral care, about the AcAds and the AcAd Program?

1.4 Rationale for the Study

Integrating the rapidly expanding range of educational technologies, even at the transactional level, is seen as one of the challenges of the twenty-first century (Ashfari, Bakar, Wong, Samah & Fooi et al. 2009). The challenge increases in complexity when it involves digital technology acting as a catalyst for transformative changes in pedagogy and a genuine emphasis on personalised learning. Unfortunately, the record of change at both the transactional and transformative levels has been disappointing, despite the application of considerable physical and human resources to the task (Ashfari et al., 2009; Bogden, 2014; Donnison, 2009; Gao, Choy, Wong & Wu, 2009; Harris, Mishra & Koehler, 2009; Hennessy, Ruthven & Brindley, 2005; Mishra & Koehler 2006; Murgatroyd, 2010; Staples, Pugach & Himes, 2005).

It is my contention that change has not occurred as originally envisaged because many researchers, policy-makers and educational leaders have not taken into account either the individual capacity and organisational constraints that act as barriers to transactional change, or the deeper cultural and psychological factors that act as barriers to transformational change in schools (Bailey, Schneider & Vander Ark, 2013; Sugar, Crawley & Fine, 2004), which have for centuries relied on teachers to instruct students. The dominant change strategy has focused on teachers as the people responsible for the design and delivery of most academic and other support services in the current schooling model, yet many teachers are unsettled by the challenge presented by digital technologies in *their* classrooms (Gao et al., 2009; Staples et al., 2005; Sugar et al., 2004). The continuing focus on teachers actually enables them to dictate the nature and pace of change, even though teachers will soon cease to control the gate to content knowledge (Bailey et al., 2013; Bell, 2011; Drexler, 2010), and analytics will challenge their place as the only avenue for assessment and feedback (Siemens & Long, 2011). Moreover, algorithms in digital programs will challenge their role as course designers and lesson planners (Observatory or Educational Innovation, 2014).

The role of the school-based educator is predicted to change from that of an instructor, controller, gatekeeper, arbitrator, sole assessor and judge to that of facilitator, mentor, guide, advocate, organiser of knowledge and a significant node in each student's network of educational content providers (Carroll & Foster, 2009; Drexler, 2010; Gerlic, 2010). Yet there is little evidence that educational leaders or researchers have stopped to question whether or not traditional classroom teachers are equipped to perform these new roles. The work of Hannon and colleagues (2011) and Prince and colleagues (2015) are among the few notable exceptions. An adherence to the teacher-centric organisational architecture of yesterday's successful schools inhibits their ability to adapt, thereby exposing tomorrow's schools to the negative consequences of disruption (Christensen, 1997; Christensen et al., 2011; Hannon et al., 2011). Consequently, if educational leaders are to take full advantage of emerging technologies, they will need to redesign their schools, shifting their focus from the work of the teacher to the needs of the individual student as the student operates in a technology-rich blended learning environment (Bogden, 2014), supported by a team of educators that extends beyond the classroom teacher. The AcAds were to provide specialist services directly to students.

> An explosion of innovation has been transforming how we think about learning and how we organise talent and resources for learning experiences and has effectively unbundled 'school' as we knew it. The tightly bound relationships and resource flows that used to deliver instruction, develop curriculum, perform assessment, grant credentials, and provide professional development are dissolving. Teaching and learning have become uncoupled from traditional educational institutions and are now available through and enhanced by a vibrant learning ecosystem. (Knowledgeworks & Saveri Consulting, 2012, p. 2)

Schools cannot aspire to become technology-rich, personalised learning communities while adhering to a dysfunctional nineteenth- and twentieth-century organisational architecture.

> Most architectures that exist today have been unconsciously put together in a haphazard fashion over the lifespan of the organisation. Thus, initiatives conflict with each other in terms of goals and priorities, the same terms are inconsistently defined, and organisational direction appears fragmented and unfocused. It is as

> though we have been given many jigsaw puzzle pieces to assemble, but in the process of putting them together we discover that the pieces are from different jigsaw puzzles … (Silverman, 1997, p. 1)

The digital technologies associated with changes in education reposition students, classroom teachers and other educators in the education supply chain, and are poised to disrupt existing practices and power structures, thereby necessitating a fresh organisational architecture (Christensen, 2002; Christensen, Craig & Hart, 2001; Christensen & Overdrorf, 2000; Christensen et al., 2011; Hannon et al., 2011; Murgatroyd, 2010). Bogden (2014, p. 2) adds his voice to the call for change:

> [But] the transformative potential of blended learning will only be realised when we employ education technologies to reshape teachers' and students' roles, and when technology is coupled with fundamental organisational changes that re-engineer legacy school structures, processes, and all forms of instructional delivery. We must take every opportunity to work more productively and meet the individual needs of each student.

The research in this study focuses on the first significant step in the development of a new organisational architecture through the introduction of an AcAd Program, designed to strengthen aspects of the learning power and self-regulation of participating students, and reduce their dependence on the classroom teacher, notwithstanding the constraints of the prevailing school-based assessment system, by expanding their learning networks.

Figure 1.1 illustrates the various dimensions of the new architecture as well as some of the opportunities and challenges that reside within the current schooling environment. At the outside of the diagram sit preconceived ideas, time constraints, insecurity and uncertainty, as factors that are likely to impede the change process. Key stakeholders are identified as government authorities, the school's governing board, parents/ caregivers, teachers, the community at large and trade unions. Students, who are the most significant stakeholders, sit at the centre of the diagram. Issues to be addressed include a lock-step approach to assessment and reporting; time-bound credentialling and progression; the concept of 'competency' as opposed to 'mastery'; facilities to facilitate technology-rich, collaborative learning; lack of alignment between the goal of the school's academic and

pastoral agendas; timetabling that revolves around ‘seat time’; the job classifications of team members; prescriptive curriculum; funding; and, most significantly with respect to the role of the AcAd, teacher–student co-dependency. The AcAd Program was an early and crucial element of the change process because little can be achieved if students and teachers remain highly co-dependent.

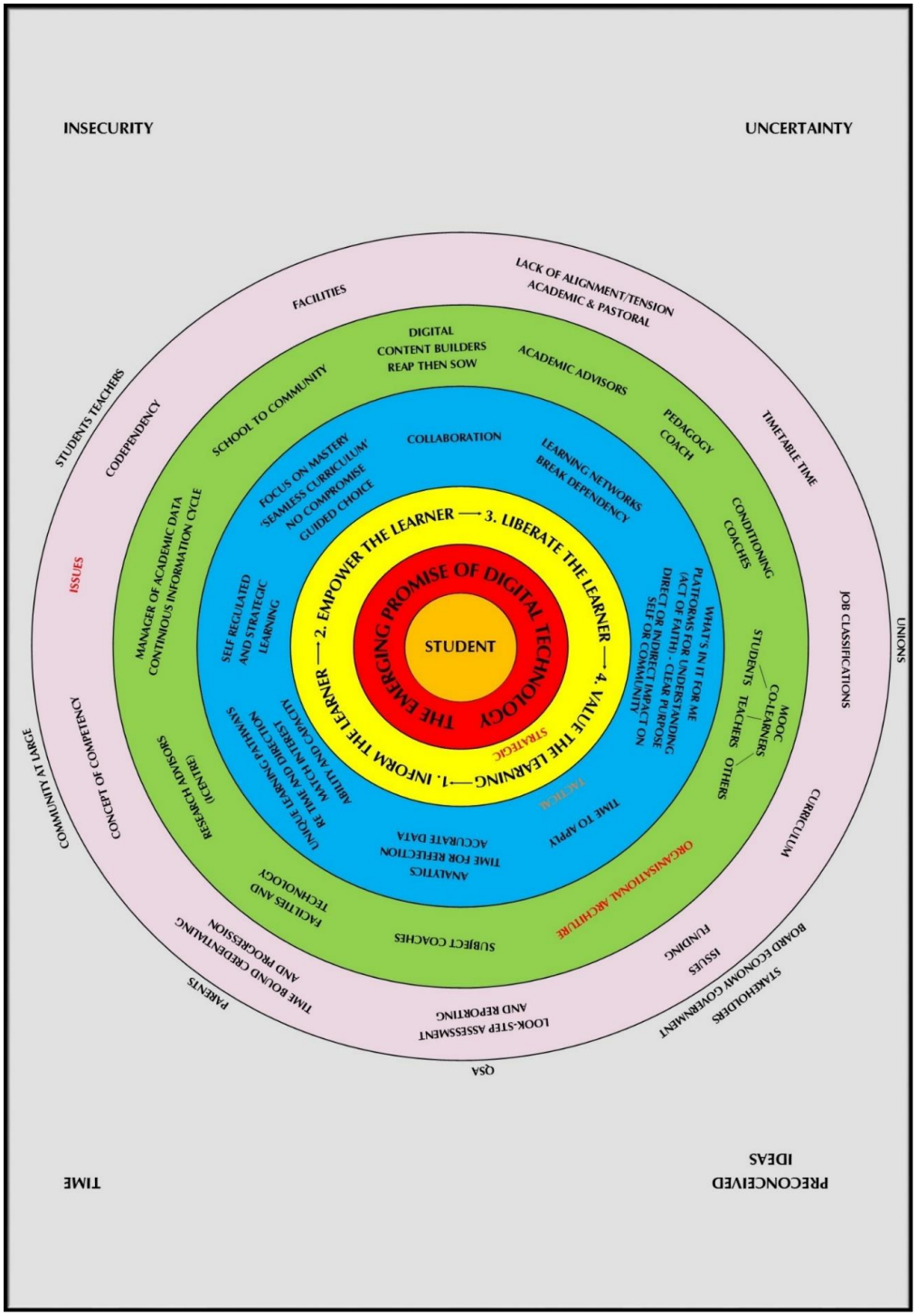

Figure 1.1 **The case study school’s new organisational architecture**

The section of the diagram shown in green identifies the key elements of the new architecture. In this organisational architecture, subject coaches are a reconceptualisation of subject teachers. Coaches are less focused on instructing class groups and more focused on refining the knowledge, skills and attitudes of individual students (Eiken, 2011). Research advisers focus their attention on building the inquiry skills of individual students. This will require them to monitor the skill development of every student. Designated staff members will promote school and community links. Digital content builders will ensure that educational material will appear in user-friendly form in the school's LMS. Pedagogy coaches will provide professional guidance to team members. Conditioning coaches will address fundamental weaknesses in the student's capacity to learn, many of which will be revealed in the student's data dashboard. MOOCs are included in the diagram as a proxy for many and varied elements of the student's learning network that reside beyond campus boundaries.

The managers of academic data (the student data dashboard) are responsible for the selection, collection and communication of fine-grained data to profile each student. These data must assist the team to answer four questions:

1. What? (What is the individual piece of datum?)
2. So what? (In what way is an individual piece of datum relevant to the student?)
3. Now what? (In what way can the education team assist the student to address and weaknesses and improve any strengths?)
4. Why not? (Why not try a different approach?)

An educational team is required, because few individual teachers would have the time or the skills to address all the educational and pastoral needs every one of their students. The complexity of personalisation requires a team-based approach.

AcAds make up the final piece of the architecture. As noted above, they were considered crucial to the change process because they offered students a personalised learning experience, formed a link between the school's academic and pastoral responsibilities, could help reduce students' dependence on their classroom teachers by performing some of the roles assigned to 21st C school-based educators, and provide them with personal support during the transition. This could be achieved by (a) promoting self-regulation and strengthening elements of each

student's learning power, (b) encouraging students to expand their learning networks, and (c) encouraging the students to value the contribution of an adult who was not a classroom teacher, and thus gain an appreciation of the benefits of working with a multi-faceted team.

An effective organisational architecture, as detailed above, could promote collaborative learning, encourage students to develop their own learning networks and reduce the current level of dependence on teachers at the student and organisational level. It could add meaning to each student's learning experience by encouraging a clearer understanding of the purpose of learning, create space (facilities) and time (by restructuring the school day) for students to apply learning, reflect on their progress and review their plans. It could also focus the team on the implementation of individual learning plans for each student, which are guided by data provided from analytics embedded in the LMS, adaptive programs and other subject-based assessment items. Such an architecture could allow each student to progress along their unique learning pathway and set 'mastery' as a personal challenge at each step along those pathways. Achieving these goals requires a change in the school's organisational architecture, but this change would prove fruitless if students were not self-regulating and empowered to learn.

Four interdependent strategic goals sat close to the heart of the model (as shown in yellow in Figure 1.1). These include 'inform the learner', 'empower the learner', 'liberate the learner' and 'value the learning'. The links between these goals and previously explained elements of the new organisational architecture are shown in Table 1.1. The new architecture would be made possible through the effective adoption of new digital technologies. The student was to be the paramount stakeholder and the focus of attention in the new architecture. The success of the approach would be reflected in the perceptions of students, their parents/caregivers, the AcAds and other members of the educational team. These perceptions were the focus of the Supporting Research Questions.

Table 1.1 provides an overview of the various elements of the new organisational architecture and their intended impact on the school's strategic goal of personalising learning. The elements were designed to create a synergy and deliver outcomes that could not otherwise be achieved. The AcAd Program was considered vital because it had a direct impact on the participating students, and ideally positioned them for success in a technology-rich, future-focused learning environment.

Table 1.1 ***Linking the strategic goals to aspects of the new organisational architecture***

Elements of the architecture	**Strategic goals as they apply to the individual learner**			
	Inform	*Empower*	*Liberate*	*Value learning*
Managers of Academic Data	Student has ownership of their data.	Student is assisted to develop data-driven action plans.	Student has ownership of and responsibility for their plans.	Student celebrates progress.
Subject Coaches	Ensure feedback is provided through embedded analytics or other carefully designed assessment.	Course designs allow students to pursue their individual interests as far as allowed by the mandated curriculum.		
Facilities and Technology	The LMS is crucial to the blended learning approach.	Greater flexibility provided regarding where and when to learn.	Facilities allow for greater collaboration and access to resources.	
Research Advisers	Students provided with the skills to build extensive learning networks.	Students assisted to harness their networks.	Students less dependent on classroom teachers as 'gatekeepers of knowledge'.	Learning artefacts more likely to be reflections of each unique learner.
School to Community Links	Students learn through their engagement with community members.	Students are acknowledged for their contributions.	Activities are not necessarily directly tied to the formal curriculum.	Student has an opportunity to see the impact of their contribution.
Digital Content Builders	Ensure the delivery of high quality material in the LMS.	LMS is easy to navigate and use to access material.	Takes learning beyond the classroom walls and the school day.	Flexibility of time and place reduced stress levels and provides time for reflection.
Pedagogy Coaches	Indirect benefit to students as they assist members of the education team to refine their approach to meet the needs of individual students. Pedagogy coaches focus the team members on the four principles.			
Conditioning Coaches	Provide face-to-face feedback on progress.	Address issues that might inhibit the student's ability to learn and achieve their goals.		Increased capacity to learn opens up more

				possibilities for the learner.
MOOCs and other learning programs	Increases student awareness of the range of learning options.	Students given access to far greater choice of courses and allows them to unearth and pursue new interests.		Students gain sense of achievement.
AcAds	Diagnostic tools provide the student with an insight into their approach to learning.	Greater levels of self-regulation and improved learning power strengthen the student's capacity for lifelong learning.	Greater levels of self-efficacy and a supportive learning environment allow the student to determine their own goals and approaches to achieving them.	Learners see themselves at the center of, and in control of the learning process, as opposed to a passenger on a journey not of their choosing.

The rationale for this study is its potential to contribute, in a timely manner, to the debate about the likely impact of disruptive innovations on traditional schooling. It emphasises the need for schools to shift away from a teacher-centric organisational architecture to one that employs a team of educators to meet the learning needs of individual students. The research focuses on the impact of the AcAd Program, which was an early step in the process of transformation, designed to support students through the process of removing teachers from centre stage and, in its own right, provide students with personalised attention.

1.5 The Complexity of Change

Theories relating to organisational change suggest that the transition to the new architecture is unlikely to be smooth (Bochman & Kroth, 2010; Christensen, 2002; Christensen & Overdorf, 2000; Christensen et al., 2001; Christensen et al., 2011; Kegan & Lahey, 2009). Impediments may take the form of lack of understanding, an inherent need to maintain control that stimulates active and passive resistance by teachers, lack of skill and insufficient time (Bovey & Hede, 2001). Change agents should therefore expect the process to be lengthy, complex, unsettling and uncertain. Indeed, Christensen and Overdorf (2000) advise that the quickest way to embrace disruptive innovations is

through a start-up, such as many Charter Schools in the United States, rather than remoulding an existing organisation. To heed this advice, which Christensen reconsidered in a later work (Christensen et al., 2011), would mean sending thousands of incumbent schools – including the case study school – to the scrap-heap. Educational leaders with a determination to see their schools thrive through disruption need to rethink the way their schools are organised, plan for change and prepare for a lengthy journey.

It is important to recognise that teachers will not be the only ones challenged on the road to a new organisational architecture. Parents/caregivers, whose concept of education has been formed by their own experience, may also have reservations about an unfamiliar model. New additions to the education team may feel uneasy as they intrude on what has traditionally been the 'teacher's turf', while those responsible for school governance may be reluctant to put at risk the school's reputation for achievement – built as it was within the traditional teacher-centric architecture (Christensen & Overdorf, 2000). Students who feel more comfortable in an environment where they know what they need to learn in order to achieve an 'A' might also be unsettled by the increased uncertainty that comes from taking the teacher off the stage (Drexler, 2010; Tam, 2000). Several studies note that the so-called 'digital natives' do not always effectively employ new technologies for learning (see Clarebout, Horz, Schnotz & Elen, 2010), so the leaders in the case study school deemed it important to provide students with support, in the form of guidance and reassurance, as they strengthened their learning power and improved their self-regulation (Bennett, Maton & Kervin, 2008). Preparing students for the new learning environment was considered the first priority. This was the rationale for the introduction of the AcAd Program.

Education is in the early stages of disruption and thus, as Christensen and colleagues' (2011) work suggests, it is characterised by an abiding faith in the traditional model of schooling. Ironically, this is the very time to rethink our approach. Unfortunately, as Bochman and Kroth (2010, p. 329) remind us, 'Historically, organisations have only evaluated their assumptions when forced by crisis or major failures'. The school's leaders believed it was time to question long-held assumptions about the role of the teacher and the place of the student before emerging forces of disruption manifested as a crisis for school education.

The task of recombining physical, digital and human resources in order to personalise learning is both compelling and confronting. It is compelling because it has the potential to reinvigorate learning, strengthen a school's position in the competitive market place, reduce a school's reliance on teachers as gatekeepers of knowledge, and more effectively provide the services required by a 21st C learner.[2] It is confronting because students are coming to see the fruits of technology as a right, and schools that do not provide a technology-rich, student-centred learning environment will be replaced by learning environments that do. There is a need for immediate action.

> If we do not effectively engage in ongoing education recombination, we risk letting the disruptions of the coming decade perpetuate inequities for learners, undermine the learning ecosystem's capacity to adapt, and narrow the impact of education innovations by keeping them largely uncoordinated, opportunistic, and fragmented. (Knowledgeworks & Saveri Consulting, 2012, p. 3)

Those who choose to meet these challenges do so because they want to ensure that their students are prepared for technology-rich world where successful lifelong learners will be strategic, self-regulated, resilient, confident, highly digitally literate, collaborative and connected (Drexler, 2010; Hernandez-Serrano & Jones, 2010; Martin, 2005; Murgatroyd, 2010; Tam, 2000; Weinstein, Acee & Jung, 2011; Zimmerman, 2002). Meeting the challenge will require patience, persistence and clever planning, developed with an organisation-wide perspective.

1.6 Background and Context for the Case Study

As outlined in more detail in Chapter 3, this research employed a case study approach, and was conducted in an independent, P–12, coeducational school in South-East Queensland, Australia. At the time of the study, the Years 7–12 component of the case study school was in the early stages of transitioning from a traditional architecture that revolved around the work of the teacher to a new 'education team' architecture that focused on the needs of the individual student. I was the Principal/CEO who reported to a College Board and worked closely with an executive team. The management team for

[2] A change in the role of the teacher might also be necessitated by demographic changes that make teachers an increasingly scarce resource, particularly in certain subjects and in remote areas (Carroll & Foster, 2009; OECD, 2003; Skilbeck & Connell, 2003).

the secondary years, where the AcAd Program operated, was divided into two groups: the Heads of Faculty and Subject Coordinators directly responsible to the Director of Studies for academic programs (course design, teacher performance, assessment, reporting and accountability); and Heads of Year, who were responsible to the Dean of Students for student welfare and behaviour management. Teachers and teacher aides reported to the Heads of Faculty, and teachers – the vast majority of whom were 'tutors' (homeroom teachers) – also reported to Heads of Year about low-level pastoral issues.

The range of subjects offered, the amount of time given to each at particular year levels, and the nature and timing of assessment, as well as the quality of education 'in the classroom', were determined by the skills and availability of the teaching staff. Classrooms tended to be cocoons where small groups focused for finite amounts of time on particular topics housed within distinct subjects. The emphasis in class was on knowledge and skill acquisition, with application and consolidation exercises often assigned as homework. The timetable, assessment schedules, length of the school day and length of the school year (number of days in session) were a function of the capacity of teachers at the school, industrial agreements relating to the work of teachers and other staff, and other externally determined policies and regulations – many as mundane as timetables for school buses.

The early stages of the transition involved:

- the development of a comprehensive LMS facilitated by a team of digital content coordinators under the leadership of a Director of e Learning
- the transformation of pedagogy from 'instructivist' to constructivist approaches
- the transformation of modes of delivery from one totally reliant on the physical presence of a teacher to one or more blended learning models
- the development of technology-enhanced learning spaces designed to facilitate collaboration, including a new Foreign Language Centre, an Information Centre, an Arts and Applied Technology Precinct, a Team Projects Area, a Learning Enhancement Centre, a Science-in-Action Centre and a redesigned space for station rotation activities for Years 7 and 8

- the development of a Data Dashboard, an extensive, easy-to-comprehend dashboard that profiled individual students
- the introduction of Massive Open Online Courses (MOOCs) as electives, and
- the introduction of the AcAd Program, which is the focus of this research.

The case study school introduced its AcAd Program in 2013 in order to:

- promote greater levels of self-regulation, the benefits of which were identified by Bell and Ackroyd (2006), Cleary and Zimmerman (2004), Greene and Azevedo, (2010), Pintrich and De Groot (1990) and Zimmerman (2002)
- improve aspects of each student's 'learning power' in order to provide them with benefits, such as those identified by Deakin Crick, Haigney, Huang, Coburn and Goldspink (2013)
- provide a link between the school's academic and pastoral agendas, and
- reduce students' dependence on classroom teachers by providing them a team of specialists and expanding their learning networks.

In a strategic sense, the AcAd Program was designed to equip students with the skills and dispositions to be independent learners and clear the way for the introduction of other aspects of the new architecture, including reframing classroom teachers as 'subject coaches' and introducing classroom teachers to the notion that they formed part of a team of educators working in the service of students. It also took the first steps towards personalizing the learning experience for the students in the program.

The AcAd Program was one dimension of a new organisational architecture for Year 7–12 students at the school. In 2015, there were 127 students who volunteered to be in the program out of a total senior school population of 700 students. This was an increase from 96 students in the previous year. These students represented 18 per cent of the total student population, with slight variations between 2015 and 2017. The AcAds themselves operated as contractors who invoiced the school each fortnight for the meetings they conducted with their students. The cost of the program was shared by the school, which met 53 per cent of the cost, and parents/caregivers. Meetings between students and AcAds lasted for 30 minutes, but the AcAds were paid for an additional ten minutes for record-

keeping. Each student met with their AcAd on at least fourteen, but no more than sixteen, occasions during the academic year, which in practice meant one meeting each fortnight after students had settled into the year. AcAds were required to brief parents/caregivers once each semester, although they were expected to obtain each student's permission before they shared information with their parents/caregivers[3].

Each student's learning disposition was assessed at the beginning of the year using the self-assessed Deakin Crick LeArning for Resilient Agency Profile (CLARA), which was the updated version of the Effective Lifelong Learning Inventory (ELLI) developed by Deakin Crick, Broadfoot and Claxton (2004) to assess learning dispositions. Each student from Years 9–12 also completed the self-assessed Learning and Studies Strategy Inventory for High School students (LASSI-HS), developed by Weinstein, Zimmerman and Palmer (1988), to gauge their level of self-regulation. AcAds used these data to guide their conversations with students and focus on the dimension(s) that, in the opinion of the AcAd and the student, would render the student most benefit. CLARA and LASSI-HS were not used as sources of data for this research project.

1.7 Structure and Organisation of the Thesis

This thesis is presented in five chapters. Chapter 1 has provided an introduction to the thesis. Chapter 2 presents a review of the literature that justifies the need to transform the school's organisational architecture and simultaneously promote greater levels of student self-regulation and learning power, which are a construct for measuring learning dispositions (Buckingham Shum & Deakin Crick, 2012). It reviews relevant literature on the implications of emerging digital technologies for pedagogy and learning, explains the need to abandon a teacher-centric approach to change, highlights the significance of the theory of disruptive innovations and some of the many theories of change, and introduces some of the recent work related to new organisational architectures in schools. Chapter 3 explains why a case study was chosen as a research method, describes the case study school in more detail and details the methodology employed for data collection and analysis. Chapter 4 presents a detailed analysis of relevant quantitative and qualitative data, with particular regard to the perceptions of students, parents/caregivers, AcAds and Heads of Year. Chapter 5 provides a summary of the study, including key conclusions

[3] The AcAds were, however, obliged to report any matters that were identified in the school's Child Protection Policies to the appropriate authority.

from the research, identifies limitations of the research and highlights factors to be considered by educational leaders and policy-makers regarding the organisational architecture of tomorrow's schools.

1.8 Conclusion

This chapter has explained the context for this case study research and presented the Key Research Question and Supporting Research Questions. It has established the significance of the study by highlighting the disruptive potential of digital technologies on traditional education, and alerted the reader to the complex nature of the change process. The latter sections of the chapter introduced the reader to the case study school and explained the structure of the thesis. The next chapter will review the most significant literature relating to the thesis topic.

I have emphasised the role that the AcAd Program was designed to play in preparing students for the new team-based organisational architecture. While the program was intended to render benefits to participating students in the short-term, from a strategic sense it was one early component of a much larger change agenda designed to prepare the school to reap the benefits of digital disruption. This research will make a valuable contribution if it alerts educators to the benefits of an AcAd Program at two levels; the benefits to participating students, and the strategic benefits of such a program to schools wishing to adopt a new organisational architecture.

Finally, he reader is reminded that digital innovations provided the context for the changes in organisational architecture and were not, per se, the focus of the research.

Chapter 2
Literature Review

2.1 Introduction

This research investigated an innovative change in the organisational architecture of a school, intended to focus on the needs of individual students in that school. Central to that shift in the organisational architecture was the development of an education team, designed to replace the prevailing traditional teacher-centric approach that formed the core of the industrial age model of schooling. The teacher-centric organisational architecture was designed during a time when teachers were the gatekeepers of knowledge, but digital technologies have triggered a process that will transition them out of that role. This teacher-centric organisational architecture has unnecessarily inhibited change. Blended learning, 'connectivism' and constructivist pedagogies, supported by a team of educators operating in a digitally rich environment, were seen as important elements in the personalisation process, and formed the backdrop to the research. Consequently, in presenting a review of relevant literature, this chapter devotes considerable attention to:

- identifying digital technology as enabling the adoption of constructivism and 'connectivism' in a hybrid blended learning environment (Drexler, 2010; Siemens, 2005)
- reviewing some of the research about the integration of digital technology in school education, providing examples of the teacher-centric focus that has dominated research until recently, recording many frustrated attempts to harness the potential of digital technology to enrich learning and explaining some of the complexities of the change process
- applying the work of Christensen and his collaborators (Christensen, 1997, 2002; Christensen, Anthony & Roth, 2004; Christensen & Overdorf, 2000; Christensen et al., 2001), who have examined the implications of disruptive innovations at the organisational level, especially as it relates to schools (Christensen et al., 2011)
- introducing the emerging body of work on a teams-based organisational architecture for schools, and
- explaining the logic of assisting students to self-regulate and strengthen aspects of their 'learning power' as an early step in the process of change.

Section 2.2 highlights some of the relevant literature that has identified the effective integration of digital technologies into the learning process as a necessary, but not sufficient, enabler of personalised learning. Section 2.3 cites some of the research into why the potential of digital technologies has not always been harnessed as intended by policy-makers and school leaders. Section 2.4 notes that many researchers and policy-makers have adopted a teacher-centric perspective that should, as I argue throughout this thesis, be superseded by a perspective that focuses directly on the needs of the student. Section 2.5 builds on this point by reviewing some of the research into teachers' adoption of digital technology. It draws on numerous examples of how the adoption of a teacher-centric perspective has enabled teachers to unnecessarily dictate the pace and direction of change. Section 2.6 presents some of the literature that has investigated the causes and effects of some teachers' controlling nature. Some of the relevant change theories are presented in section 2.7. The pivotal theory of disruptive innovation is explained in section 2.8, which leads into a review of some of the recent work calling for new organisational architecture in section 2.9. Seminal works on the importance of self-regulation and learning power are reviewed in section 2.10. The chapter's conclusion is presented in section 2.11.

2.2 Why is the Integration of Digital Technology Important?

An increasing number of commentators claim that personalisation of learning is desirable and within our grasp, due to emerging digital technologies (The Aspen Institute, 2014; Bailey et al., 2013; Bogden, 2014; Edwards, 2015; Eiken, 2011; Green et al., 2005; Patrick, Kennedy & Powell, 2013; Peters & Araya, 2011; Robertson, 2005; Staker, 2011; Tanenbaum, Le Floch & Boyle, 2013).[4] Patrick and colleagues (2013, p. 4) describe personalised learning as:

> tailoring learning for each student's strengths, needs and interests — including enabling student voice and choice in what, how, when and where they learn — to provide flexibility and supports to ensure mastery of the highest standards possible.

Emerging digital technologies enable schools to personalise the learning experience for every student. Digital literacies, constructivism and connectivism are all components of

[4] It should be noted that Robertson (2005) was an early critic of the move to personalisation, arguing that it exacerbated unhealthy individualism and competitiveness.

a technology-rich, personalised learning environment (Siemens, 2005). Ironically, many writers refer to the integration of digital technology in education or use the term 'technology rich' without explaining what these terms mean (for examples, see Gao et al., 2009; Graham et al., 2009; Groth, Spickler, Bergner & Barzell, 2009; Harris et al., 2009; Koehler & Mishra 2009; Price & Oliver 2007; Sugar et al., 2004). Drexler (2010), who describes a network of students connected through a series or ever-expanding nodes and guided by teacher facilitators, is a notable exception. According to Drexler (2010, p. 383), a technology-rich 'connectivist' environment is one in which ICT is integrated, and where:

> The student is challenged to synthesise diverse and extensive digital materials, connect to others interacting in respectful and meaningful ways, self-regulate an active approach to learning, and develop an option for lifelong learning that applies to virtually any curricular area. Once a student has learned how to construct a personal learning environment, he or she is left with a model of learning that extends beyond the classroom walls, one in which the learner assumes full control. Regardless of teacher control, the students' success will depend on how well they have been prepared in the processes that support learning in an ever changing, increasingly networked world.

Connectivism relies on students having both access to digital resources and the incentive to use them. Jonassen, Howland, Moore and Marra (2010, cited in Drexler, 2003, p. 374) clarify the meaning of the term 'constructivism' by contrasting it with the traditional, teacher-centred approach to education:

> knowledge construction, not reproduction; conversation, not reception; articulation, not repetition; collaboration, not competition; and reflection, not prescription.

High levels of digital literacy are seen as crucial to the process of personalisation. Digital literacy was defined by Martin (2005, p. 131) as:

> the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and

> synthesise digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process.

Martin and Grudziecki (2006) further emphasise the importance of learners' ability to scan for and employ ever-emerging technologies to help them learn and construct new knowledge. In common with all literacies, digital literacy is a moving feast that involves much more than teaching students how to navigate software that may soon be redundant. The richness in digital technology integration lies in its potential to mesh with this new pedagogy to promote lifelong learning, which Donnison (2009, p. 338), drawing on the work of numerous authors, describes as:

> being a problem solver, being able to learn new skills and strategies, being able to work across and see the interconnectedness of contexts, fields and portfolios and being able to apply new knowledge to novel situations … Such a person will be knowledgeable, capable, autonomous, organised, have an inquiring mind, love learning for the sake of it, be curious, questioning and critical, have a breadth of vision, and will engage in positive and productive self-reflection.

Hernandez-Serrano and Jones (2010) see digital technology as heralding a new relationship between teachers and learners, in which the student is self-sufficient and teachers guide students in their search for and use of online information. As an educational leader, I embrace their vision for a relationship based on four components, with one amendment as noted below:

> (1) the constructive mental activity of the learner; (2) the teachers' constant support; and (3), the content of teaching and learning (open knowledge), and now by inserting a new component in the process; (4) the use of information technologies for generating and sharing knowledge that the internet provides, turning it into an essential component of learning. (Hernandez-Serrano & Jones, 2010, p. 5)

My amendment takes the form of an emphasis on the role of a team of educators, rather than on the individual teacher. Drexler (2010) supports this approach when he contrasts

the central role of the teacher in the traditional classroom with a networked approach, in which students have the power to connect with experts in almost any field:

> The teacher is necessary to help the students navigate the breadth of content, apply the tools properly, and offer support in the form of digital literacy skills and subject matter expertise. Yet the teacher may not be the only expert in the learning process. The ability to locate expertise beyond the classroom walls is one powerful benefit of a well-structured personal learning environment. (Drexler, 2010, p. 374)

The Aspen Institute (2014, p. 33) also emphasised the importance of digital learning networks for the development of personalised learning:

> The key to this transformation is that the learner is at the center of the process, supported by peers, mentors, parents and educators, using networks that go beyond the traditional schools to support their learning. And because it is digitally based, all learning can be captured and credited, no matter when or where it occurs. As a by-product, the wealth of data that is generated on student learning can also be used productively by educators and students to customise programs for individual learning.

Therefore, it is apparent that digital technologies enable the development of personalised learning networks as well as providing opportunities to inform, empower and liberate the learner. Kop and Hill (2008) contibuted to the discussion:

> A paradigm shift, indeed, may be occurring in educational theory, and a new epistemology may be emerging, but it does not seem that connectivism's contributions to the new paradigm warrant it being treated as a separate learning theory in and of its own right. Connectivism, however, continues to play an important role in the development and emergence of new pedagogies, where control is shifting from the tutor to an increasingly more autonomous learner.

Without rapidly emerging digital technologies, there would be neither the opportunity nor the need to reconfigure the organisational architecture of tomorrow's schools. Unfortunately, there are numerous psychological, physical, financial, organisational and social obstacles that have impeded, and may still impede, the adoption of these technologies.

2.3 Attempts to Integrate Digital Technology into Education

Digital resources have been available in education settings for many years. Indeed, the integration of digital technology has been the object of various governments' policies, built on an assumption that it is the gateway to a twenty-first century education (Martin, 2005; Martin & Grudziecki, 2004; Moyle & Owen, 2008). Consequently, governments in many jurisdictions – including Australia – have allocated large amounts of funds for the purchase of computer hardware and software. Various researchers have also seen technology as having a vital role to play in effective teaching and learning, but note that progress in digital technology integration had often been unsatisfactory. By way of example, Groth and colleagues (2009) conclude that education remained 'instructivist' rather than constructivist in perspective. Elsewhere, Harris and colleagues (2009) describe the use of technology in education as 'transactional and not transformative', while Hennessy and colleagues (2005) depict digital technology use as narrow and inconsistent. Mishra and Koehler (2006, p. 1018) conclude that, 'in education the reality has lagged far behind the vision', while Ashrafi and colleagues (2009) note that most teachers were not even using technology as part of an instructional delivery system.

In attempting to explain the apparent failure of the so-called 'digital revolution', some researchers note a lack of appropriate hardware and software as impediments (Bauer & Kenton, 2005; Inan & Lowther, 2010). Even today, such access cannot be taken for granted and no doubt remains a significant barrier to progress in some classes, schools and systems. However, the focus of the recent debate has been on attempts to prepare teachers to employ the technology they *do* have to the best advantage. The most basic strategy to digital technology integration has been to simply provide the hardware and some software, and assume that users will acquire knowledge and skills – almost by osmosis – in what Sugar and colleagues (2004, p. 201) refer to as the 'Field of Dreams' – that is, the 'build it and they will come' syndrome. Garthwait and Weller (2005, p. 375) describe such an approach as a reliance on 'the 'unanticipated consequences' of laptops

as Trojan Horses for educational change', and note that even the provision of laptops to every student, as was the case in the US state of Maine, does not guarantee a transformation in pedagogy.

Recent research has focused on the effectiveness of various professional development programs (Graham et al., 2009; Groth et al., 2009; Harris et al., 2009; Koehler & Mishra, 2009; Mishra & Koehler, 2006). Harris et al. (2009) criticise the 'techno centric' approaches to teacher preparation that have been adopted by some education policy-makers. These approaches often include structured professional development courses that focus on particular software. These have been criticised for emphasising the technology instead of the students' learning needs in the context of particular curriculum-based content standards. While some level of technological competence was seen as contributing to more significant change in teaching (Garthwait & Weller, 2005), there remained a need to contextualise teachers' professional development with regard to educational technology (Bos, 2011; Kopcha, 2010).

2.4 A Teacher-centric Perspective

Sugar and colleagues (2004) see teachers as the critical variable in the process of digital technology integration. They emphasised the importance of explaining to teachers how the particular technology fits within their classrooms and also how it benefits them, as well as their students. Indeed, Koehler and Mishra (2009, p. 62) state that the knowledge acquired through teacher professional development 'is unlikely to be used unless teachers can conceive of technology uses that are consistent with *their existing pedagogical beliefs*' (emphasis added). In an earlier work, the same authors called for the approach to 'go beyond looking at technology and what teachers need to know to use it and not how it is used' (Mishra & Koehler, 2006, p. 1018).

Technological, Pedagogical and Content Knowledge (TPACK) is a conceptual framework that sought to unclutter the complex issue of digital technology integration and present it in a context that was familiar to teachers. Graham et al. (2009) saw TPACK as forming a solid foundation to further teacher development. They conceived of digital technology as a set of tools that assisted teachers to perform their tasks more effectively and, by way of practical contribution, they presented a long list of teacher knowledge in

the categories that constitute TPACK. Interestingly, very few of the items on the list have an obvious link to constructivism.

The findings of Harris and colleagues (2009) illustrate the importance of subject relevance in the discussion about technology integration. They found that subjects that were defined by the media they used – for example, music, literacy and art – and that placed great emphasis on student creation rather than teacher instruction, were the areas where the greatest transformation in teaching practice occurred. This is relevant to the following discussion about the psychological barriers to change. Harris and colleagues argued that it was a mistake for those responsible for teacher professional development to assume that all technologies were the same across all disciplines. Instead, they should have encouraged teachers to select the digital technology that suited their particular content or process goals within their own subject disciplines.

The TPACK framework went only part of the way towards addressing the concerns highlighted by Ashfari and colleagues (2009) that researchers in the area tended to focus on teachers' attitudes, abilities or use of digital technology in isolation, and failed to understand pedagogical, psychological and cognitive barriers to change with respect to pedagogy. The TPACK framework recognised that, when correctly employed, technology enabled teachers to teach more efficiently and effectively, but it did so while maintaining faith with the instructivist model. This criticism was supported by the work of Graham and colleagues (2009), which focused on the application of the TPACK framework with in-service science teachers and found that, even at the end of a subject-specific teacher professional development program, teachers were more open to using technology for teaching science, rather than *doing* science (emphasis added). Digital technology resources were still kept in the hands of the teachers and not the students, and were largely used as an instructional tool rather than a tool for learning.

Findings such as these indicate that, while TPACK provided a useful framework for classifying digital technology integration and for focusing teachers on relevant and manageable parts of the complex and expanding world of technology, it did not of itself provide a blueprint to embed constructivist or connectivist pedagogy in a technology-rich environment. TPACK should be part of the overall approach to integrating digital technology, but there are deep-seated issues that need to be addressed first. As Donnison

(2009) notes, teachers must master digital technology, but they are naturally conservative and unlikely to fully embrace constructivism. Educational leaders therefore need to investigate ways to overcome or circumvent psychological and capacity barriers that have to date frustrated the integration of digital technology in education. The strategy employed by the case study school constituted such an attempt.

2.5 The Record of Teachers' Adoption of Digital Technologies

Sugar and colleagues (2004) worked with teachers across four schools located in the south-eastern part of the United States in order to examine their beliefs about the adoption of digital technology. They were particularly interested in the degree to which these beliefs constituted reasoned, deliberate and intentional decision-making processes, as theorised by Ajzen (1985). They concluded that teachers' decisions about technology adoption were influenced by individual attitudes that were a function of their underlying personal beliefs about the consequences of adoption. Ashfari and colleagues (2009) drew similar conclusions. Interestingly, their report began by affirming their commitment to a design approach based on the needs and interests of the user, which they construed as the needs and interests of the teacher rather than the student. Like many of their colleagues, they were captives of the teacher-centric, instructivist paradigm.

As Sugar and colleagues (2004, p. 201) indicate, 'When developing effective and appropriate educational technologies it is critical for developers to anticipate and address teachers' technology needs.' They identify the critical variable in the adoption and integration process as teachers, of whom only one third described themselves as 'well' or 'very well prepared' to use the computers that were readily available in their classrooms in 2002. The authors refer to Hope's (1997) claim that teachers have to deal with two factors when attempting to integrate technology: learning to use the technology and dealing with the psychological effect of change.

Sugar and colleagues (2004) employed the Theory of Reasoned Action to explain how and why teachers responded to change. They claimed 'that human behaviour is intentional and that an individual's stated intention to engage in behaviour is the most immediate predictor of that behaviour' (Sugar et al., 2004, p. 202). The theory explained how one's attitude towards a behaviour (influenced by a number of factors, including self-efficacy), subjective norms (influence by one's perceptions about the attitude(s) of significant

others towards the behaviour), and perceived behavioural control (beliefs one holds about the availability of resources and opportunities) determined one's intended behaviour. The authors, 'Chose to view teachers as reflective, rational practitioners whose technology adoption decisions result from thoughtfully considering the consequences, social support, and resources available to them' (Sugar et al., 2004, p. 203).

Their study employed open-ended questionnaires and semi-structured interviews with a purposive sample of six teachers and a close-ended questionnaire completed by 30 teachers in a faculty.[5] Their data identified a number of salient beliefs held by the sample group about the consequences of adopting new technology.[6] They concluded that the personal component was the sole predictor of the teachers' intentions to adopt technology.

> Based on our study's results, technology adoption is a personal decision, uninfluenced by other people and the presence of resources or impediments in the local school/district … Though teachers' decision [sic] focuses on the consequences for students … the student plays a non-significant role as either a social or contextual influence. (Sugar et al., 2004, p. 211)

The study finished with a call for administrators to focus on the potential benefits for teachers:

> Critical stakeholders (e.g., administrators) affecting teachers' adoption decisions need to clearly communicate their vision of the benefits of and provide implementation support for adopting new technology in teaching. This communiqué should not be an exclusive directive, but a message that supports and enables teachers to collaborate in ways that directly benefit teachers, as well as their students. (Sugar et al., 2004, p. 211)

[5] I prefer not to divert attention to a discussion of faults with their research design at this point.
[6] These included the positive benefits to students with regard to researching and future job skills as well as holding students' interest and approaching learning in novel ways. Countering these were concerns about computers being distracting, students largely being attracted by the entertainment value (and becoming bored with their teacher), and students becoming over-dependent on technology.

Ashfari and colleagues (2009) also emphasise the significance of individual teachers' personal characteristics, including their own learning style, as factors determining whether or not they embraced digital technology.

Hennessey and colleagues (2005, p. 158) also focus on the significance of personal factors and note that 'concerns about disruption to established pedagogic approaches may lead to caution and additional limits to change'. They warn about viewing digital technology as 'an innovation to be administered and then adopted by teachers' (Hennessy et al., 2005, p. 159), and the associated tendency to underestimate the degree of change required in teachers' understandings and beliefs. This excellent paper is one of the few to have recognized the complexity inherent in the integration of digital technology, and to make some interesting observations in the process. The authors note the lack of research into how and why subject cultures – which are so significant in secondary schools in Australia – differentially affect teachers' use of digital technology. They highlight one Canadian study by Goodson and Mangan (1995), which concludes that, in some subjects such as English, the lack of congruence with, or colonisation by computers, generated resistance to the integration of digital technology. Another study, conducted by Selwyn (1999) in England, focused on the concept of cultural transparency and concluded that, in some subjects, the disruptive aspects of computers became highly visible, while their cultural significance/benefits become highly invisible to teachers. Hence these technologies were seen to have been more readily integrated in the Mathematics and Science departments than in others.[7] Both studies supported the notion that teachers accepted or rejected digital technologies that fitted their own perspectives on teaching and learning, and that a range of factors (attitudes, confidence levels, cognitive and emotional styles, and social identities) influenced teachers' behaviour. Hennessey and colleagues (2005) went on to identify numerous other factors that influenced teachers' adoption of technologies,[8] some of which are exogenous.[9] When taken together, they constituted a very complex and individualised formula for change.

[7] I note that this is not borne out by the latest evidence in the case study school, where Mathematics and Science have used a limited range of digital technologies for years, but show resistance to integrating web-based technologies and implement blended learning. The same cannot be said about the Humanities and English departments.

[8] These include lack of confidence, experience, motivation, training, access to resources, timetabling constraints and unreliability of equipment, as well as interpersonal and pedagogical skills (Hennessey et al., 2005, p. 162).

[9] These include externally mandated policies and curricula.

Hennessy and colleagues' (2005) research focused on how teachers in the Cambridge district of England saw digital technology as contributing to successful practice. The first phase of their research involved group interviews involving students in different age groups, as well as teachers from Mathematics, Science and English departments. Poor access to digital resources, curriculum and assessment requirements, and teacher expertise and confidence with technology were identified as major obstacles to change. Despite this, the authors concluded that most of the teachers they interviewed were open, rather than resistant, to change and were committed to using digital technology in their classrooms. However, these teachers were found to be conservative in their approach to harnessing the potential of technology in all three departments. Teachers' concerns included uncritical use by students, the need to use digital technology only where it added more value than the alternatives, 'and the potential sabotage of some key aspects of established subject cultures' (Hennessy et al., 2005, p. 185). They recommended bringing teachers to the point where they developed their own reflective classroom practice that integrated digital technology, but noted the enormity of this task. They identified the externally imposed prescriptive curriculum in England as an obstacle to the transformation of subject practices that they believed would be required if the potential of digital technology was to be realised. They concluded on an optimistic note, citing their research as evidence that English teachers were 'generating, trialing, and critically reflecting on some new forms of activity, resources, and strategies for mediating ICT-supported subject learning in their classrooms' (Hennessy et al. 2005, p. 187).

They recommended building communities of practice of teachers associated with digital technology use in order to build confidence and address inequalities with regard to access. There is no doubt that access to digital technologies has increased, partly due to falling costs, but this does not mean that it is being used to its full potential for the benefit of students.

2.6 Teachers in Control and at the Gate

The integration of digital technology has the potential to empower students to learn from an ever-expanding array of digital networks and, as such, it reduces the level of control exercised by the teacher. Teachers who see their role as 'controlling' rather than orchestrating the learning process may be resistant to such a change. Reeve (2009) investigated the reasons for, and effect of, teachers having a controlling style, which many

maintain despite knowing that students benefit emotionally and developmentally when they are given greater autonomy. 'Controlling' was defined as:

> the interpersonal sentiment and behaviour teachers provide during instruction to pressure students to think, feel, or behave in a specific way … Its opposite is autonomy support, which is the interpersonal sentiment and behaviour teachers provide to identify, nurture, and develop students' inner motivational resources. (Reeve, 2009, p. 159)

Reeve (2009) cites research by Assor, Kaplan and Roth (2004) and by Reeve, Jang, Carrell, Jeon and Barch (2004) that indicates teachers most commonly exhibit controlling behaviours. Reeve provides detailed examples of controlling behaviours while explaining how these behaviours impact negatively on students, and contrasts these with more autonomy-supportive styles that require the teacher to acknowledge students' capacity for autonomous self-regulation. The case study school's AcAd Program aimed to position the students for autonomous self-regulation.

Reeve (2009) classifies the reasons why teachers adopted a controlling style as 'pressure from above', 'pressure from below' and 'pressure from within'. Pressure from above is associated with society's view of the teacher as a power figure, the dual burdens of responsibility and accountability, the notion that controlling behaviours are more culturally valued and the association of control with structure (and the absence of control with chaos). Reeve (2009) only provides one reason why pressure might come from below – for example, from students – and this relates to teachers responding to episodically unmotivated or unengaged students. It would be interesting to investigate other pressures from this quarter, such as how students conceive the role of the teacher within a particular school culture. Pressure from within can be caused by teachers' beliefs about student motivation being rooted in the 'maximal operant principle', and the possibility that teachers are motivationally or dispositionally oriented towards a controlling style (Reeve, 2009). That researcher argues that there is a power differential inherent in the teacher–student relationship. This is based on the teacher's greater authority, experience, expertise, status and social position. Teachers can make a choice to be autonomy-supportive, 'but a controlling style is consistent with the occupation of an inherently powerful social role' (Reeve, 2009, p. 164).

In 1975, Hollingshead, of Yale University, produced a working paper entitled 'Four Factor Index of Social Status', which classified teachers of various kinds by their social status. Teachers at universities were ranked at the highest level (nine), secondary school teachers scored eight, while primary school teachers scored seven. The only element of the index that would explain the difference is the perceived superior knowledge base of the teachers. In other words, teachers' social status was a function of their perceived mastery of their subject discipline. It is possible that some/many secondary school teachers believe that the integration of digital technology in order to promote constructivist/connectivist learning will erode the importance of their knowledge base and, with it, their social status. This may go part of the way to explaining why they have not embraced the technology in the manner predicted by policy-makers.

This message is reinforced by Hoyle (2001), who defines occupational prestige as 'the public perception of the relative position of an occupation in a hierarchy of occupations' (Hoyle, 2001, p. 139). Generally, the occupation described as 'school teaching' is found in the upper quartile of the range, below the major professions. When 'primary' and 'secondary' teachers are presented as different titles, primary school teachers rank lower than their colleagues. Hoyle (2001) also reminds readers that, until relatively recently, primary teachers were paid less than senior school teachers, which itself was a reflection of the lower regard in which they were held by educational policy-makers, if not the general public. He hypothesises that it was the teachers' relationship with their clients, who are groups of children (as opposed to individual adults), that had the strongest impact on image and prestige. Other factors included teachers' salaries and a perception that they had lower school-leaving qualifications than those who entered other professions (they were not as 'academic'). Hoyle (2001) goes on to note that ambiguity also had an impact on occupational prestige. A teacher deals with the whole child by attending to the child's personal, social and moral development, and this causes them to deal with a range of cross-curricular matters. The fact that the teaching role is somewhat ambiguous undermines their prestige in societies that value specialisation (Hoyle, 2001).

Hoyle (2001) refers to two types of teacher professional knowledge: knowledge of content and knowledge of transmission, noting that:

> The necessity of subject content knowledge is rarely questioned while the relevance of theories of transmission has always been questioned both outside the teaching profession and within. The competencies needed by teachers have also been widely contested … (Hoyle, 2001, p. 143)

From this, one could hypothesise that teachers are defensive about eroding the importance of their subject knowledge, and sensitive to suggestions that they are not yet masters of pedagogy. Hoyle (2001) notes that teaching was in the process of professionalisation (acquiring the prestige associated with a profession) for much of the twentieth century. This involved strengthening the university connection by consolidating an all-graduate occupation – again demonstrating the importance placed on mastery of specialised knowledge – and this may have caused teachers to see the constructivist/connectivist movements, associated with technology-rich learning environments, as threats.

The debate about 'new professionalism' in teaching was another focus area for Hoyle (2001). The 'new professionalism' agenda, which was designed to enhance the prestige of teaching, involved the adoption of 'managerialism, technological innovation, competition and rigorous accountability' (Hoyle, 2001, p. 148). The approach was, in Hoyle's view, unlikely to enhance prestige, because the teachers' clients would still be children. Even transforming education to a point where professionals with technical and managerial skills performed instructional duties would not necessarily lead to an improvement in prestige; however, the change in the nature of interpersonal relationships between teachers and students could lead to a loss of esteem in the eyes of the community in general. The impediments to the adoption of digital technology in the learning process didn't just revolve around practical considerations, such as access to technology and time for professional development, planning and finding or creating digital material. The desire of some teachers to maintain their position as 'gatekeepers of knowledge', and their concerns about technology diluting their relationships with their students, constituted more significant barriers.

2.7 Significant Theories Explaining Teachers' Response to Change

Bochman and Kroth's (2010) excellent paper synthesised Argyris and Schön's (1978) Theory of Action (Espoused Theory and Theory in Use) and Kegan and Lahey's (2009) Theory of Immunity to Change. This type of analysis is important if we are to better

understand teachers' reluctance to embrace the full potential of digital technology to transform the learning process. Espoused Theory (Model I of the Theory of Action) explained that the attempt to maintain control is the central impediment to individual and organisational change. This was seen as anti-learning behaviour involving complex, tacit and disguised defensive routines at both the individual and organisational level. It was claimed that most of the strategies employed to promote learning and change inadvertently strengthened these routines. Productive double-loop learning is a challenge because it questions the very basis on which decisions are made, and consequently self-protection acts to impede the transformation.

Kegan and Lahey's (2009) research led to their theories about immunity to change. They observed that even people with a sincere desire to change, as may be the case with many teachers, were unable to sustain the transformation. They believed this was because many people unconsciously divert their energy towards hidden competing commitments. Bochman and Kroth elaborate:

> Externally it may appear they are resisting learning and change when in reality they are experiencing a type of personal immunity to change. This personal immune system is an intricate balanced scheme carefully designed to protect the individual and manage anxiety. However, when there is a change in the assumptions on which the scheme was built, the immunity misdiagnoses the condition as a threat and enacts the oppositional (counterproductive) response. (Bochman & Kroth, 2010, p. 332)

In effect, the individual is conflicted by two opposing drives: the desire to change and the desire to avoid threats. Bochman and Kroth identify the gap between what we want to achieve and what we are able to achieve under these circumstances as the 'central learning problem' of this century. Prospects for transformational change are therefore limited by the individuals' ability to recognise and embrace the need for change – a process that requires significant personal effort and time, which no doubt includes time to reflect. Organisations are also limited by how their members are positioned on the plateau of mental complexity: the socialised mind (good team players heavily influenced by what they believe others desire); the self-authoring mind (effective in managing their lives but have difficulty adapting it to the critical parameters of their environment shift); or the self-transforming mind (whose ability to evaluate their own assumptions and reframe

their perspective on receipt of new data enables them to handle complex adaptive challenges) (Bochman & Kroth, 2010). They would argue that the success of teacher-focused change will rely on a significant number of teachers having self-transforming minds.

Bovey and Hede (2001) explain the significance of well-developed and habitual defence mechanisms that protect individuals from change and associated feelings of anxiety. This resistance is seen as a natural and expected part of the change process that involves going from the known to the unknown. Their research, using judgemental sampling in a non-contrived setting, took place across nine organisations that had experienced significant change. They note that individuals experienced change in different ways and at different speeds. They also acknowledge the need to address unconscious motivations. However, they claim that the vast majority of organisational change was dealt with as a technical issue and overlooked more complex dimensions of the process. Bovey and Hede (2001) suggest that organisations employ information and counseling-based interventions. Technical interventions would provide awareness, but an understanding of unconscious processes and the impact these often have on motivation and behaviour during change would assist individuals and groups to understand how their own defence mechanisms influence their response. However, within organisations there reside individuals who exert differing levels of resistance, depending on their past experiences, fears and worries. Adopting an approach that is sensitive to an often-large number of individuals (as is often the case in schools, and is definitely the case in school systems), each with a unique profile of concerns, would be difficult – if not impossible – to achieve. Notwithstanding educational leaders' pastoral responsibilities to teachers, one might argue that once the focus of the service supply chain shifts to the individual student, it is no longer necessary to focus so much attention of convincing teachers of the need to change.

Once again, the issue of social status may provide an insight into why teachers have not been prepared to harness the potential of digital technology to personalise learning. Policy-makers and other commentators who have expected that teachers, and in particular senior school teachers of subjects with more specialised knowledge bases, would embrace transformational technologies that liberate students have been naïve. In many respects, the 'Field of Dreams: if you build it they will come' approach has also been applied to teachers in the form of 'if we provide it, they will embrace it'. This is a flawed assumption,

especially if teachers see that the technology being provided undermines their power, authority and status. Of course, teachers adopted transactional technologies (from PowerPoint to interactive whiteboards) that represent an extension of their traditional instructivist work. The issue of adopting technology that is associated with a redefinition of the role of the teacher is another far more complex matter, and it should be seen through the prism of change at both the organisational and individual levels, with all its associated psychological and sociological implications (Ashfari et al., 2009; Bochman & Kroth, 2010; Bovey & Hede, 2001).

Of course, we could wait for a new generation of teachers to populate our schools, but there is little evidence that Generation Y teachers – the so-called 'digital natives' – will be champions of change (Nagel, 2017). Donnison (2009) conducted research involving seven pre-service primary teachers in South-East Queensland. The data she gathered through structured interviews, scenario planning workshops, and focus group and telephone interviews led her to conclude that 'Generation Y have appropriated the discourse of change in the context of digital technology, but it does not indicate an overall capacity for change agency' (Donnison, 2009, p. 336).

She was not alone in drawing these conclusions. She cited the work of a number of other researchers to conclude that,

> this generation purportedly exhibits technological efficiency, confidence, optimism, enthusiasm, sociability, conservatism, idealism, an orientation towards success, tolerance, and social, environmental and community awareness … [yet] few authors describe this generation as flexible, adaptable and able to manage change outside their engagements with technologies. (Donnison, 2009, p. 338)

Gao and colleagues' (2009) Singapore-based mixed methods research into the approach of over 300 trainee teachers reached similar conclusions. They found that the majority of beginning teachers were able to use digital technology to improve their teacher-centred instruction, but were unable to transfer their commitment to constructivism into practice. The authors support their claim by referring to a 'long list of research that indicates most pre-service and beginning teachers are unable to use innovative and creative ways for promoting students' higher order thinking' (Gao et al., 2009, p. 714). They attribute the

phenomenon to the sheer complexity of focusing on technology and constructivism among their other duties. Carroll and Foster (2009) also found that young teachers were not necessarily equipped to lead the profession towards the new pedagogy. Even if younger teachers did have greater affinity with technology, their inexperience may require them to focus on other aspects of teaching at the cost of being at the vanguard of change. Evidently the new generation of teachers considered themselves to be future change agents, but they were reluctant to accept responsibility for that change. Waiting for the next generation of teachers to lead a revolution in education might not be a prudent strategy.

2.8 Disruptive Innovations

The psychological and sociological barriers identified thus far are not the only obstacles to change. Christensen's significant work on organisational change distinguished between sustaining and disruptive technologies. Sustaining technologies enhance the ability of a good or service to satisfy consumers in the mainstream market because they are aligned with the values in that market (Christensen & Overdorf, 2000). Such technologies represent incremental improvements (refining resources and processes) in the organisation's ability to deliver on its existing value proposition. Disruptive technologies, on the other hand, take root in markets of non-consumers, and initially are seen as inferior to the technology employed by incumbents in the mainstream market. They are employed to deliver a service that is viewed as more flexible, convenient and/or cheaper (Christensen, 2002; Christensen et al., 2001). Initially, they are (legitimately) seen as inferior to the services offered in the mainstream market, but they transition into the mainstream by finding simple applications and then improving them until they appeal to mainstream customers (Christensen, 2002). One could argue that many Charter Schools in the United States, created as they were (and still are) by parents/caregivers who felt that the traditional approach was failing their children, are providing a nursery for these disruptive educational innovations.

Christensen's disruptive innovations theory states that successful organisations fail because they are well managed according to criteria for success in the established market, and the very attributes that generate this success hamper their ability to respond to disruption. The fact that successful incumbents often lead the way in the adoption of sustaining technologies does not protect them from the effect of the disruptive technology,

with the classic case being Kodak's decision to stick with film despite being involved in the early development of digital photography. Christensen found that disruptive innovations always killed the industry leader, even though these new technologies were relatively simple, because the successful incumbents were organised to exploit sustaining technologies and were incapable of adopting the disruptive technologies.

The tendency to view digital education technology as a sustaining innovation instead of through the prism of disruption may explain why so many attempts to embed these innovations in mainstream education have resulted in frustration. The two types of innovation require different strategic responses. The mainstream education market has been teacher-centric. It has emphasised the employment, training, monitoring, motivation, and resourcing of teachers as a vehicle for the better delivery of educational services to students. Teachers have been the focus of the traditional school's supply chain. Digital educational technologies, and the blended and virtual innovations that are enabled by them, have the potential to shift the focus from the teacher to the individual student. Indeed, the most recent technologies adapt themselves to the learner, redeploying teachers from being 'gatekeepers of knowledge' into the role of 'orchestrators of learning'. This challenges leaders of successful schools as well as teachers, and causes them to form a subconscious alliance to defend the traditional school from the threat of disruption.

Finally, there is little evidence that educational leaders or researchers have assessed how well traditional classroom teachers are equipped to perform these new roles, with the work of Hannon and colleagues (2011) and Prince and colleagues (2015) being among the few notable exceptions. Evidence suggests that change leaders have naïvely expected teachers and school leaders of traditional schools to adopt technologies that, in their mind, undermine the value of the individual and the value of the organisation in the mainstream market. Change has not occurred as originally envisaged because change agents have not taken into account the individual's capacity for change, the organisational constraints that act as barriers to transactional change, or the deeper cultural and psychological factors that act as barriers to transformational change in schools that have for centuries relied on teachers to instruct students. Their adherence to the teacher-centric organisational architecture of yesterday's successful schools inhibits their ability to adapt and consequently exposes tomorrow's schools to the negative consequences of disruption (Christensen, 1997; Christensen et al., 2011; Hannon et al. 2011).

2.9 A New Organisational Architecture

If educational leaders are to take full advantage of emerging technologies, they will need to redesign their schools, shifting their focus from the work of the teacher to the needs of the individual student as they operate in a technology-rich blended learning environment, supported by a team of educators that extends beyond the classroom teacher (Bailey et al., 2013; Bogden, 2014; Carrol & Foster, 2009; Kennedy & Soifer, 2013; Knowledgeworks & Saveri Consulting, 2012; Sugar et al., 2004). The most effective way to embrace technologies that disrupt established market players is to establish or acquire a new venture that is unencumbered by the self-imposed restrictions associated with prior success (Christensen, Alton, Rising & Waldeck, 2011). Thankfully, Christensen and colleagues (2011) suggest an effective response for established schools. They reject inadequate funding, insufficient numbers of computers, unmotivated students, the US teaching model and teachers' unions as excuses for not meeting the community's aspirations for schools. They recognise that schools have been improving, despite having an increasing number of expectations placed upon them, but they also call for schools to develop a new organisational architecture that will enable them to focus on meeting the needs of individual students rather than class groups. They remind us that:

> Disruption is a positive force. It is the process by which an innovation transforms a market whose services or products are complicated and expensive into one where simplicity, convenience, accessibility, and affordability characterise the industry. (Christensen et al., 2011, p. 11)

Their prescription requires educational leaders to coordinate their physical, digital and human resources in a modular, student-centric architecture. They reject monolithic technologies – whether they are teachers lecturing to class groups or computer software that are little more than digital textbooks. They suggest that schools:

(a) allow the disruptive technologies to take root, as they always do, in the market for non-consumers.
(b) observe the incubation of these technologies outside the formal education system and their development into a new commercial system in education, and
(c) reshape their organisational architecture from the earliest years of schooling (Christensen et al., 2011, p. 124).

The authors present a model to explain the role of various teams within the organisation:

> Heavyweight teams are tools to facilitate the new ways of working together that are required to generate new product architectures. In contrast, lightweight and functional teams are tools to exploit existing patterns of responsibility that match the existing architecture. (Christensen et al., 2011, p. 215)

The final type of team is described as an 'autonomous business unit', and its task is to tackle a disruptive business model innovation. Christensen and colleagues explain that:

> A project is disruptive if the mechanism for making money in the new effort is incompatible with the profit formula by which established business units prosper. An autonomous team is a tool to create a new economic model that can profitably serve the new market … (Christensen et al., 2011, p. 215)

Christensen had previously recommended establishing a start-up business as the best way to circumvent the organisational barriers to transformational change. In their 2011 work, Christensen and colleagues propose an alternative in the form of heavyweight teams and forceful leadership. They illustrate their model using the example of Lee Kuan Yew in Singapore. However, they fail to recognise the inherent risk associated with excessive staff changes or low staff morale in school communities.

The digital technologies associated with changes in the position of students, classroom teachers and other educators in the education supply chain, as explained above, disrupt existing practices and power structures, and call for a fresh organisational architecture (Christensen, 2002; Christensen & Overdorf, 2000; Christensen et al., 2001; Christensen, et al, 2011; Hannon et al., 2011; Murgatroyd, 2010). Emerging digital technologies represent a significant shift in the educational landscape. Operating as part of a team, educators have a vital role to play, but while the teacher was the focus of the educational supply chain in yesterday's schools, the focus of tomorrow's schools needs to be each individual student (Knowledgeworks & Saveri Consulting, 2012).

There is no ‘switch to flick’ that will hasten the process of organisational transformation. Short of undermining the business model of incumbent schools, leaders will need to implement strategies that will gradually build teams of specialists such as those previously presented in Figure 1.1 (see Chapter 1). Financial budgets require time to develop and apply, but the main reason for a measured approach relates to a desire not to alienate teachers (for reasons of welfare and because disgruntled teachers have the potential to undermine the confidence of students and their parents/caregivers), while preparing students – who traditionally have been dependent on classroom teachers – to exercise greater control over, and responsibility for, their own learning. The AcAd Program, designed to position the students in this way, was seen as an important early step in the gradual process of transformation.

2.10 Increasing Self-regulation and Learning Power and the Role of the Mentor

Definitions of self-regulated learning have, over time, incorporated individual and social factors (Butler, 2002). Schraw (2010, p. 258) focuses on the individual learner in describing self-regulated learning as:

> monitoring and controlling one’s own cognitive performance before, during, and after a learning episode. Self-regulation includes elements of planning, goal setting, strategy implementation, summarizing, and monitoring one’s progress.

Cleary and Zimmerman (2004, p. 538) provide a more detailed description, which has been used as a guide to the thematic analysis of data in Chapter 4:

> self-regulation is defined as self-generated thoughts, feelings, and behaviors that are planned and cyclically adapted based on performance feedback to attain self-set goals (Zimmerman, 1990). In general, self-regulated learners are proactive learners who incorporate various self-regulation processes (e.g., goal setting, self-observation, self-evaluation) with task strategies (e.g., study, time-management, and organisational strategies) and self-motivational beliefs (e.g., self-efficacy, intrinsic interest). (Cleary & Zimmerman, 2004, p. 538)

Butler (2002, p. 60) provides a useful reminder that self-regulated learning occurs ‘when students are motivated to reflectively engage in learning activities within environments that foster self-regulation’. From this perspective, self-regulation should be seen as a

manifestation of the traits of individual learners and the culture of the school in which they operate. As Cleary and Zimmerman (2004) point out, students are often not provided with opportunities to self-regulate in classrooms. Student self-regulation can therefore be fostered or depleted by circumstances that vary between schools, classrooms and the individual students operating within them. This again highlights the need for a new organisational architecture, designed to place empowered and liberated individual students at the centre of learning endeavours.

Learning power is described by Buckingham-Shum and Deakin Crick (2012) as a construct for modelling learning dispositions. There are several dimensions of learning power related to this research: changing and learning; meaning-making; dependence and fragility; learning relationships; and strategic awareness. Changing and learning refers to students understanding that they can learn how to learn. Meaning-making occurs when students look for links between what they are learning and what they already know. This occurs when learning matters to the student. Dependence and fragility is a spectrum on which students lack resilience and tend to give up and become anxious when they make a mistake. Fragile and dependent learners convince themselves that they are not capable of learning. Resilient learners, on the other hand, persist. Learning relationships looks at the extent to which students work interdependently. Students with healthy learning relationships wisely choose when to work alone and when to work with others. Strategic awareness is demonstrated when students explore their learning environment and alternative ways to learn, and reflect on their progress.

The ability to self-regulate and the capacity to be empowered as a learner are important contributors to the success of students operating in any learning environment, technology-rich/personalised learning environments being no exception (Arnito, 2008; Barnard, Lan, To, Paton & Lai, 2008; Buckingham-Shum & Deakin Crick 2012; Cho & Shen, 2013; Deakin Crick, Huang, Shafi & Goldspink 2015; Drexler, 2010; Greene, Muis & Pieschl, 2010; Lynch & Dembo, 2004; Priest, Rudenstine & Weisstein, 2012). Self-regulated learners exhibit greater self-control, self-discipline and self-direction, and better mental health (Tavakolizadeh, Yadollahi & Poorshafei, 2012). In this respect, AcAds have the potential to impact on both the academic performance and mental health of students in the program. Evidence of increased self-efficacy/personal empowerment, as well as reduced stress/anxiety, goal achievement, information acquisition, expanding expertise

and metacognitive skills, would be seen as an indicator of the success of the AcAd Program. However, the AcAd Program cannot achieve its objectives in isolation. As Deakin Crick, McCombs, Haddon, Broadfoot & Tew (2011, p. 267) point out: 'learning power … is powerfully influenced by the learning relationships within which individuals find themselves, particularly with their teacher and with key people in their school community.'

Each student's ability to practise self-regulation will depend on the approach adopted by the members of the education team with whom they interact. In other words, a student's ability to self-regulate depends on whether or not they are given opportunities to self-regulate. Self-regulated learners exhibit an enhanced responsibility for their own learning (Weinstein et al., 2011), which positions them to be more independent and less concerned about pleasing others (Miller, Greene, Montalvo, Ravindran & Nichols, 1996) and less dependent on classroom teachers (Drexler, 2010), but some students may be trapped within a cycle of dependence if their development is inhibited by teachers with controlling styles. It could be argued that greater levels of self-efficacy and persistence will be required to break out of a cycle of dependence and, once it is broken, the self-regulating student may be immune to the retarding influence of controlling teachers. As noted above, learning power is influenced by the relationships that students have with key people in their school community. It was hoped that the AcAd Program would provide students with relationships that would foster the development of their learning power as well as improve their levels of self-regulation. The two facets of effective learning were seen as symbiotic.

Dependency is a significant issue with regard to the individual student's ability to self-regulate and to the organisation's ability to break free from the constraints inherent in a teacher-centric perspective, as noted above. The key to the transformation to a new organisational architecture lies in each student's self-efficacy. The 'will' to be self-regulating springs from a student's belief that they can self-regulate (McCombs & Marzano, 1990). The AcAd Program was based on the premise that spearheading the development of greater self-efficacy and other traits of self-regulation and learning power in students required consistent, persistent, relationship-based counselling by a suitably qualified, focused individual adviser, who could work with their students and prepare them to be less dependent on teachers. This is best achieved within a school culture that

supports the self-regulation of students, but the real test of the AcAd Program will be whether or not the will and skill to self-regulate can be developed even if some of the student's classroom teachers consciously or subconsciously foster dependence. The reader is referred to the model for the new organisational architecture presented in Figure 1.1 (Chapter 1), which identified factors that may thwart the development of personalised learning.

Clarebout et al. (2010) refer to studies finding that mastery oriented students are more likely to use support than performance-oriented students, who are concerned about achieving a certain level of performance and how others see them.[10] These studies found that mastery oriented students requested instrumental help, such as hints, while performance oriented students asked for executive help, such as the correct solution to a problem. In relation to AcAds, they may not have directly observed such behaviours, as they were not tutoring students in specific subjects. The nature of support is also discussed in this paper, with a particular distinction drawn between the effect of embedded versus non-embedded support. Embedded support is considered more effective, although there is no guarantee that students will use it effectively. The authors also note the risk that embedded support may supplant the process of learning that students might undertake for themselves, were the support not provided. It is suggested that support could be detrimental to students who are already capable of self-regulation, because they are being retrained to depend on the embedded support. This problem was addressed in the case study school through the use of early conferencing with students, designed to recognise existing strengths before focusing the attention of the AcAd and their students on agreed weaknesses.

The design of the AcAd Program was also supported by the research reported by Clarebout et al. (2010) and McCombs and Marzano (1990), which reinforced the need for students to choose to access support. Clarebout and colleagues (2010) conclude that forcing students to participate is considered unproductive, if not harmful, to their development as self-regulating learners. McCombs and Marzano (1990) note that the 'skill' component – that is, the acquired cognitive and metacognitive competence that develops with training and practice – can enhance the development of self-regulation, but

[10] These findings were disputed by other researchers.

is not sufficient on its own. The 'will' component, which refers to an innate or self-activated state of motivation, is considered both necessary and primary.

> To generate the will for self-regulation, students must realise that they are creative agents, responsible for and capable of achieving self-development and self-determination goals, and they must appreciate and understand their capabilities for reaching these goals. Self-regulation and the desire to enhance self-regulating capabilities then follow. (McCombs & Marzano, 1990, p. 51)

The 'self' plays a critical role in both initiating and guiding the development of self-regulation. McCombs & Marzano (1990) argue that interventions must link self and cognitive systems functions, through metacognitive awareness and understanding. These authors revisit the issue of the relative importance of social forces (of which school culture, peer and family expectations are part) and self-determination in isolation from these forces. They take the view that 'authentic agency' operates 'to the extent that individuals self-select and define those external influences that appear to be most nurturing to self' (McCombs & Marzano, 1990, p. 53). External regulation could, in their view, be incorporated into this view of the autonomous self if the regulations were 'owned' by the student. They view metacognitive understanding as an ongoing process in which the student gains deeper insights and realisations that in turn lead to a conscious understanding of self as agent, [11] which automatically leads to self-determined purposefulness. In short, they consider the concept of 'self' to be central to an understanding of self-regulation.

McCombs and Marzano's (1990) work provides some practical advice for the AcAds. In attempting to strengthen the learner dimension, as opposed to the learning environment dimension (over which the AcAds and students had little control at the time the research was conducted), the authors propose that interventions focus on developing in students an understanding that they are 'creative agents with the power of choice (*will*) and metacognitive and cognitive processing strategies (*skill*) for meeting personal self-

[11] Defined as generative, uncontaminated consciousness that is, by nature, goal-directed, purposeful or teleologic in nature (McComb & Marzano, 2010, p. 55).

development and self-determination goals' (McCombs & Marzano, 1990, p. 63). This led them to call for programs that equipped significant others with:

> (a) [the ability to] maintain relationships and quality interactions that create climates of positive socioemotional support; and (b) structures and content that fit the information, self-assessment, and goal needs that facilitate students' positive self-development. (McCombs & Marzano, 1990, p. 63)

The AcAd Program was accordingly designed to build on a healthy relationship between the AcAds and the students they advised.

Numerous mentoring programs have also been built on a foundation of mentor-mentee relationships (DuBois, Holloway, Valentine & Cooper, 2002; DuBois, Doolittle, Yates, Silverthon & Tebes, 2006; Eby, Allen, Evans, Ng & DuBois, 2008; Herrera, Grossman, Kauh & McMaken, 2011; Karcher, Kuperminc, Portwood, Sipe & Taylor, 2006; Rhodes, 2008; Young-Jones, Burt, Dixon & Hawthorne, 2013), although their structure and purpose differed from the program in the case study school. For example, Young-Jones et al. (2013, p. 16) conducted a study involving conselling sessions once per semester in a higher education setting, as opposed to the fortnightly sessions in the case study school. Brigman and Capmbell (2003) report positive effects on middle-year students' cognitive, social and self-management skills, but their research focused on the impact of interventions by professional school counsellors (psychologists) on students they counselled in groups. The research in the case study school involved advisers without tertiary qualifications in counselling working with individual students. DuBois, et al. (2002) note that most mentoring programs target 'at risk' youth, but this description did not generally apply to students in the case study school.

DuBois et al.'s (2002) claim that the effect size of mentoring is relatively small is contradicted by Eby et al. (2008, p. 260), who found that 'mentoring was significantly related to favourable bahavioural, attitudinal, health-related, interpersonal, motivational, and career outcomes.' Indeed, there appears to be some disagreement about the effect of mentoring programs such as Big Brothers/Big Sisters of America, leading to a call for more research to be conducted in the area (DuBois, et al., 2002; Karcher, et al., 2006; Young-Jones et al., 2013). The research reported here focuses on the impact of a

particular program, in a particular school, as it prepares to engage with the disruption that is predicted to flow from emerging digital technologies. It should be seen as a study in that context and not a study of generic mentoring.

The literature on mentoring programs tended to focus on programs operating at the tertiary level and often involved far less regular meetings between mentor/adviser and the person being mentored. The results were mixed, which I do not find surprising, as the effectiveness of the process is a function of the characteristics of each party in the process, and the culture of the organisation in which the program operates. While there are other mentoring programs in operation, each of them is peculiar to their own organisation.

2.12 Conclusion

This chapter has reviewed literature relevant to this research. It began by focusing on the potential impact of digital technologies on education and noted the potential for these technologies to facilitate personalised learning. This was followed by a review of previous attempts to integrate these technologies, many of which could be characterised as teacher-centric. The chapter highlighted the literature that chronicled unsuccessful attempts to bring about change and noted the research that explained why some teachers need to remain 'in control' and protective of their position as gatekeepers of knowledge. Some significant and relevant change theories were discussed. Considerable attention was paid to recent work calling for a new organisational architecture in schools. The chapter concluded with a review of literature related to the promotion of self-regulation and learning power.

The chapter has argued that the transition to a new organisational architecture for schools is an important and complex process. The change was justified by the need to circumvent stubborn resistance to the adoption of emerging technologies that is inherent in the traditional teacher-centric organisational architecture of schools. Taken as a whole, the literature presented in this chapter supports calls for educational leaders to rethink the organisational architecture of schools in order to meet the needs of individual students, rather than teacher-directed class groups. The literature on self-regulation and learning power has been employed to justify the introduction of the AcAd Program as an important

first step in the process of change, and a body of research into mentoring programs has been noted.

This literature review informed the research design and methodology employed, discussed in Chapter 3. While a body of work is emerging on the potential for learning to be personalised, the review has identified a need for more research into the process of transitioning from an orthodox organisational architecture to one that embraces the positive elements and opportunities of digital disruption. In particular, there is a need to explore architectures that are student-centric, rather that teacher-centric. This research, focusing as it does on the impact of the AcAd Program, contributes to closing a gap in existing research.

Chapter 3

Research and Evaluation Methods and Methodology

3.1 Introduction

This chapter presents the research design and methodology employed for this study. Section 3.2 revisits the purpose of the research, the Key Research Question and the Supporting Research Questions. Subsequently, section 3.3 provides background information about the school where the research was conducted, and section 3.4 sheds light on the paradigm on which the research was founded. These lead into section 3.5, which provides a rationale for a mixed methods approach, followed by section 3.6, which explains why a case study approach was adopted. Section 3.7 provides details of the data collection and analysis process and section 3.8 explains why and how theoretical thematic analysis was employed as a data analysis technique. Sections 3.9 and 3.10 address the issues of validity and ethics respectively. Importantly, these sections acknowledge my 'insider' researcher role, and the ways in which this was managed appropriately to provide legitimate insights into the case study school, which might have otherwise been difficult to obtain. This chapter concludes with a summary in section 3.11.

3.2 Revisiting the purpose of the research

The research was conducted to inform the strategic direction of the school that is the subject of the research, as well as to inform other educators as they enter a period of digital disruption. The school had decided to transition to a blended learning model that would enable it to subsequently personalise learning to meet the needs of each student. Achieving this required a new organisational architecture in the form of new collaborative, technology-rich learning facilities and the employment of a team of educators with specialist skills to meet the educational needs of individual students rather than class groups. The process began with the introduction of AcAds, tasked with promoting greater levels of student self-regulation and learning power, who would also prepare students to operate in environments where teachers would no longer be the gatekeepers of knowledge.

The principal research question was:

In times that are characterised by disruptive innovation due to technological changes, what are the implications for the organisational architecture of schools?

Supporting Research Questions were:

1. What are the perceptions of students in the Academic Adviser (AcAd) program, particularly in relation to the role of the AcAds and the impact of the program on their level of self-regulation and learning power?
2. What are the perceptions of the parents/caregivers of students in the AcAd Program, particularly in relation to the role of the AcAd and the impact of the program on the students' level of self-regulation and learning power?
3. What are the perceptions of the AcAds in relation to their role, and the impact of the program on the students' level of self-regulation and learning power?
4. What are the perceptions of Heads of Year, as members of the traditional school architecture with responsibility for pastoral care, about the AcAds and the AcAd Program?

Answering these questions called for a research design and methodology capable of investigating the perceptions of students involved in the program, parents/caregivers as key stakeholders, the AcAds themselves, and key members of the traditional school architecture. Quantitative responses to survey questions provided useful data, but the richest insights were provided in the form of qualitative data from open-ended survey questions and elaborations, posed to students, parents/caregivers and AcAds, as well as data from focus groups with students and Heads of Year, and individual interviews with participating students.

The term 'evaluation' has been included in the chapter title. Evaluation was defined by Trochim (2006) as '…the systematic acquisition and assessment of information to provide useful feedback about some object.' It should provide useful feedback to aid in decision making. This is considered appropriate given the research focus on organizational change.

3.3 Background to the Case Study School and the Academic Adviser (AcAd) Program

The school that was the focus of this research was an independent, P–12, co-educational school on the Gold Coast, Queensland, Australia. It operated within a very competitive environment, with a large number of Gold Coast schools listed among the top OP and NAPLAN[12] performers in Queensland. During the research period, the school was responsible for educating between 1250 and 1320 students, of whom around 10 per cent were designated as Full Fee Paying Overseas Students (FFPOS), although all the students who participated in the survey were classified as 'domestic'. All students were involved in a range of extra-curricular sporting and cultural activities in addition to their academic courses.

The school was successful, as indicated by parent satisfaction surveys, academic results and the proportion of graduates who received offers at tertiary institutions, in its delivery of a traditional, so-called 'industrial age' (Fisher, 2010; Ramorola, 2013; Sturgis, 2015) approach to education. In 2012, as the principal of the school, and with the approval of the school board, I began to promote blended learning[13] as an important step in the journey to personalise learning and meet the needs of individual students. The shift in the mode of delivery coincided with the development of a number of contemporary learning spaces, as can be seen in Figures 3.1, 3.2, 3.3, 3.4 and 3.5. These included a Foreign Language Centre; an Information Centre to replace the old library; an Arts and Applied Technology Precinct for Visual Art, Film and Television, Information Technology and Graphics; a Science-in-Action Centre; a Team Projects space; a new facility for Learning Enhancement (approximately 20 per cent of the students at the school received additional learning support); and a new space for students in Years 7–9 to undertake 'station rotation' activities.[14] Work also began to develop a new analytics-capable LMS to house subject content and formative assessment items around this time.

[12] OP was the name given to the 'Overall Position' that serves as a tertiary ranking system at the time the research was conducted. NAPLAN is an acronym for National Assessment Program – Literacy and Numeracy sat by all Year 3, 5, 7 and 9 students in Australia.
[13] Blended Learning was defined as a combination of digital and face-to-face delivery of an education service in a 'bricks and mortar' environment.
[14] Station Rotation is a form of blended learning in which students move through a range of learning activities, which in the case study school included direct instruction and LMS based activities.

Figure 3.1 **The case study school's Foreign Language Centre**

Figure 3.2 **The case study school's Science-in-Action Centre**

Figure 3.3 **The case study school's Information Centre**

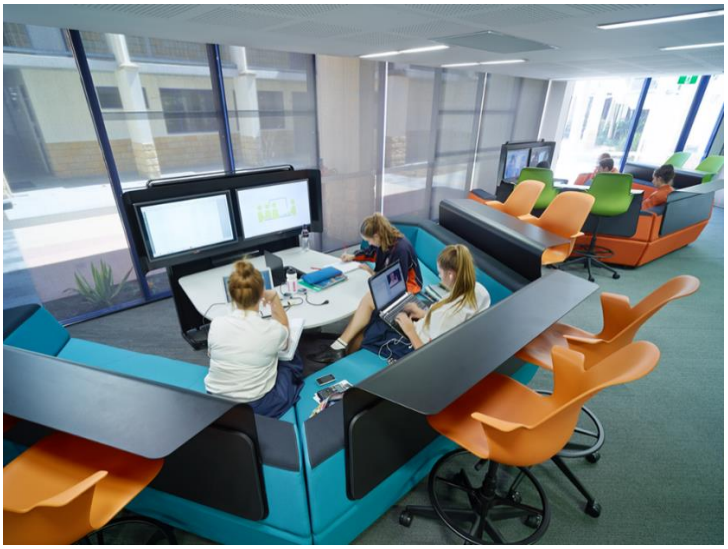

Figure 3.4 **The case study school's Team Projects Space**

Figure 3.5 **The case study school's Arts and Applied Technology Precinct**

Figures 3.3 to 3.5 show a number of the learning spaces built in the case study school. These represent another element of the school's attempt to transition to collaborative pedagogies applied in a digital technology-rich environment.

For administrative and staffing purposes, the Years 7–12 component of the school was organised into faculties: Arts & Applied Technology; English; Foreign Languages (LOTE); Humanities; Mathematics; Music; Physical Education; and Science. A Head of Faculty was appointed for each. The Careers Adviser and Vocational Education Coordinator also formed part of the curriculum team, which was managed by the Director

of Studies. The pastoral care team focused on the welfare of students. It included a Head of Program for Years P–3 and 4–6, Heads of Year for Years 7–12, the College Chaplain and the College Counsellor. The Dean of Students managed this team.

The school's organisational architecture varied only slightly from the traditional model in 2012. Subject teachers were somewhat cocooned, with collaboration exercised in staff meetings and impromptu conversations in the staff centre, rather than in classrooms. The curriculum for Years 7–12 was definitely housed in subject silos and most teachers in this part of the school taught within their subject specialisation. Teachers wrote assessment tasks, graded the work submitted by students and wrote reports. The students' dependence on teachers was exacerbated by the school-based assessment system, which effectively placed a ceiling on learning, because students knew their teachers wrote their assessment tasks so they did not have to cope with the element of uncertainty that accompanies externally developed and graded subject exams. However, this system was flagged for change to include an external exam component within a few years.

The blended model took root and grew in different faculties at different rates. Faculties were invited to select one or more blended models that, in their opinion, were most appropriate to their subject areas. Humanities and English adopted 'station rotation', while Arts and Applied Technology and Science adopted more of a 'flipped learning' approach. Mathematics teachers were very slow to embrace the change, and maintained their allegiance to instructivism throughout most of the research period. Art and Applied Technology (Visual Art, Graphics, Film & Television and Business) were frontrunners, followed by Humanities. As late as 2016, there was still little evidence of interdisciplinary learning activities or project-based learning, although this did change with the introduction of projects into Year 10 in 2016. The LMS was being populated, at rates that varied between faculties, with the assistance of specialist team members. There was a concern that, in some faculties, the LMS was being used more as support for students who missed classes or needed to review material than as a replacement for, or enrichment of, instructional time in class.

3.3.1 The Academic Adviser (AcAd) Program

The AcAd Program was launched in 2013, and was intended to bridge the academic and pastoral dimensions of the school, but the AcAds were not formally members of either group. They were employed as independent contractors who arranged to meet the students they were advising at mutually convenient times. For example, one of the AcAds, who lived in North Queensland since he had joined the program in 2013, conducted his meetings outside of school hours via Skype. There had been a small turnover in AcAd personnel since the program's launch,[15] but satisfaction among the AcAds was high (as evidenced by data in Chapter 4), and the school has had little difficulty in attracting new AcAds to the program.

The AcAd Program was introduced to promote self-regulated learning and enhance students' learning power, which my executive staff and I identified as a priority because:

- Research associates increased self-regulation and learning power with improved academic performance (Zimmerman, 2002) and greater student engagement (Brophy, 2008; Fredericks et al., 2011).
- Self-regulation and learning power have been identified as important attributes of a '21st Century Learner' (Soland, Hamilton & Stecher, 2013).
- As previously noted, the vast majority of the school's graduates undertake tertiary study and the leadership team wanted to equip them for success beyond school.
- It was felt that self-regulating students would be better equipped to succeed in a personalised learning environment, as students who could not self-regulate, and were not empowered to learn, might struggle in non-traditional settings (Lynch & Dembo, 2004).

These goals complemented the school's intention to apply the economic principles of Division of Labour and Specialisation by employing an expanded team of educators (Carroll & Foster, 2009; Coggshall, Lasagna & Laine, 2009) as part of its strategy to personalise learning. If it achieved these goals, the students in the program should become

[15] Three AcAds took maternity leave and one left due to ill-health. Others were recruited as the program grew.

less dependent on their classroom teachers, notwithstanding the ceiling imposed by the outgoing school-based assessment system.

Initially, all students on scholarships were required to participate in the AcAd Program, while other students volunteered, or were volunteered by their parents/caregivers. The school paid the total cost of the program in the first year. The approach was refined in subsequent years because it was felt that students should 'buy into' the program rather than be compelled to participate. Parents/caregivers were subsequently asked to pay 47 per cent of the cost of employing the AcAds, with the remaining 53 per cent of the cost paid by the school. This was designed to allow for an increase in the number of students and to discourage students from missing appointments with their AcAds.

AcAds were selected on the basis of their history in working with students, their commitment to the need to promote greater levels of self-regulation in students, and their capacity to build trusting relationships with students in the program. Of course, they were also subject to rigorous checks regarding suitability to work with children. AcAds were expected to keep matters discussed with students confidential, unless the student granted permission for the material to be shared or the AcAd believed they were privy to information that needed to be shared in order to protect the child.[16] AcAds met their students between fourteen and sixteen times during the academic year. Meetings were scheduled for 30 minutes, with an additional ten minutes allowed for the AcAd to maintain their records. They held at least one 'round-table' discussion with the student and the child's parent(s)/caregiver(s) each semester. AcAds attended one full-day professional development meeting each semester.

3.4 A Brief Discussion about Paradigms

My position with regard to academic inquiry is in accord with Ercikan and Roth (2006, p. 14), who argue for an integrated approach to educational research:

> We believe the polarization is confusing to many and tends to limit research inquiry, often resulting in incomplete answers to research questions and potentially inappropriate inferences based on findings.

[16] Child Protection Legislation makes reporting of certain information compulsory.

While qualitative research, which was the dominant research method employed in this case study, emerged from an 'interpretivist' paradigm, it should not prohibit the use of quantitative methods. In the search for a more complete answer, I have employed both quantitative and qualitative techniques in order to shed light on the perceptions of key stakeholders. Indeed, as Ercikan & Roth (2006) point out, all phenomena are simultaneously qualitative *and* quantitative, and data construction processes adhere to similar interpretation processes. Onwuegbuzie and Leech (2005) note that these processes are based largely on subjective, defensible judgements. Their logic led them to recommend that research questions, not method, should drive educational research.

Onwuegbuzie and Leech (2005) go further, arguing that mono-method research, and the associated epistemological purity of previous decades, represent a major threat to the advancement of the social sciences. They champion the case for de-emphasising the terms 'qualitative' and 'quantitative' research in favour of subdividing research into exploratory and confirmatory methods, pointing out that:

> combining quantitative and qualitative research helps to develop a conceptual framework, to validate quantitative findings by referring to information extracted from the qualitative phase of the study, and to construct indices from qualitative data that can be used to analyse quantitative data (Onwuegbuzie & Leech, 2005, p. 384).

They also argue that operating from a bias towards one method prevents the researcher from employing the full range of research techniques, and thus selecting methods that render the greatest benefit in the process of answering the research questions.

By way of contrast, Hathaway (1995, p. 537) emphasises that both methods have their roots in assumptions about the nature, understanding and acquisition of knowledge and reality, and argues that the quality of a piece of research 'is more critically indicated by the appropriateness of the paradigm selected rather than by the mere technical correctness of the methods used'. However, he also recognises the limitations of each approach, concluding that:

> to continue the exclusive use of one approach that has characterised institutional research will produce limited results – that is, results that are methodologically rigorous but at times inappropriate. Institutional researchers' abilities to grasp the breadth, depth, and richness of college and university life are hampered by allegiance to a single mode of inquiry … By alternating between the two modes, an institutional researcher could get a more accurate picture of the new departmental focus that may not have been possible using only one approach. (Hathaway, 1995, p. 556)

Hathaway (1995) provides a useful framework to distinguish the Empirical/Analytical (Quantitative) and Interpretive (Qualitative) paradigms. This framework justifies the decision to describe this research as 'mixed', but with a greater reliance on the qualitative (interpretative) components of the mix.

The research for the case study began with a number of questions rather than hypotheses of the relationship between cause and effect. It may have been possible to develop one or more hypotheses regarding cause (e.g. the work of the AcAd) and effect (e.g. changes in the student's level of self-regulation and aspects of 'learning power'), but it would have been extremely difficult to test them due to the large number of variables impacting on the students, such as aspects of home life and variations in approaches by the AcAds, whose interactions with students are intended to be unique to each individual student. The aim of the research was to provide a detailed description of the unique situation observed in the school.

Theoretical thematic analysis was employed as the method of analysis of qualitative data from surveys, focus groups and interviews (more details are discussed later in Section 3.7). Braun and Clarke (2006, p.78) argue that this method is 'compatible with both essentialist and constructionist paradigms'. These authors go on to emphasise that the researcher needs to play an active role in identifying, extracting and reporting themes. Rather than these themes residing in the text, they actually reside in the minds of the researcher as they think about the data (Braun & Clarke, 2006). This approach was adopted as a legitimate means of characterising the reality of the students and other stakeholders in the AcAd Program. In this way, the research can be identified as drawing upon an essentialist epistemology. With an:

> essentialist/realist approach, you can theorise motivations, experience, and meaning in a straightforward way, because a simple, largely unidirectional relationship is assumed between meaning and experience and language (language reflects and enables us to articulate meaning and experience). (Braun & Clarke, 2006, p. 85)

Vaismoradi, Turunen and Bondas (2013, p. 398) provide a set of useful criteria to determine the appropriateness of qualitative methodologies:

> A belief in multiple realities, a commitment to identifying an approach to in-depth understanding of the phenomena, a commitment to participants' viewpoints, conducting inquiries with the minimum disruption to the natural context of the phenomenon, and reporting findings in a literary style, rich in participant commentaries are the main characteristics of qualitative methodologies

It was important to emphasise the perceptions of students in the AcAd Program. An individual student's reality is a function of many factors, including their level of maturity, home and school life, and personality type. Their viewpoints, and the viewpoints of others in the study, were also expected to vary between individuals and groups. It was also important to understand the reasoning behind their perceptions of the AcAd Program. The quantitative data from the surveys indicated participants' level of support for the program and their perceptions about its various components; however, qualitative data from elaborations and responses to survey questions, focus groups and interviews provided a more in-depth understanding of participants' perspectives.

Qualitative methods were emphasised because they provided insights into the participants' aims, perspectives and assumptions. These methods were complemented by descriptive quantitative statistics, mainly in the form of mean responses and the distribution of scores from closed-ended survey questions using a five-point Likert scale. These data were used primarily for purposes of triangulation and to indicate areas for further investigation in interviews. They also served as a convenient means of assessing the views of parents/caregivers, especially as the survey gave them an opportunity to provide written responses to questions. LASSI-HS and CLARA data were used to guide

discussions between the AcAds and their students. They were not used as 'pre' and 'post' experiment measures, and were not included in the analysis process, although they did appear in the 2015 survey.[17] The perceptions of students were deemed to provide a rich and legitimate indication of the participating students' assessments of their own levels of self-regulation, aspects of their learning power, and their relationship with their AcAd.

3.5 A 'Mix' of Methods

Quantitative analysis can provide direction and assess some outcomes, but on its own it is likely to provide only a narrow and shallow insight into issues that are contextual in nature (Hathaway, 1995). There are limitations to the degree to which measures of the phenomenon can be reported objectively (Braun & Clarke, 2006). It was felt that quantitative responses to closed survey questions provided valid interpretations of the participants' reality framed in the circumstances impacting on them at the time the survey was completed. However, they were limited – as is the case in all surveys – by practical considerations, such as how much energy a respondent might be prepared to devote to the task and a single survey's inability to pursue lines of inquiry connected to a respondent's answers. For example, it was impractical to expect either students or their parents/caregivers to complete rounds of cascading quantitative surveys. Therefore, a largely qualitative, subjectivist approach was required and appropriate to gain deeper, richer understandings of the complex consequences of change (Anderson, 2010). Greater depth of understanding could be obtained through qualitative methods, such as elaborations on quantitative responses, open-ended survey questions, focus groups and interviews. The combination of the two methods allowed for context-bound interpretations of the data. Consequently, I accepted the argument presented by various authors (Hathaway, 1995; Howe, 1998) that a mixed-method approach can combine the strengths of quantitative and qualitative methods and facilitates better understanding.

Bryman (2006) employs Green, Caracelli and Graham's (1989) classification scheme to identify the most common rationale provided by authors of methods studies:[18]

[17] I included statements related to CLARA and LASSI-HS in the 2015 survey as I was interested in learning about the extent to which they were being employed. I wanted to ensure that my promise to students that they would not be typecast by these results was being honoured by the AcAds. These data were being used, as originally intended: as conversation starters and indicators of areas that students and AcAds might explore.

[18] More than 25 per cent of authors did not provide any rationale.

- triangulation (12.5 per cent of total justifications)
- complementarity (elaboration of the results from one method with the other) (44.8 per cent)
- development (using the results from one method to develop or inform the other method) (8.6 per cent)
- initiation (recasting the questions or results from one method with the questions or results from the other method) (1.3 per cent)
- expansion (using different methods for different inquiry components in order to extend the breadth of the research) (31.5 per cent).[19]

Niglas (2004) proposes a more fine-grained scheme with eighteen different justifications. Of these, the following were not included in Bryman's (2006) list:

- 'offset', where one method is used to compensate for weaknesses in the other
- 'completeness', where the greater range of data is believed to provide a more complete picture
- 'process', where qualitative research provides an insight into processes that cannot be provided by quantitative research as it focuses on structures
- 'explanation', where one method is used to explain the findings generated in the other, and
- 'illustration', which refers to the notion that qualitative research can serve to illustrate dry quantitative data.

'Credibility', explains Niglas (2004), is used as justification when the researcher believes that employing both methods provides additional credibility to their work.

While I appreciated the range of benefits that flow from combining methods, the justification in this research primarily related to triangulation, complementarity, expansion, illustration and completeness. Triangulation was considered important, not because the individual methods lacked validity per se, but because of the risk that my

[19] Bryman (2006) reports Niglas's (2004) research, which revealed that approximately 35 per cent of mixed methods researchers who justified their approach cited triangulation, 29 per cent cited 'completeness' (a combination of a number of Bryman's suggestions) and 13 per cent cited 'explanation', which is akin to Bryman's 'complementarity'.

position as a powerful insider might influence the participants' responses, particularly in face-to-face interviews with students. For, example, any marked contradictions between the survey data and the quantitative focus group interviews might indicate that the interviewees provided the answers that they thought that I wanted to hear. I was keen to ensure 'completeness', particularly as the qualitative interviews were designed to provide texture to, and elaborate on, the survey results. In short, a mixed methods approach was chosen to add light, depth and credibility to the research and to potentially enhance its utility.

3.6 The Case Study Approach

A case study approach was chosen in order to capture the meaning of complex phenomena, in context, using a variety of data sources (Baxter & Jack, 2008). Case study is accepted as a common form of research (Ravenswood, 2011). This study was phenomenological in nature, and sought to understand the dynamics in the context of that school setting. It also allowed for various perspectives to be captured. The perspectives that aligned the four Supporting Research Questions included those of:

- the students, considered to be paramount
- the parents/caregivers of those students in the program, who also partly funded the AcAd Program
- the AcAds, who regularly dealt with the students on a personal level, and
- the Heads of Year, who remain responsible for the welfare of students and were significant members of the traditional organisational architecture.

Baxter and Jack (2008) emphasise the need for the researcher to identify the boundaries of the context, or the 'unit of analysis', of their study. In this case, the unit of analysis was the AcAd Program.

Baxter and Jack (2008) drew on the work of various authors to offer advice on how to 'bind the case' to avoid it addressing questions that are too broad. A case can be bound by time and place, time and activity, and definition and context. The following provides an elaboration of these for this case study:

- *Time and place:* This case study was undertaken in an independent, P–12, coeducational school in South-East Queensland between 2015 and 2017.
- *Time and activity:* The activities under investigation were the interactions between AcAds and students in that program, approximately once each fortnight throughout the school year. The role of the AcAd was to enhance the learning capability of students.
- *Definition and context:* The AcAd Program was a particular program, believed to be unique to the case study school, that involved regular one-to-one meetings between an adult AcAd and a student in order to promote self-regulated learning and enhance certain aspects of the student's learning power. The program was in its third year of operation when the research commenced in 2015 and the fifth year when it concluded in 2017.

Baxter and Jack (2008) also identify various forms of case study. This study is best described using Stake's (1995) classification as a single 'intrinsic' case:

> researchers who have a genuine interest in the case should use this approach when the intent is to better understand the case. It is not undertaken primarily because the case represents other cases or because it illustrates a particular trait or problem, but because in all its particularity and ordinariness, the case itself is of interest. The purpose is NOT to come to understand some abstract construct or generic phenomenon. The purpose is NOT to build theory. (Baxter & Jack, 2008, p. 548, original emphasis)

Flyvbjerg (2006, p. 224) adds his support for the case study approach, noting:

> Social science has not succeeded in producing general, context-independent theory and, thus, has in the final instance nothing else to offer than concrete, context-dependent knowledge. And the case study is especially well suited to produce this knowledge.

Baxter and Jack (2008) and Ravenswood (2011) note that case studies can employ multiple data sources, including interviews, documentation and quantitative survey data, which they describe as a unique feature of this approach. They also point out that these

data can be converged in the analysis process, rather than dealt with in isolation, in a manner that treats each set of data as if it were a piece in a puzzle.

According to Taylor (2007), it is impossible to generalise from a single case study, although Flyvbjerg (2006) disagrees. This research was not intended to provide findings or make recommendations that could be generalised across all, many or even some schools. I took the view that each school is unique in terms of culture, and even the context within one school can vary as different people interact in differing circumstances. However, this research was intended to identify certain threads, which Bassey (1999, 2001) would term 'fuzzy' generalisations, that educational leaders might consider familiar and worthy of exploration in their own school.

3.7 Data Collection: Form and Process

Various forms of quantitative and qualitative data were collected over a two-year period. All students in the program in 2015 and their parents/caregivers were invited to participate, via a letter explaining the ethics associated with the research (see Appendix A), attached to a hard-copy survey containing closed and open-ended questions (see Appendix B for a copy of all surveys). Completed surveys from 33 parents/caregivers and 36 students, chosen by a third party from the list of people who agreed to participate, were analysed. Participating students completed a survey consisting of both closed- and open-ended questions, which were completed in school time through the school's LMS in 2015. These students were invited by a third party to participate in focus groups. Twenty students from different school grades agreed to participate. AcAds were invited to participate in the research by completing a survey containing closed and open-ended questions when they had been in the program for at least one semester. This resulted in completed surveys from ten AcAds between 2015 and 2017. The six Heads of Year were invited to participate in a semi-structured focus group in late 2016. Four senior students from the original list of participants agreed to attend one-on-one semi-structured interviews in 2016, and a group of ten students with more than two years' experience in the program agreed to complete an open-ended survey in 2017. Table 3.1 provides an overview of the research focus, and the methods employed to collect data that addressed the different research questions. As explained above, these boundaries should be viewed as porous.

As noted previously, qualitative data formed the bulk of the data employed in the research. All interviews were transcribed into a Word file and checked for accuracy. Other Word document files contained elaborations to survey statements, responses to open-ended survey questions, and transcripts of focus groups and interviews. I read the documents to identify a set of themes. It became apparent that these themes were in accord with themes I identified in the work of Cleary and Zimmerman (2004) and Deakin-Crick, Bradfoot and Claxton (2004).[20] A set of draft codes was developed, and the documents were read again and coded using the draft list. The codes were analysed and grouped together under the set of themes. The themes remained stable, but the list of codes was modified throughout the analysis process.

Thematic analysis is a foundational method, often employed by qualitative researchers to identify, analyse and report patterns in interview generate data (Braun & Clarke, 2006). Thematic analysis allows the researcher to combine an analysis of the meaning of data within their context (Vaismoradi, Turunen & Bondas, 2013). This approach was preferred to content analysis because I wished to capture the underlying richness of stakeholders' experiences. I was interested in the significance of themes across the entire data set because the study aimed to assess the impact of the AcAd Program on a group of student participants' self-regulation and learning power, and the extent to which the AcAds were accepted as legitimate agents by established members of staff with particular responsibility for student welfare. The analysis was theoretical rather than inductive, because it was 'driven by the researcher's theoretical or analytic interest in the area' (Braun & Clarke, 2006, p. 84). In other words, the codes were linked to specific research questions. My approach was semantic in that examination of data focused on what the participants said or wrote explicitly.

Table 3.1 shows that a range of quantitative and qualitative instruments were used to obtain data from key stakeholders over a two-year period.

[20] Not all of the elements of Deakin-Crick et al.'s (2004) work were identified as themes, as some of the learning power elements were beyond the scope of the AcAd Program.

Table 3.1 ***Summary of data and analysis process***

Quantitative data	**Qualitative data (thematic analysis)**
Section 4.3 Supporting Research Question 1 focused on students' perceptions	
A five-point Likert scale captured responses to statements in a Semester 2, 2015 survey that was completed by 36 students. The mean scores and their distribution are provided for each statement.	Theoretical thematic analysis of elaborations provided for each Likert scale response to statements in the survey. The number of elaborations varied from question to question.
	Theoretical thematic analysis of 36 student responses to open-ended questions in the survey.
	Theoretical thematic analysis of four structured student focus groups involving 20 students, in November 2015.
	Theoretical thematic analysis of four, individual, semi-structured interviews with Year 11 and 12 students in November 2016.
	Theoretical thematic analysis of responses to open-ended survey questions by ten students who had been in the program for two or more years in May 2017.
Section 4.4 Supporting Research Question 2 focused on parents/caregivers' perceptions	
A five-point Likert scale captured responses to statements in a 2015 survey. This is provided to gauge mean responses and the distribution of responses from the sample of 33 parents/caregivers. This sample group provided 36 responses, as three parents/caregivers had two children in the program and they completed a separate survey for each child.	Theoretical thematic analysis of elaborations provided for each Likert scale response. The number of elaborations varied from question to question.
	Theoretical thematic analysis of 36 responses to open-ended questions in the survey.
Section 4.5 Supporting Research Question 3 focused on the perceptions of AcAds	
A five-point Likert scale captured responses to statements in surveys completed by the population of 10 experienced AcAds, between 2015 and 2017. Their responses referred to *all students in the program*, not just those involved in the research.	Thematic analysis of elaborations provided for each Likert scale response. The number of elaborations varied from question to question.
	Theoretical thematic analysis of 10 responses to open-ended questions in the survey.
Section 4.6 Supporting Research Question 4 focused on the perceptions of HOY with regard to the AcAd Program	
Nil	A hybrid of theoretical and non-theoretical thematic analysis of focus group of population of Heads of Year in November 2016.

3.7.1 Surveys Yielding Quantitative and Qualitative Data

All students in the AcAd Program in Semester 2, 2015, and their parents/caregivers, were invited to participate in the research by completing surveys. For ethical rather than statistical reasons, the final pool of surveys was drawn from a random sample of responses. Completed parent/caregiver surveys were sent to a third party, who randomly selected 36 responses from 33 parents for use in the research. This procedure was designed to disguise the identities of students and parents/caregivers who chose not to participate in the research. Thirty-six surveys consisting of one for each child of 33 parents/caregivers (some parents/caregivers had more than one child in the program) were completed by parents/caregivers and provided to me in paper form. Thirty-six students completed the student survey, in school time, through the school's LMS.

Some survey questions were closed, which required the respondent to interpret the question, while others were open (producing qualitative data), requiring me to interpret the answer. The total population of ten AcAds completed a similar survey once they had gained at least one semester's experience in the program. All AcAd surveys were completed between late 2015 and mid-2017. Twenty statements in each survey invited a response using a five-point Likert scale (from 1 for 'Strongly Disagree' to 5 for 'Strongly Agree'). Each survey also provided respondents with an opportunity to elaborate on their scores and write answers to open-ended questions. These data were used to frame focus group questions and allowed for triangulation between data sets.

3.7.2 Focus Groups and One-on-one interviews

Invitations were sent to students, representing a range of age groups, from the list of students who had agreed to participate in the research. Twenty students were selected by a third person to participate in the focus groups. These focus groups, where student participants were grouped by their age so they felt more comfortable, were designed to elicit responses from students while ensuring that all their voices were heard. Focus groups were chosen because I felt that students, especially the younger students, would feel more comfortable participating in the company of their peers. A second round of one-on-one student interviews was conducted in late 2016 with senior (Years 11 and 12) students, some of whom were about to graduate, because I was confident that these mature students would be comfortable in a one-on-one interview situation. They certainly showed no reluctance about participating, before (they volunteered to participate), during

(they appeared relaxed) and after (none reported any concern to any other person) the interviews. Focus group and one-on-one interviews were recorded using two devices and then transcribed accurately. Students who had been in the program for two or more years were invited by a third party to complete a final open-ended survey in May 2017. Ten students agreed to participate in this final stage of the research. All participants were de-identified and most participants honoured my request not to identify other students, teachers or AcAds by name. Steps were taken prior to data analysis to remove the few names that were mentioned. The Heads of Year, who were provided (with the student's permission) with relevant information about students in their year groups, were also surveyed in late 2016, because it was felt that, as they were not actually in the program, they could provide objective feedback based on their observations of students in the program and their contact with the AcAds.

As referred to earlier in Table 3.1, various forms of data were collected over a two-year period, from early in Semester 2, 2015 until late in Semester 1, 2017. Thirty-six students and 33 parents/caregivers (noting that some parents/caregivers had more than one child in the program) agreed to participate and completed surveys in Semester 2, 2015. Focus group interviews of students also occurred in that semester. One-on-one interviews of a small number of Year 11 and 12 students took place in Semester 2, 2016. AcAds were surveyed from late 2015 and AcAds who joined the program in 2016 completed a survey later that year. Heads of Year participated in a focus group interview in latter stages of Semester 2, 2016. A final survey was completed by ten students with two or more years in the AcAd Program in May 2017.

The timelines employed for data collection are detailed in Table 3.2.

Table 3.2 ***Timelines employed in the data-collection process***

			Data collection period (by semester and year)				
			2015		2016		2017
Type of data	**Comments**		**S1**	**S2**	**S1**	**S2**	**S1**
Survey of parents/caregivers. One survey for each child (N =36)	Closed (quantitative using five-point Likert scale), written elaborations on survey responses and answers to open-ended questions.	Hard copy converted to Excel spreadsheet		*			
Survey of students (N = 36)		Digital entries through the school's LMS.		*			
Survey of 10 students	Open-ended answers to a series of questions. Responses emailed to me as Word documents						*
Student focus groups (N = 20)	Focus group interviews with 20 students			*			
Student interviews (N=5)	One-on-one interviews of five senior students					*	
AcAd surveys (N = 10)	The total population of AcAds were surveyed when they had been in the program for at least one semester			*		*	
AcAd surveys N = 10	Closed and open ended responses, completed on paper, transcribed and stored on an Excel spreadsheet			*	*	*	
HOY focus group N = 7	Focus group recorded and transcribed onto Word documents					*	

3.8 Theoretical Thematic Data Analysis

Quantitative data, consisting of responses to closed-ended survey questions using a five-point Likert scale, were analysed to provide descriptive statistics. Regression analysis was not required because qualitative data, with its capacity to provide insights into the perceptions of research participants, provided data-rich answers to the research questions. The five-point survey data are presented in Chapter 4 in a variety of presentation styles, such as table and graph form.

Qualitative data, in the form of elaborations on survey statements, written answers to open-ended survey questions and transcripts of conversations in focus groups and interviews, were analysed through a process of theoretical thematic analysis. A theme is defined by Sandelowski and Leeman (2012) as as 'a coherent integration of the disparate pieces of data that constitute the findings' (Vaismoradi, Turunen & Bondas, 2013, p. 402).

I followed the guidelines provided by Braun and Clarke (2006) and their description of the process as:

> a constant moving back and forwards between the entire data set, the coded extracts of data that you are analysing, and the analysis of the data that you are producing (Braun & Clarke, 2006, p. 86).

The process began by typing up the handwritten comments from parent and AcAd surveys that had been completed in hard copy and either returned through the post, as was the case with the parent/caregiver survey, or returned to me via the school office, as was the case with the AcAd survey. The data from student surveys were already in digital form, and were provided to me in Word documents. These digital files were analysed in the first round of coding. I then transferred these data to an Excel spreadsheet for the second and third rounds of coding.[21] I transcribed all audio files from focus groups and one-on-one interviews. These data were also transferred to an Excel spreadsheet.

All qualitative data were revisited several times in order to gradually confirm, modify or reject the list of preliminary codes. The early stages of the coding process led me to adopt a set of themes from the work of Cleary and Zimmerman (2004) and Deakin Crick, Huang, Shafi and Goldspink (2015). A coding guide was developed, and is presented in Table 3.3. This guide listed a set of codes under eight themes. Three themes – self-regulatory processes; task strategies; and self-motivational beliefs – were drawn from Cleary and Zimmerman's (2004) definition of self-regulation. Another five themes were drawn from the elements of Deakin Crick and colleagues' (2015) description of learning power that were considered relevant to this research. These themes were learning relationships; fragility and dependence; strategic awareness; meaning-making; and changing and learning. The list of themes was subject to constant review, at all times considering the nature of the story being told by the data. However, as the analysis process developed, it became clear that the set of themes drawn from the work of Cleary and Zimmerman (2004) and Deakin Crick and colleagues (2015), were suited, with some modification, to the research task. For this reason, the analysis process is best described as theoretical

[21] The Excel spreadsheet made it easier to batch codes around the selected themes and to produce graphs where appropriate.

thematic analysis. The final step involved selecting data to illustrate the themes and provide evidence with which to answer the research questions.

Table 3.3 sets out the various codes employed to analyse student, parent and AcAd data under eight themes.

Table 3.3 ***Themes and codes employed in the analysis process***

Theme/section	**Particular dimension of the theme**	**Code**
Self-regulation		
Self-regulatory processes	Goal setting (generated and implemented by the student or with their AcAd)	SRsa
	Self-evaluation/Reflection ('Is what I'm doing working in the short-term?') Learning from failures and taking remedial action	SRev
	Participating in class when not naturally inclined to do so	SRpa
	Managing procrastination	SRpr
	Obtaining a balanced approach to school and other aspects of life	SRba
	Developing a positive attitude to learning – being motivated, being consistent across all areas	SRpo
	Prioritising what is important rather than just focusing on what the student likes	SRpz
Task strategies	Adopting more effective study skills	TSss
	Improving time management	TStm
	Adopting organisational strategies (including planning and preparation)	TSos
	Persevering in the face of challenges.	TSpe
	Being more proactive	TSpr
Self-motivational beliefs	Greater self-efficacy (self-confidence applied to learning)	SMse
	Increased level of intrinsic interest	SMii
Learning power		
Learning relationships	Sense of belonging, forming a personal relationship with the AcAd	LRbe
	Sense of being recognised, understood and/or valued as an individual	LRuv

	Sense of enjoyment from interactions with AcAd, due to their personality	LRen
	Sense of trust – able to express true feelings and concerns to the AcAd	LRst
	Addressing negative attitude to risk-taking, ambiguity and uncertainty (managing anxiety or stress related to being a student)	FDan
	Exercising independence – relies less on teachers	FDin
Strategic awareness	Ability to identify and assess overall approach/ Strategic Reflection ('Is what I'm doing getting me to where I want to go in the long-term?')	SAre
	Ability to identify, assess and modify overall approach	SAid
	Understanding of interrelationship with learning environment (e.g. the role various resources can play in assisting learning)	SAir
	Expanding one's learning network	SAln
Meaning-making	Sense of purpose (feeling of making progress towards a goal)	MMrg
	Sense of satisfaction/fulfilment from richer understanding of self	MMss
Changing and learning	Sense of being empowered as a lifelong learner (developing positive habits)	CLll
	Sense that one is maturing/growing/ becoming stronger	CLsm
	Recognition that improving is an on-going process	CLog
	Impact on the whole person through development of life skills	CLwp
	Interest in learning about self/gaining an understanding of self as a learner	CLse
	Seeking an improvement in ability to learn	CLal

These codes emerged in the first two rounds of qualitative data analysis, and were refined thereafter. A large number of written comments required several codes because they provided data relevant to different dimensions within the one theme and/or data relevant to different themes. Some codes were subsumed into others – for example, seeking an improvement in grades was originally given its own code, but after several rounds of data analysis I decided to code it as a form of goal-setting. The assigned codes accompany the relevant parts of these data when they are analysed in Chapter 4.

The ‘strategic awareness’ theme sat within the ‘learning power’ category, and is worthy of particular attention. It classified data under four sub-themes. These were; Ability to identify and assess overall approach/ Strategic Reflection (‘Is what I’m doing getting me to where I want to go in the long-term?’); Ability to identify, assess and modify overall approach; Understanding of interrelationship with learning environment (e.g. the role various resources can play in assisting learning); and Expanding one’s learning network. Together they provided an insight into the students’ capacity to reflect, assess, modify actions and take a proactive approach to accessing resources on and off campus. This, together with all the themes, measured students’ perceptions about their place in the learning environment and, most importantly, their position at the centre of that environment.

3.9 Validity of the Research

As principal of the school where the research was conducted, I needed to play the multiple roles of employer, colleague and researcher. Adler and Adler (1987) consider that the membership role is one of ‘complete member researcher who is already a member of the group or becomes fully affiliated during the course of the research’ (in Dwyer & Buckle, 2009, p. 55). This was seen as appropriate because

> as qualitative researchers we are not separate from the study, with limited contact with our participants. Instead, we are firmly in all aspects of the research process and essential to it. (Dwyer & Buckle, 2009, p. 61)

At the same time, it was appropriate to heed the warnings issued by Drake (2010) with respect to the validity of the research and the need to maintain a degree of neutrality in what are often political climates, and the researcher’s motivation in interpreting data. For this reason, quantitative and qualitative data from students, parents/caregivers and AcAds were triangulated. Triangulation occurred within data sets (e.g. quantitative data with qualitative data in the same survey), between data sets from the same source (e.g. the 2015 student survey with data from focus groups, interviews and the 2017 survey), and between data from different sources (e.g. data from students with data from parents and AcAds). (Data from Heads of Year were not used for the purpose of triangulation, as their data were only used to assess the degree to which they accepted AcAds as members of the educational team.) The extent of agreement or disagreement between these data was

noted and analysed in order to assess the degree of concordance (see Wiersma & Jurs, 2005).

The triangulation of data also mitigated any tendency for AcAds to exaggerate the benefits of the program in order to secure their employement. Their data were compared and contrasted with data from students and parents/caregivers. In fact, the reader will note several instances in Chapter 5 where AcAds identified weaknesses they perceived in the program that were not perceived by other stakeholders.

No data were collected from students who had left the program, although one of the senior students who participated in the interview phase of the research did state that he intended to withdraw in the following year because it had helped him improve and he no longer needed the support. The school's records indicate that six students left the program in the first year of the research (2015), two in 2016, and four left the program by the end of the research period in 2017. A small number of students left the program each year because their AcAd changed or was about to change, most frequently because they were taking maternity leave. These students valued their relationship with their existing AcAd and felt they were unlikely to develop the same relationship with a replacement. The average attrition rate was five per cent per annum. Reasons for exiting the program were noted, but the students were not asked to complete a survey. However, one student and her parent, who had stated their intention to leave the program at the end of 2015, did complete the surveys and their perceptions have been reported. Given these small numbers, I submit that the conclusions drawn from the data are defensible.

3.10 Ethical Issues

Ethics approval was obtained from Griffith University, enabling the various, planned forms of data to be collected. My role as the researcher and the principal of the case study school heightened the need to comply with ethical standards, and carefully shaped the approach to research. The following ethical issues were relevant:

In relation to students participating in the research, it was important to do the following:

- *Safeguard the identities of any student who chose not to participate in the research.* This was achieved by asking students who had agreed to participate with

the permission of their parents/caregivers to complete the 2015 survey online. Their identities were not provided in the data that was forwarded to me.

- *Disguise the identities of students who chose to participate.* A general invitation was sent to students to participate in the 2015 focus groups. A third party issued these invitations to a cross-section of students who had completed the 2015 survey. I was aware of the identities of students who participated in the focus group, but I was not aware of the identities of any students from the list of invitations issued by a third party who chose not to participate. Following the same process, a group of senior students and other students who had been in the program for two or more years were invited to one-on-one interviews or to complete the 2017 survey.
- *Safeguard the identities and responses of students and other participants from outsiders.* All data were de-identified and secured in a locked file or in a password-protected digital file.
- *Ensure that the AcAds and parents/caregivers could not access any student's data.* No AcAd or parent requested access to these data.
- *Ensure no deterioration in the quality of pastoral care as the educational team adopted a shared responsibility for the welfare of each child.* The Dean of Students, who leads the pastoral care team, and the Heads of Year monitored the welfare of all students as a matter of course.
- *Monitor student wellbeing for signs of heightened anxiety and addressing any concerns through professional counselling, if required*. It should be noted that, no counselling was required in conducting this study.

In relation to parents/caregivers participating in the research, it was important to do the following:

- *Safeguard the identities of any parent who chose not to participate in the research.* This was achieved by asking for consent forms to be returned to a third party, which then forwarded a random sample of responses to me. This meant that I never knew who declined the invitation to participate.

- *Provide parents/caregivers with information, while ensuring that they could not directly influence the data obtained from students*.[22] Parents/caregivers completed paper-based surveys that were returned via Australia Post using a pre-paid envelope.
- *Reassure parents/caregivers that the quality of their child's education would not be influenced by their participation or non-participation in the research*. This meant that students did not miss class time in order to attend interviews or complete surveys. Data were either collected in a scheduled break or at a time deemed convenient by the student.
- *Ensure that AcAds or students were not given access to data obtained from any particular parent*.

In relation to AcAds participating in the research, it was important to do the following:

- AcAds were invited to complete a survey once they had been in the program for at least one semester. They were not compelled to participate. It is worth noting that all the AcAds expressed a keenness to participate, as they believed the data could help refine the program. They were instructed not to refer to specific students by name. They did not have access to data provided by any other individual.

In relation to Heads of Year participating in the research, it was important to do the following:

- All Heads of Year (from Year 7 to 12) were invited to participate in the research, but were not compelled to do so. All Heads of Year expressed a desire to participate, as they had been the link between the school and the AcAds for some time. Their participation took the form of a focus group interview at the end of 2016. They did not have access to identifiable data provided by any other individual.

[22] The opinions of students will always be influenced by the expressed opinions of parents and vice versa. However, student data were de-identified before the analysis process commenced. Students completed their survey individually, in school time, to ensure that their views were their own.

3.11 Conclusion

This chapter has presented a rationale for the mixed method case study approach employed in this research, with a heavy emphasis on qualitative data. It has provided background information on the case study school to explain the context of the research. Details of the data collection and analysis process were provided, with the process of theoretical thematic analysis explained in detail. The paradigm on which this research was based was identified, and a rationale was provided for the adoption of a mixed methods approach. My role as the 'insider' researcher was acknowledged and justified, particularly with regard to the validity of the research and ethical issues.

Chapter 4
Data Analysis and Findings

4.1 Introduction

This chapter presents data analysis and findings of the data collected through the research methodology employed to investigate the Key Research Question and the Supporting Research Questions. That is, it presents the data analysis and findings from the data collected to gauge the perceptions of students, parents/caregivers, AcAds and Heads of Year regarding the AcAd Program. As outlined earlier in this thesis, the AcAd Program itself was an early step in the formation of a new organisational architecture to support personalised learning. It formed part of a strategy to circumvent barriers to change associated with the orthodox teacher-centric approach to school education by increasing student self-regulation and aspects of their learning power.

This chapter is organised in a manner that aligns with each of the first four Supporting Research Questions. The reader is reminded of these questions at the start of each new, corresponding chapter section. Specifically, section 4.2 draws on a range of data to answer the first supporting research question. The second Supporting Research Question is the focus of section 4.3, and the third and fourth Supporting Research Questions are addressed in sections 4.4 and 4.5 respectively. Sections 4.2 to 4.4 contain a number of sub-sections, each of which focuses on one of the themes previously introduced in section 3.8. Section 4.5 uses different methods to analyse data from the Heads of Year. Section 4.6 summarises the key findings and section 4.7 presents the conclusion to this chapter.

The reader is reminded that the new organisational architecture was designed to ultimately make students the focus of the team of educators. Therefore, it was appropriate to acknowledge the voice of participating students as the most significant aspect of this research. Hence section 4.2 analyses one set of quantitative and five sets of qualitative data, while other sections analyse fewer data sets. This approach was taken to gauge students' perceptions because, as Buckingham Shum and Deakin Crick (2012, p. 95), emphasise in highlighting the importance of student voice, agency and learning identity:

> From the perspective of a complex and embedded understanding of learning dispositions, what learners say about themselves as learners is important and indicative of their sense of agency and of their learning identity.

Much of the quantitative and qualitative data employed to answer the first three Supporting Research Questions were obtained from surveys. Data obtained from the various student focus groups and interviews were also analysed and, without exception, these mirrored the data from the surveys. Some examples are presented in section 4.2 for the purpose of affirming their consistency with the survey data. Quantitative survey data, which took the form of numerical responses to a series of statements using a five-point Likert scale, are presented in tables and/or graphs in most sub-sections. (A few sub-sections did not contain quantitative data or a sufficient volume of qualitative data to warrant a graphical summary.)

Qualitative survey data, in the form of elaborations provided by students, parent/caregivers and AcAds, have been thematically analysed to assist understanding of the quantitative data. The surveys also provided an opportunity for students, parents/caregivers and AcAds to answer open-ended questions, which have been thematically analysed in sections 4.2 to 4.4. Section 4.2 also analyses data from open-ended survey questions posed to students who had been in the AcAd Program for two or more years when they completed the survey, structured student focus groups consisting of a range of students, and semi-structured individual interviews with senior students. Once again, examples are provided for the purpose of triangulation. Section 4.5, which addresses Supporting Research Question 4, analyses data from a focus group of Heads of Year.

As explained in Chapter 3, data were gathered over a two-year period, from the latter part of 2015 to mid-2017. The graphs presented in this chapter illustrate data collected from initial surveys only, to avoid double-counting the same data presented by the same student in subsequent focus groups, interviews and/or the 2017 survey.

4.2 Perceptions of Students in the AcAd Program

Supporting Research Question 1 asked: What are the perceptions of students in the AcAd Program, particularly in relation to the role of the AcAds and the impact of the program on their level of self-regulation and learning power?

Data from the quantitative and qualitative components (elaborations and answers to open-ended questions) of the 2015 student survey, as well as qualitative data from student focus groups in 2015, one-to-one interviews with Year 11 and 12 students in 2016 and a second survey of students with two or more years' experience in the program by May 2017, were employed to answer this question.

Data from participating students were analysed in sections that grouped together their quantitative and qualitative responses into three broad categories. Data relating to the participating students' overall level of support for the program are presented in section 4.2.1. Relevant data from the parent/caregiver and AcAd surveys are also presented for the purpose of triangulation. Data relating to students' general perceptions regarding any changes in their levels of self-regulation and learning power are presented in section 4.2.2. Once again, data from parents/caregivers and AcAd surveys are included for the purpose of triangulation. It is important to note the limitations of such comparisons at the outset. The data from individual students were not matched with the data from *their* parents/caregivers or *their* AcAds, as student data had been de-identified before the analysis process commenced [23]. De-identified student data relating to the various dimensions of self-regulation and learning power are analysed in sections 4.2.3 to 4.2.10. A summary of the findings from data presented in this section is presented in section 4.2.11.

4.2.1 Participating Students' Support for the Program

This section begins with an analysis of data from the 2015 student survey. Quantitative and qualitative data gathered in response to Statements 2, 3 and 15 of the 2015 student survey, and to similar statements in the 2015 parent/caregiver and AcAd surveys

[23] The parents were identified on the paper survey they completed, but student data were de-identified prior to the analysis process began as a way of assuring them that their comments would not have an impact on my perception of them as individuals. The focus of the research was the students' perception of the program, not their individual performance in the program. Any references to names of teachers or AcAds were deleted from these data.

competed in 2015 and 2016, are analysed here (the surveys are presented in Appendix B). Other relevant qualitative data gathered from students, parents/caregivers and AcAds are also presented in this section. Statements 1 and 2 of the student survey were designed to gauge participating students' perceived level of benefit from, and their level of comfort with, the AcAd Program. Statement 14 of the survey was included as a means of testing the reliability of responses to Statements 1 and 2. Quantitative data provided in response to these statements are provided in Table 4.1.

Table 4.1 ***Students' level of agreement with statements about the AcAd Program***

Statement from the student survey	**No. of responses**	**Mean score**	**Strongly disagree**	**Disagree**	**Cannot say**	**Agree**	**Strongly agree**
1. I believe I am generally benefiting from the AcAd Program.	36	4.44	0%	0%	11.11%	33.33%	55.56%
2. I generally look forward to meeting my AcAd.	36	4.31	0%	5.56%	11.11%	30.56%	52.78%
14. I believe some of my friends could benefit from the AcAd Program.	36	4.14	2.78%	5.56%	13.89%	30.56%	47.22%

These quantitative data, with mean scores between 'Agree' (4) and 'Strongly Agree' (5), indicate that this sample group of students generally supported the AcAd Program. More than 88 per cent of students agreed or strongly agreed with the statement that they were benefiting from the program, while over 81 per cent of students agreed or strongly agreed that they looked forward to meeting their AcAd. These positive responses to Statements 1 and 2 were corroborated by the responses to Statement 14, as over 77 per cent of the sample group of students agreed or strongly agreed that they believed their friends could benefit from the AcAd Program.

Qualitative data from written responses to Statements 1, 2 and 14 also indicated a strong level of support from this sample of students. Twelve respondents provided additional written comments in response to these statements. Comments written in response to Statement 1, such as the statements by Student 4 that 'The Academic Advisor Programme

is very beneficial and has helped me a lot', and by Student 20, who stated that 'I have benefited so much from my AcAd this year and have definitely improved my school work because of it' were taken as affirmations rather than elaborations on their quantified responses. The following sub-sections provide evidence that data provided in elaborating statements, from written responses to open-ended questions in the student survey, as well as from student structured focus groups, individual semi-structured interviews, and the open-ended survey of students who had been in the program for more than two years, also reinforced this message. Participating students often referred to their relationship with their AcAds, as well as a range of specific benefits from their participation. These, together with elaborations to other survey items, are thematically analysed in Sections 4.2.3 to 4.2.10.

The parent/caregiver survey asked parents/caregivers to respond to a statement about their perceptions of their child's attitude to the program, are shown in Table 4.2. These data are included for the purpose of triangulation.

Table 4.2 ***Parents'/caregivers' quantitative responses to Statement 2 of the parent/caregiver survey: 'My child is generally positive about the program.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.58	0%	2.8%	8.3%	19.5%	69.4%

Over 88 per cent of the parent/caregiver sample agreed or strongly agreed with the statement. Parent/caregiver responses indicated that they saw evidence – perhaps through conversations at home – that most of their children were positive about the program. Parents/caregivers' additional comments included: '[Name of student] has a great relationship with her AcAd and feels genuine support' (Parent 4), 'She talks a lot about her meeting with AcAd' (Parent 14) and 'She believes the program has been of great benefit to her' (Parent 15). One parent whose child withdrew from the program at the end of 2015 provided a different response: 'Quite negative about the program. Wanted to learn study strategies, but never eventuated. Likes her AcAd though' (Parent 3). Comments relating to these and other themes are analysed in the appropriate sections of this chapter. AcAds were also asked to provide their views regarding the students' attitude to the program through their quantitative responses to survey statements, elaborations on those

responses and responses to open-ended questions. Quantitative data are shown in Table 4.3

Table 4.3 ***Quantitative responses to Statement 2 of the AcAd survey: 'The students are generally positive about the program.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.80	0%	0%	0%	20.0%	80.0%

All the AcAds either agreed or strongly agreed with the statement when they completed the survey. The reader is reminded that the AcAds survey referred to all students in the program, and not just those in the sample.

Two AcAds (AcAds 3 and 7) acknowledged the problem identified by many students who complained about missing class to attend their AcAd meetings. One AcAd (AcAd 6) also noted that the level of enthusiasm diminished when students moved into their final year at school, possibly because they became more concerned about missing classes to attend AcAd meetings.

One final comment from an AcAd sheds light on the issue of students' attitude to the program:

> The students I have worked with are *positive about the program* (CLal), although more than 50% indicated they were in the program at their parents' behest, they are working well and *engaging with the subject matter* (CLal) we cover. (AcAd 10)

The structured student focus groups also provided data to explain who decided to enrol the student in the AcAd Program. The twenty participants were asked, 'Whose decision was it to involve you in the AcAd Program?' Analysis of these data revealed that over two-thirds of that group stated the decision to get involved in the program was made jointly between them and their parents/caregivers. No student indicated a reluctance to participate, although some of the data from the AcAd survey (see discussion in Section 4.4) cast doubt on this conclusion.

Data analysis indicated that students and their parents/caregivers were generally positive about the program, although a small number of students felt they were given little choice by their parents/caregivers. Data from a 2015 focus group shed light on who decided that the student would join the program. The following responses came from two students in the early years of secondary school:

> *Interviewer:* And, was it your decision or your parents' decision? Do you remember?
>
> *Focus group 1; Student 2:* I remember getting an email about it and I thought that would be pretty cool and then my parents brought it back up and said that would be a pretty good idea. The feeling was really mutual but I didn't really think much of it. And I just did it.
>
> *Interviewer:* So, mutual for you. S1?
>
> *Focus group 1; Student 1:* Yeah. I remember we got a letter and we took a look at it and decided it was worth giving it a go, so …

Other data from students, parents/caregivers and AcAds indicated that students generally became more positive as they experienced various benefits from their participation. It is important to note that the bulk of these student data were collected either in the latter stages of the 2015 and 2016 academic years, or from students who had been in the program for two or more years at the time they were surveyed in 2017.

4.2.2 Students' Perceived Need for a Program to Improve Self-regulation and Learning Power, and Their Perceptions of the Role of the AcAd

Statement 17 of the student survey was designed to assess participating students' perceptions of their level of self-regulation before entering the program, in order to assess whether the program was unnecessarily addressing a need that did not exist. Note that a low score indicates that respondents perceived deficiencies in their ability to self-regulate before they entered the program. These data are provided in Table 4.4.

Table 4.4 ***Quantitative responses to Statement 17 of the student survey: 'I believe I was already self-regulating and did not need the AcAd Program.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	2.41	12.2%	41.6%	39.0%	7.2%	0%

The mean score of 2.41, which fell between 'Disagree' and 'Cannot Say', was the lowest score in the students' quantitative data set. It indicated that very few students (7.2%) believed they were self-regulating prior to entering the program. Qualitative data indicated that even those who believed they were already self-regulating were able to improve their approach. Comments from students who felt they were partially self-regulating provided some interesting insights. For example, the following responses supported the quantitative data and also provided an insight into students' perceptions of the benefits of the program, which will be analysed in more detail below.

> I was using some methods before, but the program has taught me how to *use them effectively.* (Survey student 3)

> You can always improve on *strategies* (SAre). (Student 14)

> The AcAd gave me the final *boost* (SRpo) I needed. (Student 36)

> I was working hard, but *not smart* (SRob). The program allows me to *do both now* (SAre) (Student 19)

Quantitative data from the parent/caregiver survey provided no clear indication of the level of student self-regulation prior to commencing the program. Data from Statement 16 of the parent/caregiver survey are provided in Table 4.5.

Table 4.5 ***Quantitative responses to Statement 16 of the parent/caregiver survey: 'I believe my child was already self-regulating before the AcAd Program began.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
35^	3.06	8.4%	25.7%	25.7%	28.6%	5.6%

^ one parent did not respond to this statement.

As was the case with the student survey, a lower mean score indicated general disagreement. Parents/caregivers appeared to be undecided about whether or not their child was already self-regulating prior to them joining the program. It is worth noting that their perceptions of their child's pre-existing level of self-regulation were slightly more positive than the perceptions of the students themselves.

Statement 16 of the AcAd survey provided data suitable for triangulation with data from students and parents/caregivers. These are presented in Table 4.6.

Table 4.6 ***Quantitative responses to Statement 16 of the AcAd survey: 'I believe the students who entered the program were already self-regulating.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	2.7	0%	40%	50%	10%	0%

The largest group of AcAds were uncertain about their students' level of self-regulation prior to them entering the program, four perceived that their students were not self-regulating and one AcAd perceived that their students were self-regulating before they commenced the program. Comments that shed light on this issue included:

> Most of my students joined because their *lack of self-regulation was causing problems* (SAre). (AcAd 8)

AcAd 10 provided a more detailed elaboration on their answer:

> At the higher academic end, to an extent yes. Many knew what was required and just did what was required using a framework in their own head. Very few had things *written down or committed to schedules* (TSos). The very few who did were actually elite athletes/performers at the school who were very time poor and had committed schedules to paper just to work out what time they had available. Those with lower grades had *no real time management* (TStm) *or organisational structures* (TSos) in place.

AcAds were also asked to respond to the statement, 'I believe the program is leading to improvements in the students' self-regulation.' Their quantitative responses are presented in Table 4.7.

Table 4.7 ***AcAds' quantitative responses to Statement 4 of the AcAd survey: 'I believe the program is leading to improvements in the students' self-regulation.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.8	0%	0%	0%	30%	70%

AcAds seemed more certain that the program was leading to an improvement in the students' level of self-regulation. One might suspect that it would have been in the AcAds' self-interest to provide such and answer, so data from the student and parent/caregiver survey were used for purposes of triangulation.

Statement 4 of the student survey was: 'I believe the program is improving my ability to direct my own learning.' Responses to this statement are provided in Table 4.8.

Table 4.8 ***Quantitative responses to Statement 4 of the student survey: 'I believe the program is improving my ability to direct my own learning.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.28	0%	2.8%	13.9%	36.1%	47.2%

Over 83 per cent of students either agreed or strongly agree that the program was improving their ability to direct their own learning. One of the students contributed the following to the 2015 focus group discussion, when asked whether they felt the program was helping them to address any weaknesses:

> Yeah, definitely, I felt I was a massive procrastinator and sometimes I do fall back into the habit so in talking to [names AcAd] she would ask if I have been procrastinating so it was good to have her check up on me and put me back where I was – just keep going, so that was definitely good for me. (Focus Group 1, Student 2)

The data presented in Table 4.8 can be compared with the data from Statement 4 of the parent/caregiver survey, which are presented in Table 4.9.

Table 4.9 ***Quantitative responses to Statement 4 of the parent/caregiver survey: 'I believe the program is leading to improvements in my child's self-regulation (ability to determine how best to learn).'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.5	0%	2.8%	2.8%	36.1%	58.3%

Over 91 per cent of parents/caregivers agreed or strongly agreed that the program was improving their child's level of self-regulation.

The parent/caregiver survey also invited the sample group to respond to Statement 13, which was designed to measure their perceptions of any changes in their child's capacity to learn. These are presented in Table 4.10.

Table 4.10 ***Quantitative responses to Statement 13 of the parent/caregiver survey: 'I believe the AcAd Program is strengthening my child's capacity to learn.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.5	0%	2.8%	2.8%	36.1%	58.3%

These data mirror the data in Table 4.9. They were checked to ensure that the two statements were not perceived by parents/caregivers to be asking the same thing, and there had not been an error at the data input stage (parent data were provided in paper form and then manually entered into an Excel spreadsheet). There were, in fact, a number of individuals who responded to the two statements with different scores, indicating that parents/caregivers interpreted the two statements differently and there was no error in inputting these data.

Statement 13 of the AcAd survey also focused on students' learning power. Data from AcAd responses can be seen in Table 4.11.

Table 4.11 ***Quantitative responses to Statement 13 of the AcAd survey: 'The program is strengthening the learning power of students.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.6	0%	0%	0%	40%	60%

All of the AcAds agreed or strongly agreed that the program was strengthening students' capacity to learn.

Students were also invited to reflect on the program's impact on their learning power by responding to Statement 13 in their survey. Data from this statement are presented in Table 4.12.

Table 4.12 ***Quantitative responses to Statement 13 of the student survey: 'I believe the AcAd Program is strengthening my learning power.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.43	0%	2.9%	5.7%	37.1%	54.3%

Over 90 per cent of students who responded to this statement agreed or strongly agreed that the AcAd Program was strengthening their learning power. Student 4 elaborated on this survey statement by writing:

> I definitely know that the AcAd Program is improving my learning power because *I feel myself improving (CLsm).*

These triangulated data indicate that students, parents/caregivers and AcAds perceived that the program was leading to an improvement in the students' capacity to self-regulate and aspects of their learning power. However, these data were generalised, and did not provide an insight into why these perceptions were formed. Consequently, sub-sections 4.2.3 to 4.2.10 begin with an analysis of any relevant quantitative data related to a particular dimension of self-regulation and learning power. The reader will then be presented with a thematic analysis of a range of qualitative data, using the themes introduced in Chapter 3 and presented in Table 3.3.

The AcAds were introduced to provide a particular service to the students in the program. They were asked not to provide subject tuition or careers advice, but to focus their attention on strengthening each student's capacity to learn. Their role was therefore more akin to a learning mentor than a teacher. Question 4 in the open-ended section of the student survey asked, 'In what way does the role of the AcAd differ from the role of the teacher?' All students provided answers to this question. Their responses often focused on the one-to-one relationship they had formed with their AcAd, and their perception that the AcAds focused on working with them to develop knowledge, skills and attitudes that could be applied across subject areas and to life beyond school. These will be thematically analysed in the remainder of Section 4.2, but I have included some examples of students' answers here to introduce the reader to some of their perceptions:

> I believe that the role of an AcAd is different to a teacher as I feel they help you organise your work better and provide you with *specific study techniques* (TSss). I also *feel more comfortable talking* to my AcAd *about areas that I am struggling with* (LRst), rather than a teacher. (Survey student 27)

> The AcAd is different because they are *more of a friend* (LRbe) than a teacher. Also because they *talk with you more about your goals* (SRsa). (Survey student 20)

> My AcAd *helps me by setting up clear and achievable goals* and *continuously checks up on how I am progressing* towards these goals (SRma). They do anything they can to help me achieve these goals and *go out of their way* (LRbe). (Survey student 23)
>
> The AcAd doesn't really teach you the content; they help you become more *organised* (TSos) and prepared for exams. They teach you valueable skills for *independent learning* (FDin) that No teacher teaches *(student's emphasis)*. (Survey student 36)

These data indicate that students valued the personal relationship that they had formed with their AcAd. They appreciated the individual attention afforded to them, as well as the AcAds' focus on improving their capacity to learn, rather than on teaching them

academic content. Data such as these will be analysed throughout the remainder of this section. Taken together, they provide an answer to Supporting Research Question 1.

4.2.3 Self-regulation: Self-regulatory Processes

Goal-setting in various forms (SRsa), self-evaluation (reflection) (SRev), participating in class when not naturally inclined to do so (SRpa), managing procrastination (SRpr), obtaining a balanced approach to school and other aspects of the student's life (SRba), developing a positive attitude to learning (SRpo) and prioritising (SRpz) all sat within the theme of self-regulatory processes.

Data from Statement 4 of the student survey, 'I believe the program is improving my ability to direct my own learning', were presented and discussed when they were triangulated with data from parents/caregivers and AcAds in section 4.2.2. The statement was intended to focus students' attention on one of the purposes of the program, which was to improve their levels of self-regulation. The mean response was a score of 4.28, with 83 per cent of students either agreeing or strongly agreeing with the statement. The sample group, on average, perceived that the AcAd Program increased their ability to direct their learning.

Students also provided a rich source of qualitative data relating to their observation of changes in their own ability to self-regulate. The dimensions of this theme have been analysed using the codes presented in Table 3.3. Each of these dimensions was assigned a code that was used to classify components of qualitative data under the self-regulatory processes theme.

An open-ended survey of students who had been in the program for at least two years in 2017 provided some interesting data. One of the students wrote in response to a question regarding the degree to which the program had equipped them for life after school:

> Academic Advisers will help after school by knowing the best way to organise and *balance work and personal life* (SRba). It has made me *realise what my priorities are* (SAre) and *how important education really is* (SRpo). (2017 Survey student 1)

This comment about the importance of education also provided data relevant to the theme 'strategic awareness', which will be the focus of section 4.2.8. Another student who had been in the program for a similar period of time wrote:

> My main area of focus with my AcAd is being able to *balance my school life* (SRba) with my sporting life, while still having time to have a rest and have a social life as well. (2017 Survey student 2)

A student who had been in the program for five years by the time they completed an open-ended survey wrote in response to a question about the main area of focus in their discussions with their AcAd:

> We often focused on *procrastination* (SRpr) and how to study effectively at home and in class. (2017 Survey student 8)

The same student wrote the following comment in response to a question about the benefits of the program:

> I have developed an *attitude to learning* that has made me more inclined to see the *positive* in a subject (SRpo), even though I may not enjoy it personally. I have seen a *change in how I approach* study and *failures* after assessment (SRev). (2017 Survey student 8) …

Similar data were obtained from the analysis of elaborations in the 2015 student survey. For example, one student wrote:

> I love going to meet my Academic Adviser as it *helps me reflect* on what has happened in the past week or two (SRev). I also enjoy reflecting on not only school work but *my own week at home* (SRob).

This comment contains two dimensions of self-regulatory processes: developing a positive attitude to learning and self-evaluation/reflection. (Survey student 34)

Three of the close-ended survey statements focused on goals. Data from the 2015 student survey are presented in Tables 4.13 to 4.16.

Table 4.13 ***Quantitative responses to Statement 7 of the 2015 student survey: 'I have established clear academic goals.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.51	0%	0%	4.9%	39%	56.1%

These data confirm that students in the sample group had set goals, with over 95 per cent of the sample either agreeing or strongly agreeing with the statement.

A student in their third year of participation in the program highlighted the importance of setting and achieving goals, and managing procrastination. This student also highlighted their focus on improving their grades (achieving academic honours), which sat within the task strategies theme:

> It has also helped me heaps in *setting goals* for the future and outlining in depth how I will achieve them. For example, last year I *wanted to achieve academic honours* (SRsa) and my Academic Adviser had helped me lay out step by step how I was going to get there and I did using her help (MMss) … The Academic Adviser program also taught me how to get stuff done, *how not to procrastinate* (SRpr) and not leave stuff to the night before (TSos). (2017 Survey student 6)

Other students noted that they had previously been setting their own goals, but their AcAd helped to refine the process:

> This has always been something that has been important to me. My academics has always come first and although I was *already setting goals for myself* (SRsa), the goals I set during the program were realistic stepping stones to get to the *big goal I wished to achieve* (SAre) (SRpo). (Survey student 8)

Several comments identified the role the AcAds played in the process of developing, refining and achieving goals:

> My Academic Adviser helped me not only *meet them* but *create them* (SRma). (Survey student 26)
>
> I have created a more *in-depth* goals list for my academic since having an adviser (SRsa). (Survey student 9)

Other statements recognised the benefits of setting and working towards goals:

> This is as my Academic Adviser goes over this with me (SRma), giving me a *clear mindset* (MMrg). (Survey student 3)
>
> My AcAd has *helped me make clear academic goals* (SRsa), which has helped me to *recognise what is important* to achieve those set goals (SRpo). (Survey student 4)
>
> Establishing *clear academic goals* (SRsa) was something undertaken at the beginning of each year and these goals were not only set long term, but also short term to allow for *motivation* (SRpo) to stay at a heightened level throughout each year. (Survey student 19)

Statement 10 asked whether students had written down their goals. The sample group's responses are included in Table 4.14.

Table 4.14 ***Quantitative responses to Statement 10 of the student survey: 'I have written down my goals.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.02	0%	4.8%	17.1%	48.8%	29.3%

Just over 78 per cent of the survey group either agreed or strongly agreed with this statement. However, the relatively high proportion of students who 'could not say' whether or not they had written down their goals may have indicated an unwillingness to admit that they had not satisfied the expectations of their AcAd. Only six students

commented: two were affirmations and the other four explained that they had not written down their goals. Whether or not they had written down their goals, students in general reported that they were referring to goals when they met their AcAds, and at least one student claimed to have benefited from the process of goal-setting, even if the goals were not written down.

> I have not written them down, but through talking and discussing my future with my Academic Adviser, I have a *much clearer outlook on what I want to do* (SRsa) (MMrg). (Survey student 30)

This was reflected in the quantitative responses to Statement 11, which are presented in Table 4.15.

Table 4.15 ***Quantitative responses to Statement 11 of the student survey: 'My AcAd and I often refer to my goals when we meet.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.07	0%	7.3%	12.2%	46.4%	34.1%

Slightly more than 80 per cent of respondents confirmed that they often referred to their goals when they met with their AcAds. There was an interesting contrast between two responses in the elaborations in response to this question. On the one hand, one respondent complained that:

> This is said but it *happens too much*, every lesson of mine we did that and barely did anything else (SRma). (Survey student 25)

Another student, who may have had a different AcAd, stated that:

> We sometimes talk about goals but I think we *need to talk about them more often* (SRma). (Survey student 21)

On a more positive note, two students wrote:

> My AcAd and I *review my goals* each time we see each other to see if I am *applying them* throughout the week (SRsa) (SRev). (Survey student 34)

> Yes, she did but it *wasn't just academic*. It was *social* and *sporting* (SRsa) (SRba). Being a sporty person I found this made my academics *easier to handle* thanks to my AcAd. (Survey student 1)

Quantitative data from responses to Statement 6 of the AcAd survey align with the corresponding data from the student survey. These data are shown in Table 4.16.

Table 4.16 ***Quantitative responses to Statement 6 of the AcAd survey: 'Students have established clear academic goals.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.3	0%	0%	10%	50%	40%

However, qualitative data from the AcAds sent a mixed message. In responding to Statement 6, one AcAd wrote:

> Goal setting is one of the main pillars of the program and we encourage students to *write down their goals* (SRs) to make them real. Many simply wish to maintain grades, while those that are struggling with certain subjects have *committed to doing the extra work required* to lift these grades (SRpo). (AcAd 10)

AcAd 7 elaborated on their response to Statement 9: 'The students have written down their goals' by writing:

> Every term, and *evaluated at the end of the term* (SRev).

One response from a 2015 focus group typified the responses of other students at that time:

> *Interviewer:* Okay, so getting back to that question I was just asking, what do you think you got out of the program?

> *Focus group 1, student 1:* Um I also found it really good to reflect and I found that (um) having it every two weeks it really *motivated* (SRpo) you 'cause you could *reflect* (SRev) and see how you were doing, whether you were doing well or not too well and either way … your Academic Adviser could *help you set goals* (SRsa) and you'd end up being, I ended up feeling really *motivated* (SRpo) after each of the meetings.

Quantitative and qualitative data from students, parents/caregivers and AcAds confirmed that, through their involvement in the AcAd Program, students have been developing self-regulatory processes that are a component of self-regulation. Data from the 2017 student survey confirmed that this was still the perception of students who had been in the program for two or more years. Evidence indicated that many students had been improving in such areas as balancing school and other commitments, adopting a more positive attitude to learning, reflecting on their own performance, reducing procrastination, and setting and working to achieve meaningful goals.

4.2.4 Self-regulation: Task Strategies

The task strategies theme incorporated study skills (TSss), time management (TStm), organisational strategies (including planning and preparation) (TSos), perseverance (TSpe) and being proactive (TSpr). Question 11 of the student survey was open-ended, and elicited responses from 34 students. It asked, 'What is the most common area of focus when you meet with your AcAd?' Time management and organisational strategies were the most frequently occurring codes under the task strategies theme. The frequency with which each of these codes appeared in all elaborations and answers to the 2015 survey questions is illustrated in Figure 4.1.

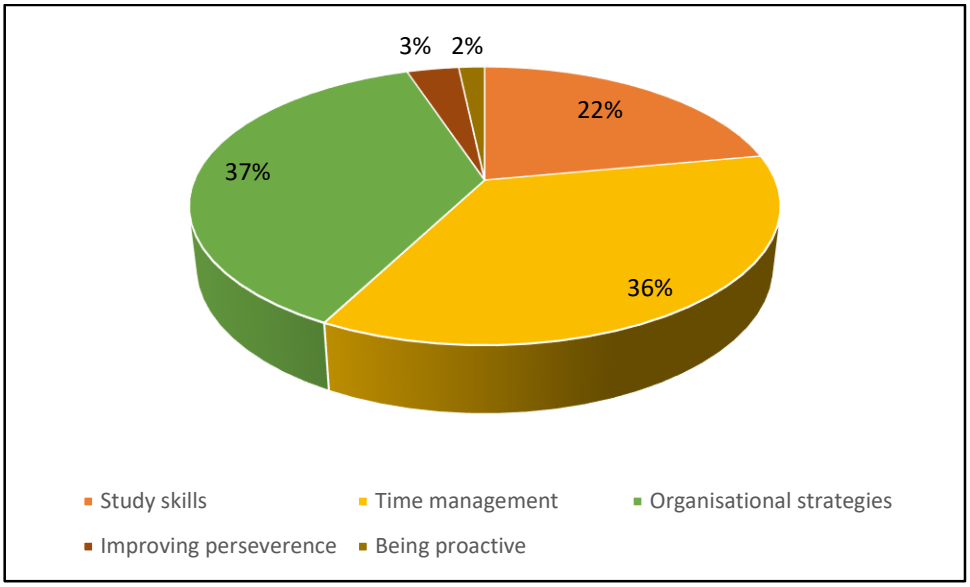

Figure 4.1 **Frequency with which codes for dimensions of task strategies appeared in student elaborations or answers to survey questions**

Organisational strategies (37 per cent) and time management (36 per cent) were the most frequently mentioned task strategies in student elaborations and answers to questions in the 2015 student survey, followed by study skills (22 per cent), improving perseverance (3 per cent) and greater proactivity (2 per cent). The following student comments support these conclusions:

> Probably the most common area of focus is *time management* (TStm). I have a *lot of extra-curricular activities, which take up a lot of time* (SRba). My Academic Adviser helps me to manage my time effectively and teaches about time management. (Survey student 10)

> *Time management* is what we try to work on the most (TStm). I am *terrible at managing my time* so I usually stay up very late working on my homework. Ever since I have joined the program I manage my time and I learn much better. My concentration has become better and I can sleep without having to *worry* about my homework (FDan). (Survey student 18)
>
> The most common area of focus is when I go to my AcAd, we go through *issues that arise when doing assignments, assessment and preparing for exams* and how I can overcome these difficulties to not get behind my work (TSos). We also focus

> on how to *reduce stress* as stress can impact upon my learning (FDan). (Survey student 2)
>
> The role of an AcAd is to help you with all areas like *organisation* (TSos), learning to be more flexible and *good study habits* (TSss), whereas a teacher is there to teach you new topics and answer questions. (Survey student 33)
>
> The information provided in the sessions about *study habits* (TSss) and *learning tools* is extremely beneficial. (Survey student 14)

The comments from Survey students 18 and 2, above, accord with AcAds' perceptions about what cases students stress and anxiety, as explained in section 4.4.4.

Similar data were obtained from focus groups:

> Well, I just overall wanted to gain more *organisation skills* (TSos) and become more confident and things like that. (Focus group 3, student 1)
>
> I just wanted to find more like, *study strategies* (TSss) and stuff because, I kind of tend to rely on one revision sheet sort of thing and then when I go to the exam I knew nothing [laughs]. (Focus group 3, student 3)
>
> Um, I just thought it would help me with my *organisation* TSos), because last year *I was a bit stressed* (FDan), but with my organisation. And then, I thought that maybe it will *improve my grades* (SRsa), being more organised. (Focus group 3, student 2)
>
> I'm way *less stressed out* (FDan) that what I used to be, and my *time management* (TStm) is way better, like I find myself having *more free time* (SRba) than what I used to, yeah. (Focus group 4, student 1)

It is interesting to note the connection in the above students' comments between organisation and stress levels. This message about this connection regularly appeared in

data from students, parents/caregivers and AcAds, as will be seen in later sections of this chapter.

Students also believed that their friends could benefit from improved task strategies if they participated in the program. Elaborations in response to many statements contained similar data:

> I think my busy friends need to use the program as it teaches you how to *manage time* (TStm) and *get organised* (TSos). (Survey student 9)

> Most students my age are not effective at studying at home and other environments, and this program would enable them to become *more efficient at studying* (TSss). (Survey student 19)

> Some of my friends that find it hard to *manage their time* (TStm) could benefit from this program. (Survey student 21)

One student contributed a short, but meaningful comment highlighting perseverance, by stating:

> I *don't quit* now (TSpe). (Survey student 5)

Analysis of qualitative data from the student surveys, focus groups and interviews confirmed that students perceived they were benefiting from the program's focus on task strategies. They particularly emphasised benefits with regard to organisational strategies, time management and study skills.

4.2.5 Self-regulation: Self-motivational Beliefs

The thematic analysis process for this aspect of self-regulation began with a list of three dimensions: self-efficacy (SMse), intrinsic interest and self-confidence. By the third round of qualitative data analysis, I had reduced the number of codes to one, because intrinsic interest had merged into the self-regulatory processes theme, while developing a positive attitude to learning, and all the references to self-confidence related to students'

attitudes to their academic work could legitimately be interpreted as changes in self-efficacy.

Quantitative and qualitative data were analysed to assess any perceived changes in students' self-motivational beliefs. Students' quantitative responses to Statement 8 are provided in Table 4.17.

Table 4.17 ***Quantitative responses to Statement 8 of the student survey: 'I believe my self-confidence is increasing over time.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.08	2.78%	5.56%	11.11%	41.67%	38.89%

Slightly more than 80 per cent of students who responded to this survey statement agreed or strongly agreed that their level of self-confidence had increased over time. Qualitative data offered an insight into these quantitative responses.

As stated above, self-motivational beliefs (self-efficacy) formed a significant part of the qualitative data extracted from student focus groups, interviews, survey elaborations and answers to open-ended questions. The following elaborations by students illustrate this point:

> At the start of the year I was not very *confident in my ability* (SMse). This came mainly from starting Year 7, but I didn't know where to turn when it came to academics. The program was *really beneficial* (CLsm) in that way. (Survey student 1)

> I have learnt that being confident can help me to *trust that the work I have done* has effectively prepared me for an exam (SMse). (Survey student 19)

> This program has helped me to become a *more confident student* (SMse). I am now more determined to *strive for excellence* (SRpo) (MMrg). (Survey student 22)

> I have felt a lot more self-assured in *my ability to learn* (SMse). (Survey student 23)

These data indicated that some students perceived that their degree of self-efficacy had increased as a result of their participation in the AcAd Program. The same conclusion could be drawn from analysis of data from focus groups, as reflected in the following comment.

> Mine (referring to an AcAd) *helped me so much with my anxiety* (FDan) like, *I feel so much confidence* (SMse), so more confident putting my hand up in class and answering questions. Like, before I didn't want to do that … (Focus group 4, student 5)

One of the students who participated in the individual interviews stated that they had achieved what they wanted from the program, and they were ready to move on:

> I think, just personally, I have (pause), like I'm *self-organised* (TSos), in the sense that (inaudible) find teachers to get help with what I'm struggling with (TSpr). I can work independently. All my planning I so independently (um) and a lot of the, all the Habits of Mind (*referring to another program offered to Year 9 students at that time*) and stuff that we did ages ago I have sort of, you know, *it's just like second nature* (SMse). (Interview with senior student 2)

Data from the AcAd survey, which are analysed in Section 4.4.5, supported this conclusion. By way of illustration, some of the AcAds' qualitative responses to the suggestion that students' self-confidence was increasing over time were very positive:

> Most definitely. I have several students in the program whose *self-confidence is exponentially* higher (SMse) than the timid student I met 12 months ago. (AcAd 10)

Parents/caregivers were also asked to respond to Statement 8, 'My child's self-confidence is increasing as a result of the program.' Relevant data, which are analysed in Section

4.3.5, showed that over 83 per cent of parents/caregivers either agreed or strongly agreed with this statement.

Data gathered from a sample of students in the program supported the claim that their levels of self-efficacy increased while they were in the program. This claim is also supported by data from parents/caregivers and AcAds, which are analysed in subsequent sections of this chapter. One can observe that greater levels of self-efficacy were associated with reduced levels of anxiety, which are analysed as part of the discussion around the fragility and dependence theme in Section 4.2.7.

4.2.6 Learning Power: Learning Relationships

Learning relationships were the first of the five themes related to learning power. Quantitative analysis of Statement 2 of the student survey, 'I generally look forward to meeting my AcAd', with a mean score of 4.31, provided an insight into the strength of many relationships that had formed between AcAds and their students (see section 4.2.1). Analysis of qualitative data from this survey provided an insight into what the students in the sample group valued most: a sense of belonging and acceptance associated with a one-to-one relationship with their AcAd (LRbe); a sense of being recognised, understood and valued as an individual (LRuv); a sense of comfort, which may at times have manifested as enjoyment (LRen); a sense of trust in the AcAd (LRst); and the student's acknowledgment that their AcAd operated independently of teachers (LRin) were all revealed in the students' elaborations and answers to questions. The following examples illustrate this point:

> Surprisingly, it was my interest in sport. My AcAd really liked to communicate with me about sport and how I could better improve myself in ways like stretching. This I found wonderful that *she was interested in me* (LRuv) rather than just my grades. This is why it was one of my highlights for the year. (Survey student 1)

> I always look forward to meeting with my ACAD because they are always really *nice and welcoming* (LRen). (Survey student 33)

There were some very positive data produced when students commented on the roles played by their AcAd and their teachers:

> It is a more *personal relationship* (LRbe) and I can talk to my AcAd about personal struggles with teachers and friends in the classroom without having to worry about the *conflict of interest* (LRst) (FDin). (Survey student 14)
>
> I love the aspect of my AcAd being separate from the school and *not being one of my teachers* (LRin), so I feel *no pressure in what I say about my study at all* (LRst). (Survey student 30)
>
> [Name of AcAd] is such an *engaging and lovely lady to meet with* (LRen). I always feel *comfortable talking about issues or unsuccessful strategies* (LRst). (Survey student 14)
> My academic adviser is always happy and energetic and this *brightens my day* (LRen) and makes the sessions more *open and allows them to flow freely* (LRst). (Survey student 19)

In response to the question, 'So, if say a Year 7 student came up to you and asked "I know you're in the AcAd Program, do you think I should join?", what would you say?', one senior student with several years' experience in the program responded:

> Oh 100 per cent. Yes. I'd definitely recommend [names their AcAd]. He was the best I've had so far, but I've been doing the program for a few years and just have someone that, you're not really accountable to but, like, *worked hard to help me learn*, and to know *that you're not alone* and *your AcAd is there to help you* (LRbe). (Interview with senior student 3)

These data indicated that the personal relationship between students and their AcAd was a vital element of any success the program could claim. The relative frequency with which relevant data were identified is illustrated in Figure 4.2.

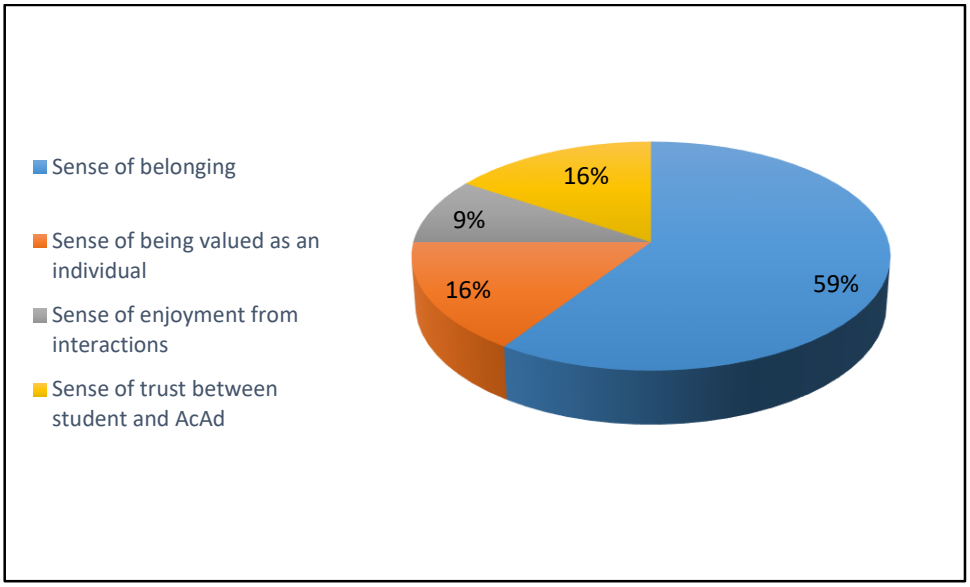

Figure 4.2 **Relative frequency with which the various dimensions of the learning relationships theme appeared in the 2015 student survey data**

Figure 4.2 illustrates the relative frequency with which the sense of belonging code appeared in student survey data. However, while these dimensions of learning relationships have been coded separately, they should be seen as interdependent. Students' sense of belonging, their perception that they were valued as individuals with a life outside of school, the welcoming personality of the AcAds that brought enjoyment to the meetings and the trustworthiness of the AcAds were all functions of each other. If one element was withdrawn, students' overall perceptions would be far less positive.

4.2.7 Learning Power: Fragility and Dependence

Analysis of this component of learning power relied exclusively on qualitative data from students. The following codes were used in the analysis process: managing anxiety and stress related to academic life (FDan) and exercising independence (FDin). Data were obtained from the following student elaborations and answers to survey questions. The first elaborated on the student's response to the suggestion that their self-confidence had been increasing over time:

> This has always been a struggle of mine. Although my levels of achievement in academics have always been very strong, I have a lot of *self-doubt* (SMse). This *anxiety* (FDan) often inhibits my ability to study on some nights, sleep, etc. I believe, however, by identifying this negative aspect with my Academic Advisor,

> it has become less of a problem. Although it is still an area that requires improvement, *I now know some strategies that will help me in the future* (SAre). (Survey student 9)

In responding to a question about how the student thought the program might benefit them in their life beyond school, one student wrote:

> I think it has already changed the time I go to bed and the amount of homework I finish in one night. My knowledge has improved and my *stress levels have decreased* (FDan). I find the AcAd Program very useful. (Survey student 18)

Another student elaborated on their response to Statement 1, which proposed that they were benefiting from the program:

> I have managed my *stress levels* (FDan) and have been excelling in my academics this year. (Student survey 23)

Another student elaborated on survey Statement 5: 'I am relying less on my classroom teacher than I was before the start of the program':

> I now *rely on myself* to find out what is going on around the school (FDin) and *if I need help I will ask* my teacher of Academic Advisor (TSpr). (Survey student 4)

Students' quantitative responses to Statement 5, which focused on students' reliance on classroom teachers, led to a different conclusion. Data from responses to this statement are detailed in Table 4.18.

Table 4.18 ***Quantitative responses to Statement 5 of the student survey: 'I am relying less on the classroom teacher than I was before the start of the program'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	3.61	0%	13.9%	30.6%	36.1%	19.4%

These data appear to have contradicted each other. However, the responses regarding the classroom teacher may have been affected by two factors. As pointed out in Chapter 1,

the case study school operated with a school-based assessment system, where even the most independent student would be wise to pay close attention to their teacher, given that they both created and marked all assessment items. The other factor may have been a subtle change in the way the students interacted with their teachers, as a more proactive approach, where the students actively used the teacher as a resource, would be viewed as a positive in any learning environment. The following comment illustrates this point:

> I still *ask a lot of questions* to *make sure I understand* the concepts fully (TSpr). (Survey student 23)

Dependence on the teacher was seen as one of the biggest impediments to change, and one of the major reasons for the introduction of the new organisational architecture. However, teachers (subject coaches) would still have an important role to play. The intention was not to make them redundant, but rather for their position as the focus of the education supply chain to be replaced by students.

Analysis of the qualitative data from the 2015 student survey revealed that addressing anxiety and stress was the dominant benefit identified by students under the fragility and dependence theme. This is illustrated in Figure 4.3:

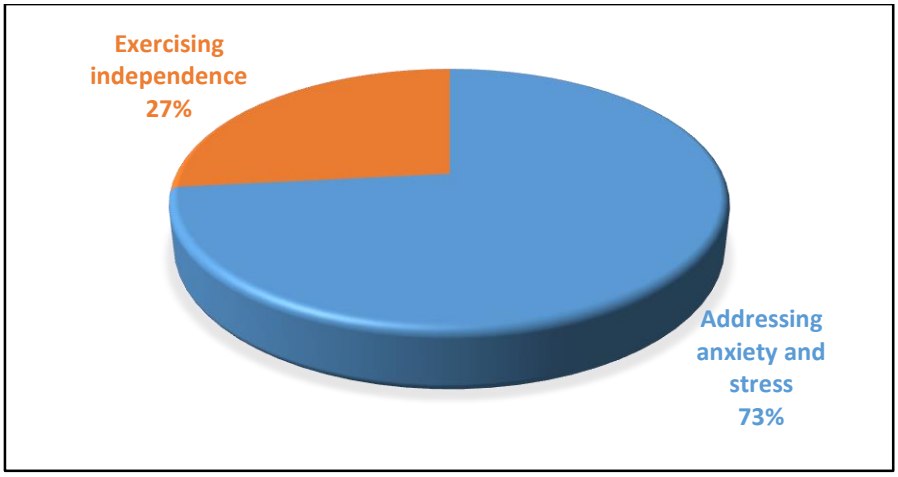

Figure 4.3 **Relative frequency with which the various dimensions of the fragility and dependence theme appeared in the 2015 student survey data**

The majority of the data analysed in this theme related to perceived reductions in the level of anxiety and stress experienced by students. However, many students acknowledged

that improved task strategies had helped to reduce anxiety and stress. This issue will be revisited in section 4.4. It is significant because it highlights the pastoral (welfare) benefits of the program.

4.2.8 Learning Power: Strategic Awareness

Statement 15 of the student survey, 'I am expanding my learning networks beyond the classroom', was designed to assess the extent to which students remained dependent on their classroom teachers as the gatekeepers of knowledge. Students' quantitative responses are presented in Table 4.19.

Table 4.19 ***Quantitative responses to Statement 15 of the student survey: 'I am expanding my learning networks beyond the classroom.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.17	0%	2.8%	11.1%	52.8%	33.3%

Some 85 per cent of the sample group agreed or strongly agreed that they had extended their learning network beyond the classroom.

Analysis of the qualitative data provided some context to the quantitative answers noted above. The ability to identify, assess and modify one's overall approach through a process of strategic reflection, which entails a focus on long-term gains, was coded as SAre. Another code (SAir) was used to identify comments related to understanding the relationship with the learning environment and expanding one's learning network.

Survey student 22 responded to the statement 'I am expanding my learning network' by writing:

> My AcAd is always providing me with *different strategies* (SAre) to help *challenge myself* and expand my knowledge (SRsa) (SMse).

In commenting on his increasing level of self-confidence, Survey student 34 wrote:

> I feel that *the more I know what going on around me* (SAir) the more confident I am.

In considering how the program might influence their behaviour beyond school, students wrote:

> In the AcAd Program I have done more of *reflecting about how the term went and how to improve for next time* (SAre). So I think I will carry these skills through to university. (Survey student 6)

> Overall, this program has been very beneficial to me for my *self-awareness* (SAre) and *learning habits* (CLll). These will be *especially helpful to me* in the future at uni. (Survey student 8)

These data were closely aligned with data relating to self-evaluation/reflection, which was analysed under the self-regulatory processes theme in Section 4.2.3.

4.2.9 Learning Power: Meaning Making

Two dimensions of meaning making were assigned codes to aid the process of analysis. Students' sense of purpose (MMrg) and their sense of satisfaction/personal fulfilment from their progress (MMss) were identified in the qualitative responses. These included:

> I personally really enjoy the AcAd Program and really *enjoy* having meetings with them (LRen) as they are committed to helping me *strive for excellence* (MMrg). (Survey student 22)

> Through the program my goals not only met but were *extended to make my work harder* (MMss) … It has *immensely improved* (MMss) what I thought was self-directed into something more. This is reflected in my grades. (Survey student 1)

> The most common area we focus on is my goals and *what I have improved on and how I can become better* (MMss) (SRpo) (SRsa) (CLal). (Survey student 12)

Data from the 2015 focus group interviews also contributed valuable insights into students' perceptions. In reflecting on that they wanted to achieve from the program, two students said:

> I wanted to do it, I suppose, so that I'm *like doing something for a reason* (MMrg). Not just doing it because I have to do it. (Focus group 3, student 5)

> It's definitely helped me become *more focused* (SRpo) on my work and I actually *enjoy studying a lot more* (MMss). (Focus group 3, student 1)

Two students from the 2017 survey, students 7 and 10, identified some of the benefits of the program, in which they had participated for four years:

> It has changed my attitude towards education in general and has *created greater ambition towards future studies* (MMrg) (SRsa) by motivating me and giving me the *insight to care about schoolwork* (MMss). (2017 survey student 7)

> The knowledge I have gained is *don't settle for the bare minimum* (MMrg). Always try to find a way to either improve your work or go beyond what is required. Don't simply settle for a B grade, explore a deeper insight to the content covered for the exam or the assignment because it can *help you stand apart from the rest* (MMss). (2017 survey student 10)

These data illustrate that students' sense of purpose and satisfaction were a consequence, rather than a cause, of the success of the program. These data have links to data coded under the self-regulatory processes and changing and learning themes.

4.2.10 Learning Power: Changing and Learning

Statement 20 of the student survey assessed whether or not students enjoyed learning about themselves. The sample group's responses are summarised in Table 4.20.

Table 4.20 ***Quantitative data from Statement 20 of the student survey: 'I enjoy learning about myself.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
33	4.03	3.0%	3.0%%	12.1%	51.6%	30.3%

Thirty-three of the 36 students in the survey group responded to this statement. Quantitative data indicated that approximately 82 per cent of the student sample either agreed or strongly agreed with the suggestion that they enjoyed learning about themselves.

Changing and learning was the fifth and final theme in the learning power category. Codes were used to identify qualitative data representing a student's sense of being empowered (CLll) and maturing and becoming stronger over time (CLsm). Codes were also employed to note data where students recognised that learning was an ongoing process (Clog), that the program was assisting them to develop life skills (CLwp), where they showed an interest in learning about themselves (CLse), and where they sought an improvement in their ability to learn (CLal).

Survey student 3 in the first 2015 focus group summarised what they had learnt through the program:

> It got me thinking about my actual learning, like *why I am learning* and *how I learn* (CLse) and that really helped once I knew …

Students in the sample 2015 survey group identified how the program might benefit them beyond school:

> I would expect to have *improved habits* (CLll) and *understand my own learning abilities* (MMss). (Survey student 12)

> I think the AcAd Program has already started to *improve the way I learn* (CLal) and my study habits and *will continue to do so* (Clog). (Survey student 28)

Data relevant to this and other themes was also provided by the students in 2015 focus group 1:

> *Interviewer:* Okay, so now we get to the 'nitty gritty' bit. What do you think you got out of the program?
>
> *Focus group 1 student 2:* I think it was good to every fortnight or once a month good to reflect on how it was. It wasn't a *reflection* (SRev) I would be doing otherwise, so it sort of … with that survey if you didn't like ah knowing

creativity and I thought *it was interesting* (CLse) to know, get another perspective on *how my learning was taking place* (MMss).

Focus group 3, student 1: I wanted to form study habits that I could *use in the rest of my life* (CLll) and not just school, and get more involved. I'd start liking school a lot more and *become more work oriented* (MMrg).

These data indicated that students recognised learning as an ongoing process, and that the program was both giving them an understanding of how they learnt and equipping them for success in life after school. These long-term perspectives reflect a different insight than that exhibited by the relatively few students who saw improvements in grades as an end in itself and a measure of the success of the program.

4.2.11 Summarising the Evidence from the Analysis of Student Data

The analysis of student data presented in Section 4.2 supports the conclusion that, in a general sense, there was evidence of strong support for the AcAd Program from students in the survey group. Student data constituted evidence that most students looked forward to their AcAd meetings and found the program to be beneficial. Students were able to draw a clear distinction between the role of the AcAd and the role of the teacher. The majority of the student survey group stated that they were not self-regulating prior to the start of the program, and some of those who believed they had been self-regulating believed that the program had improved their capacity to self-regulate. These data were confirmed by data from the AcAd survey, but data from the parent/caregiver survey indicated that parents/caregivers were not sure whether or not their child was self-regulating prior to entering the program.

Self-regulatory processes formed the first theme in the category of self-regulation. Students claimed they had set meaningful goals while involved in the program, and data from AcAds and parents/caregivers supported this conclusion. However, students were less inclined to claim that they had written down these goals. Data from the parent/caregiver survey was introduced at this point to confirm that, while students appeared to have goals, they were not necessarily writing them down or discussing them with their parents/caregivers. Goal-setting was a frequently referred to aspect of the self-regulatory processes theme.

Task strategies, also part of the self-regulation category, were the most dominant of the eight themes analysed. There were a relatively high number of coded comments from students identifying organisational strategies and time management as principal concerns within this theme. Self-motivational belief was the final theme in the self-regulation category, and the self-efficacy dimension of this theme was dominant. Data from the student survey indicated that students believed their self-efficacy was increasing over time. Their views were supported by data from the AcAd and parent/caregiver surveys.

Various dimensions combined under the theme of learning relationships, with the first of the themes analysed in the learning power category. Student data indicated that many students valued their relationship with their AcAds. They particularly valued their one-on-one relationship and the trust they placed in their AcAds, who were sometimes described as mentors. The fragility and dependence theme was dominated by students' focus on anxiety/stress associated with schoolwork. Numerous students stated that the AcAd Program had helped them to overcome problems in this area. There was some evidence that students saw themselves as less dependent on their teachers, although the school-based assessment system was identified as a logical explanation for why students continued to be dependent. Nonetheless, with respect to the strategic awareness theme, there was evidence that students were extending their networks beyond the classroom, and some students pointed to their increasing awareness of their learning environment and a preparedness to access a range of learning resources. There was evidence that some students were taking a more proactive approach to their learning. Evidence of expanding learning networks and a more proactive approach to accessing resources, including teachers, were seen as positive developments with regard to the overall strategy of positioning students for success in a personalized learning environment.

The sample group of students did not provide an abundance of data with respect to the theme of meaning making. However, a number indicated that they valued the opportunity to reflect when they met with their AcAd. An undertone of greater satisfaction and sense of purpose was detected in these data. Similarly, data relevant to the changing and learning theme was less apparent, but nonetheless present in the comments made by students. A number referred to the program's positive impact on their life, both inside and

outside of school, and indicated that they enjoyed learning about themselves, particularly with respect to themselves as learners.

The relative emphasis given to each of the themes extracted from the 2015 student survey, which formed part of the analysis in Section 4.2, are illustrated in Figure 4.4.

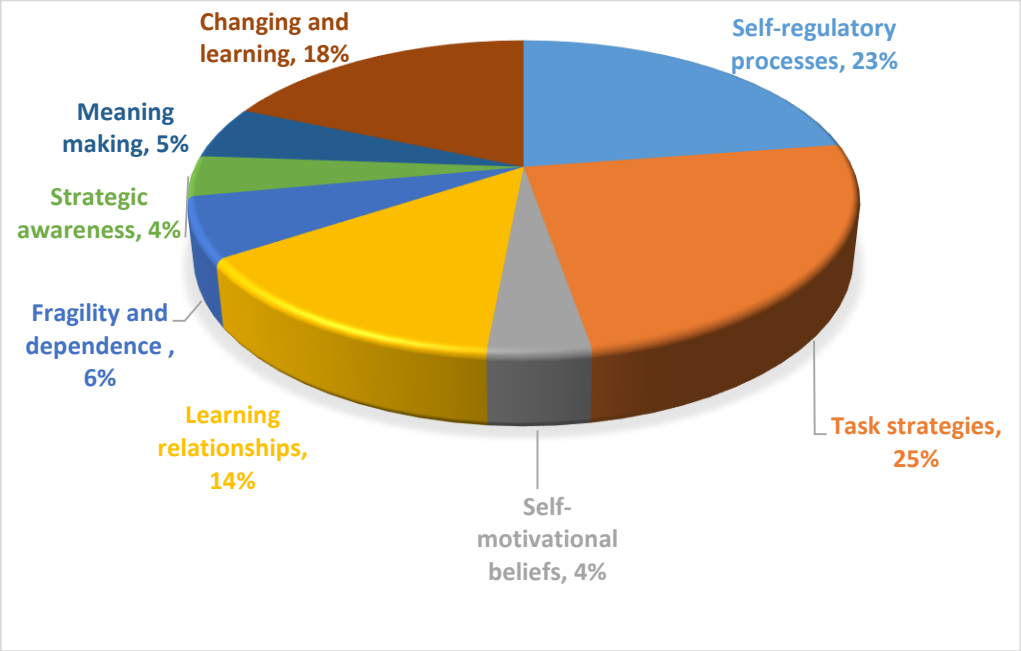

Figure 4.4 **Relative frequency with which themed coded comments were present in the 2015 student survey**

Coded comments from the 2015 student survey, which involved the greatest number of students, compared with the other sources of student data, indicated that the themes of task strategies and self-regulatory processes were of primary interest to students in the survey group. Both themes were in the self-regulation category. Learning relationships were of significant interest to students in the survey group and appeared to underpin the work of the AcAds. Themes within the self-regulation category were slightly more prevalent that themes in the learning power category. The relative frequency with which these categories appeared in the 2015 survey data is illustrated in Figure 4.5.

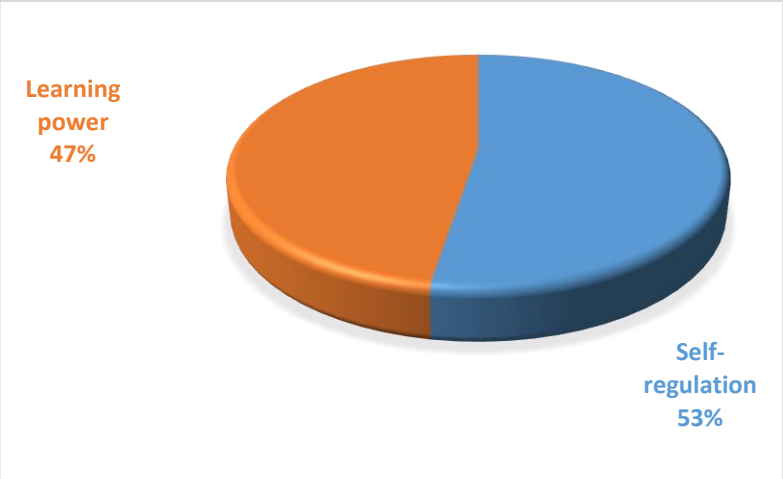

Figure 4.5 **Relative frequency with which themed coded comments relating to self-regulation and dimensions of learning power were present in the 2015 student survey**

Qualitative data from student responses to the 2015 survey revealed that coded comments relating to self-regulation appeared a little more frequently than comments relating to learning power. However, care should be taken not to consider learning power to be less significant than the category of self-regulation. It is true that students focused much of their attention of task strategies when they identified the benefits of the AcAd Program, but their data also highlighted the importance they placed on their relationships with their AcAds. These relationships set the foundations for improvements in self-regulation and learning power.

4.3 Perceptions of Parents/Caregivers of Students in the AcAd Program

Supporting Research Question 2 asked, 'What are the perceptions of the parents/caregivers of students in the AcAd Program, particularly in relation to the role of the AcAd and the impact of the program on the students' level of self-regulation and learning power?'

Data from the quantitative and qualitative components of a 2015 student survey were employed to answer this question. Data from participating parents were analysed in sections that grouped together the parents'/caregivers' quantitative and qualitative responses into three broad categories. Data relating to the parents'/caregivers' overall level of support for the program are presented in section 4.3.1. Data relating to

parents'/caregivers' perceptions regarding the role of the AcAd are presented in section 4.3.2. Sections 4.2.3 to 4.2.10 analyse data from the various dimensions of self-regulation and learning power, and section 4.11 presents a summary of the analysis from sections 4.3.1 to 4.3.10.

4.3.1 Parents'/Caregivers' Support for the Program

Data to analyse the perceptions of parents/caregivers were obtained from a survey completed in the latter part of 2015. The survey included a series of 20 statements requiring a response using a five-point Likert scale (1 for strongly disagree to 5 for strongly agree). Extracts from the qualitative data set are provided where they elaborated on the quantitative data from Statements 3, 1, 4, 13 and 14, and most of the analysis of qualitative data occurs in sections 4.3.2 to 4.3.9. Some of the general perceptions of surveyed parents/caregivers were presented in sections 4.2.1 and 4.2.2, when they were triangulated with student and AcAd data. In that analysis and discussion, it was ascertained that parents/caregivers perceived their child to be positive about the program and, while they were uncertain as to whether or not their child had been self-regulating before they entered the program, they agreed that the program was leading to an improvement in their child's self-regulation and was strengthening their child's capacity to learn. Statement 3 of the parent/caregiver survey gauged their support for the program. Their responses are presented in Table 4.21.

Table 4.21 ***Quantitative data from Statement 3 of the parent/caregiver survey: 'I personally support the program.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.86	0%	0%	2.8%	8.3%	88.9%

More than 97 per cent of surveyed parents/caregivers personally agreed or strongly agreed that they supported the program. Importantly, no parents/caregivers at all disagreed or strongly disagreed.

Fourteen parents/caregivers provided additional comments in response to Statement 1, of which six were best described as affirmations. Three of the remaining elaborations aligned with the learning relationships, self-regulatory processes, and changing and learning themes, which appeared frequently in the coding process and will be discussed

again in subsequent sections. A few examples of those comments are provided by way of illustration:

> The results speak for themselves. He seems to have suddenly '*evolved*' in spite of new 'distraction' (CLsm). (Parent 23)

> One hundred per cent. This has been of great benefit to [name of student] and his *attitude* towards his efforts in learning have improved (SRpo). (Parent 12)

> We find that [name of student] *will listen to* his AcAd and her suggestions (LRst). (Parent 33)

> I have appreciated that [name of student] has a professional to discuss her learning and school with someone who is a *trusted adviser* (LRst). (Parent 25)

Parent 25's reference to the AcAd as a professional reflected evidence that parents/ caregivers perceived the AcAds to be valued members of the education team.

Statement 1 of the parent/caregiver survey gauged their perceptions about the overall impact of the program on their child. The results of the survey are shown in Table 4.22.

Table 4.22 ***Quantitative data from Statement 1 of the parent/caregiver survey: 'I believe the AcAd Program is benefiting my child.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.61	0%	2.8%	2.8%	25%	69.4%

Over 94 per cent of parent respondents agreed or strongly agreed that the program was benefiting their child.

A number of elaborations were provided for analysis. Self-regulatory processes, task strategies and fragility and dependence were common themes in these qualitative data:

> The program has assisted in developing *time management skills* (TStm), *prioritising assessment* tasks (SRpz) and strategies to overcome *anxiousness* when doing exams (FDan). (Parent 27)

The following elaborations provided data containing more than one theme, all of which will be analysed in greater detail in the remainder of this section.

> Yes, definite *independence* (FDin) and responsibility. His *organisation* (TSos) has also improved. (Parent 2)

> It provides great tools to assist them in *taking ownership of their learning* (FDin) and *day-to-day planning* (TSos). (Parent 22)

> [Name of the student] has been encouraged to give various *strategies a go* (SRev) in order to determine what is suitable to her. She has been able to improve upon research skills taught by her classroom teachers, to *enquire further by using other resources* (SAir). (Parent 27)

Parents/caregivers made a financial contribution to the cost of the program and, for this reason, they were invited to communicate their views with respect to the return on their investment. Data provided in responses to the relevant survey statement are shown in Table 4.23.

Table 4.23 ***Quantitative data from Statement 14 of the parent/caregiver survey: 'I believe the program represents good value for money.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.69	2.8%	0%	5.6%	8.3%	83.3%

Over 90 per cent of parents/caregivers agreed or strongly agreed that the program represented good value for money. This is particularly significant, given that the parents/caregivers were asked to make a financial contribution over and above their school fees. Nine comments were provided, all but one being an affirmation. However, one parent wrote:

> Not at this stage. Other students seem to have more sessions than my child. (Parent 30)

These data indicated a strong level of parent support for the AcAd Program, with only one parent sending a consistent message that they were dissatisfied. Parents/caregivers generally believed that the program was improving their child's ability to self-regulate and that their child's capacity to learn was being strengthened through their participation in the program. They also believed that it represented a good return on their financial investment. The following sections analyse other data from parents/caregivers in order to gain a better understanding of why they were so supportive[24]. This is particularly important, given the AcAds were less convinced that parents/caregivers were actively supporting the program, as explained in section 4.3.

4.3.2 Parents/Caregivers' Perceptions of the Role of the AcAd

Twenty-nine parents/caregivers provided answers to Question C on the parent/caregiver survey, 'In what way does the role of the AcAd differ from the role of the teacher?' Many parents/caregivers highlighted the personal relationship their child had developed during their one-on-one meetings with their AcAds. Much of these data were related to learning relationships, which will be analysed in more detail in section 4.3.6. Regardless of the thematic focus, parents/caregivers appeared able to draw a clear distinction between the work of the teacher and the work of the AcAd, as evidenced by the following qualitative data:

> AcAd is there to guide the children to improve their learning techniques (CLll) – assist them in areas where they can improve their *study skills* (TSss) and *organisation* (TSos). Assist them with *self-confidence* (FDan) and *goal setting* (SRma). (Survey parent 20)

> AcAd – focus on *learning methods*, how to get the best from your subjects and classes, how to style your learning to suit you (CLal). Classroom teacher – focus on subject content, subject matter rather than *how* to learn. (Survey parent 4)

[24] The parent who was not satisfied had an issue with the apparent failure of the AcAd to arrange meetings. On further investigation, the AcAd had made several attempts to arrange meetings with the student, but the student failed to attend.

> It is more of a *coaching/mentoring role* (LRst) encouraging the student to *materialise their potential* (CLal). It is about *bringing out the best in a child* (CLwp) rather than providing information into the brains of a child. (Survey student 21)

One parent's brief answer captured the purpose of the program, by stating that the purpose was:

> About *how to learn* (CLal) and not what to learn. (Survey parent 9)

These and other data provide evidence that parents/caregivers had a clear understanding of the role of the AcAd. They saw the AcAd as focusing on the development of learning capacity, founded on a healthy relationship with their child.

4.3.3 Self-regulation: Self-regulatory Processes

Self-regulatory processes were one of the themes in the self-regulation category. The reader will recall that specific codes were assigned to students' written comments about goal-setting, self-observation and awareness, self-evaluation as reflective practice, participation in class when the student states they were not naturally inclined to do so, managing procrastination, balancing academic with other commitments, adopting a positive attitude to learning and prioritising tasks.

Quantitative data from the parent/caregiver survey indicated that most students at least appeared to be setting goals. The responses to Statement 9 of the parent/caregiver survey are provided in Table 4.24.

Table 4.24 ***Quantitative responses to Statement 9 of the parent/caregiver survey: 'My child has written down their goals.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.19	0%	5.6%	13.9%	36.1%	44.4%

Eighty per cent of the parents/caregivers who completed the survey believed their child had written down their goals. Eight comments were provided, of which the majority were affirmations rather than elaborations. One parent wrote: 'Yes, they are on the fridge *for all of us to see* (SRpo)' (Survey parent 29), and another wrote; 'Goals have been noted

and he is *proud of achieving* (SRpo) and meeting deadlines' (Survey parent 26). These comments indicated that some students had a sense of purpose and were making themselves publicly accountable for the achievement of their goals. The perceptions of parents/caregivers were assessed further in responses to Statement 10, which inquired about references to the students' goals in conversations at home. These data are set out in Table 4.25.

Table 4.25 ***Quantitative data from Statement 10 of the parent/caregiver survey: 'My chid refers to their goals when we discuss what they are doing at school.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	3.83	2.8%	8.3%	13.9%	52.8%	22.2%

These data indicate that, while 75 per cent of parents/caregivers reported that they and their child discussed their goals, 25 per cent either did not discuss them, or were not sure whether they did. Very few comments were provided in response to the statement, and none of them helped to explain the quantitative responses. Despite this, parents/ caregivers were more certain that their child had established goals. Responses to Statement 6 of their survey are provided in Table 4.26.

Table 4.26 ***Quantitative responses to Statement 6 of the parent/caregiver survey: 'My child has established clear academic goals.'***

Number of responses	**Mean score**	**Strongly disagree**	**Disagree**	**Cannot say**	**Agree**	**Strongly agree**
36	4.36	0%	0%	8.4%	47.2%	44.4%

Over 91 per cent of parents/caregivers responding to the survey agreed or strongly agreed that their children had established clear academic goals. Of the ten comments provided in response to this statement, half were affirmations, one was a dissenting comment and four specifically noted the assistance provided by the AcAd in this regard:

> This is probably because [name of student] is so undecided about which path to pursue but [name of AcAd] always *helps clarify and suggest pathways* (SRma). (Parent 13)

> Thanks in this regard must also go to [name of AcAd], who has been amazing. (Parent 23)

Data from students, parents/caregivers and AcAds presented here and in previous sections indicated that many students in the AcAd Program set goals, and these goals were, in the main, developed with the help of AcAds or, in some cases, developed autonomously by the students. These goals were often referred to in their meetings with their AcAds, but were referred to less often in conversations with their parents/caregivers. The relative frequency with which the various dimensions of self-regulatory processes appeared in the parent data is illustrated in Figure 4.6.

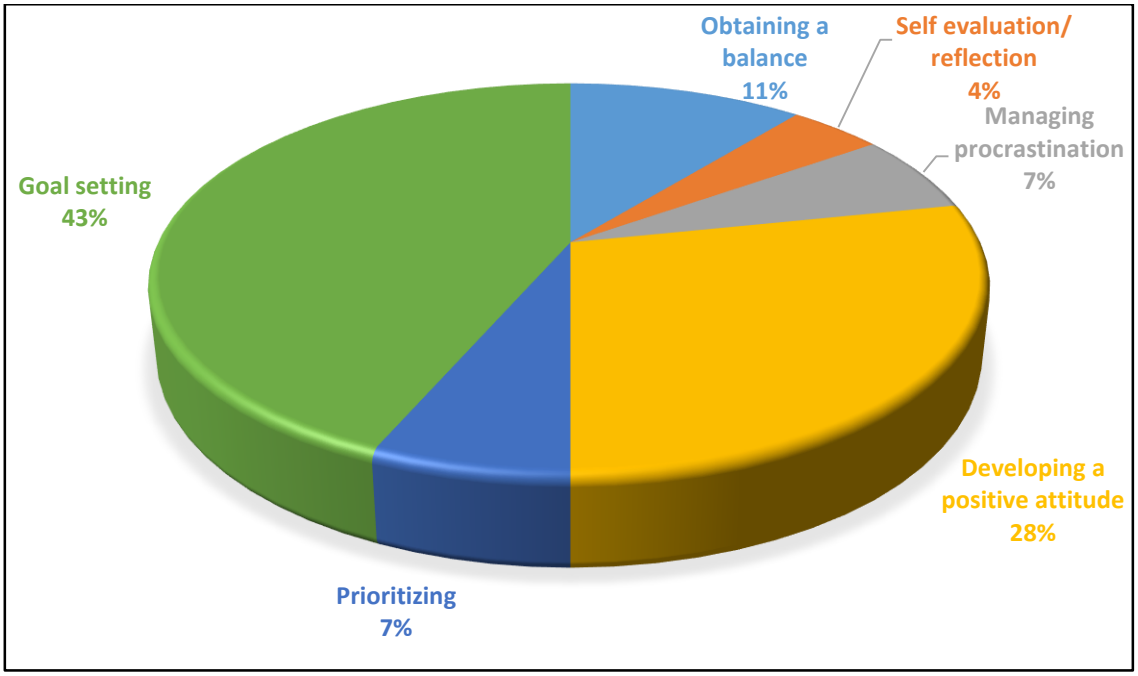

Figure 4.6 **Relative frequency with which various dimensions of self-regulatory processes appeared in parent/caregiver survey data**

4.3.4 Self-regulation: Task Strategies

Thirty-three parents/caregivers responded to the first open-ended question (Question A) on their survey, 'What is the most common area of focus when you and your child have discussions about their learning?' Thirty-one of them identified one or more of the dimensions of the task strategies theme. The task strategies theme incorporates study skills, time management, organisational strategies (including planning and preparation),

perseverance and proactivity. The coding process also revealed the areas of task strategies that were of greatest concern, according to parents/caregivers. These are presented in Figure 4.7.

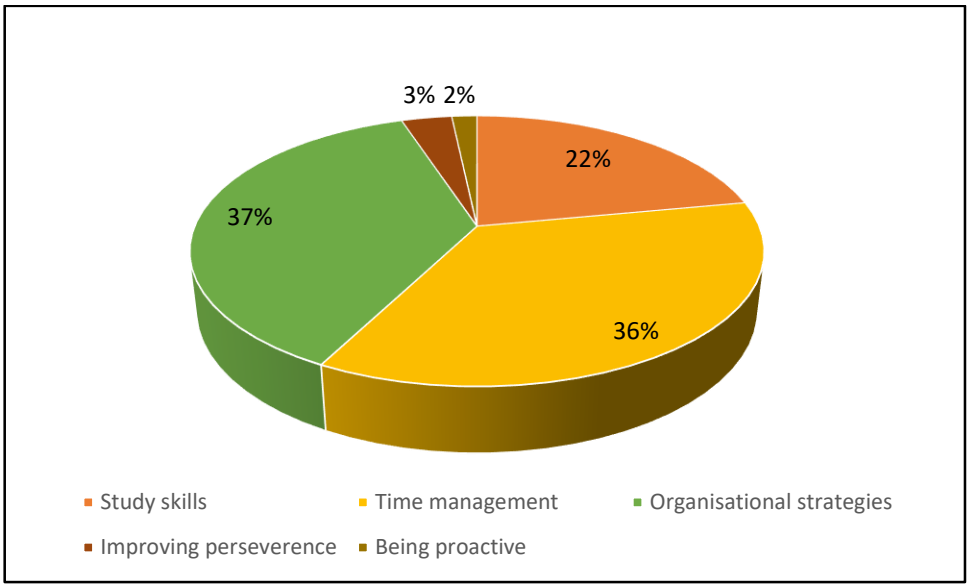

Figure 4.7 **Relative frequency with which various dimensions of the task strategies theme appeared in coded data from the 2015 parent/caregiver survey**

Figure 4.7 illustrates the relative emphasis given to certain aspects of self-regulatory processes by parents/caregivers in conversations with their child/children. According to them, the most frequently identified was organisational strategies (37 per cent), which included issues to do with planning, preparation, and prioritising tasks, followed by time management (36%) and conversations about study and study skills (22 per cent). Other themes were present in these data from answers to Question A, but they were not as dominant. These included self-confidence, managing anxiety, goal-setting, maintaining a balance and accessing resources. The following written responses illustrate this:

> *Planning* ahead, *starting assignments early* (TSos), *time management* (TStm) and the importance thereof. *Study methods* (TSss). (Parent 10)

> A healthy *balance* between study time, physical activity and recreational activities. Effective *planning and organising* (TSos) of tasks, ways of *de-stressing oneself* (FDan) whenever it occurs due to pressure of academic work. (Parent 34)

Organisation (TSos), understanding what is expected of the tasks at hand. *Asking for help* (TSpr) and *planning his time* (TStm) wisely. (Parent 2)

While parents'/caregivers' responses regarding student goal-setting reflected some uncertainty about their child's activities, they appeared more certain about the specific concerns their child expressed about various task strategies. Organisational strategies in particular appeared to be a frequently visited topic in home-based conversations. This finding complements the data presented in section 4.2.4, which indicate that students also highlighted organisational strategies and time management as dimensions of task strategies that were visited frequently in their AcAd meetings.

4.3.5 Self-regulation: Self-motivational Beliefs

This was the third and final theme categorised as an element of self-regulation. It incorporated coded comments related to self-efficacy (SMse) and intrinsic interest in learning (SMii). Statement 8 of the parent/caregiver survey focused on self-confidence. Quantitative data provided in responses to this statement are shown in Table 4.27.

Table 4.27 ***Quantitative responses to Statement 8 of the parent/caregiver survey: 'My child's level of self-confidence is increasing as a result of the program.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.11	0%	2.8%	13.9%	52.8%	30.5%

Some 83 per cent of parents/caregivers either agreed or strongly agreed that the program had helped to increase their child's self-confidence. This statement was accompanied by 11 written comments, the majority of them affirmations. Several parents/caregivers provided noteworthy elaborations:

[Name of student] is gaining a *better understanding of the commitment required* for his studies (SMls). (Survey parent 12)

Grades are improving; *therefore, confidence is improving* (SMse). (Survey parent 17)

> [Name of student] has become *more confident* towards her studies and *her ability* (FDan). (Survey parent 27)

Other data were obtained from answers to open-ended questions. In response to open-ended question D, 'What type of behaviours would you expect your child to exhibit at the conclusion of the AcAd Program?' one parent wrote a comment containing data rich in a number of themes:

> Self-regulation, *humility* (CLwp), fascination, *love of learning* (SMii), *perseverance* (TSpe), *depth of learning, appreciation* (SMii), *self-awareness* (SAre) (CLse). (Survey parent 19)

Figure 4.8 illustrates the relative importance of coded comments relating to the self-motivational beliefs theme

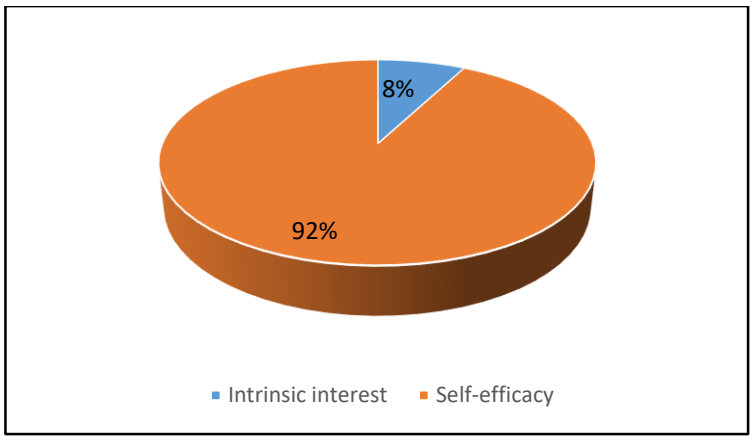

Figure 4.8 **Relative frequency with which coded comments appeared in the self-motivational beliefs theme from the 2015 parent/caregiver survey**

Most parents/caregivers who provided comments relating to self-motivational beliefs (92 per cent) focused on improvements in their child's self-efficacy. They indicated that their child's growth in confidence was associated with the development of useful skills and an understanding of what was required to be a successful student.

4.3.6 Learning Power: Learning Relationships

Coded comments relating to the students' sense of belonging (LRbe); sense of being recognised, understood and/or valued as an individual (LRuv); sense of enjoyment from interactions with their AcAd (LRen); sense of trust between the student and the AcAd

(LRst); collaboration with others (LRco); and an appreciation of the independence of the AcAd (LRin) were classified under the theme of learning relationships.

There was only one comment coded to identify a reference to collaboration but, as was the case when student data were analysed, a considerable amount of data was obtained relating to other dimensions of this theme. In response to open-ended question C, 'In what way does the role of the AcAd differ from the role of the teacher?' parents/caregivers wrote:

> I think the advisor is like a *'friend'* to her (LRbe). She feels she is able to *discuss more openly* (LRin) her worries and problems. The AcAd is able to *offer sound advice one-on-one* (LRuv). (Parent 10)

> The AcAd has become an important connection to the school for [name of student]. Her AcAd gives her thoughtful advice on all aspects of her learning but importantly provides [name] with a *trusted mentor* (LRst) who can support her with *other aspects of her life* in and out of school (LRuv). (Parent 25)

> It is a '*trusted adviser*' (LRst) where there is no judgement and it is used as a consultant and sounding board. (Parent 7)

> It is solely *independent from the school/teachers* (LRin) which allows the child to discuss issues they *may not feel comfortable discussing with the teachers* (LRst). It offers a unique opportunity to independently reinforce learning styles, study patterns and encouragement. (Parent 12)

These data, together with a range of data previously identified, indicated that parents/caregivers and students alike recognised and valued the relationships that formed between the student and the AcAd. Figure 4.9 illustrates the relative weight given to each by parents/caregivers of students in the AcAd Program.

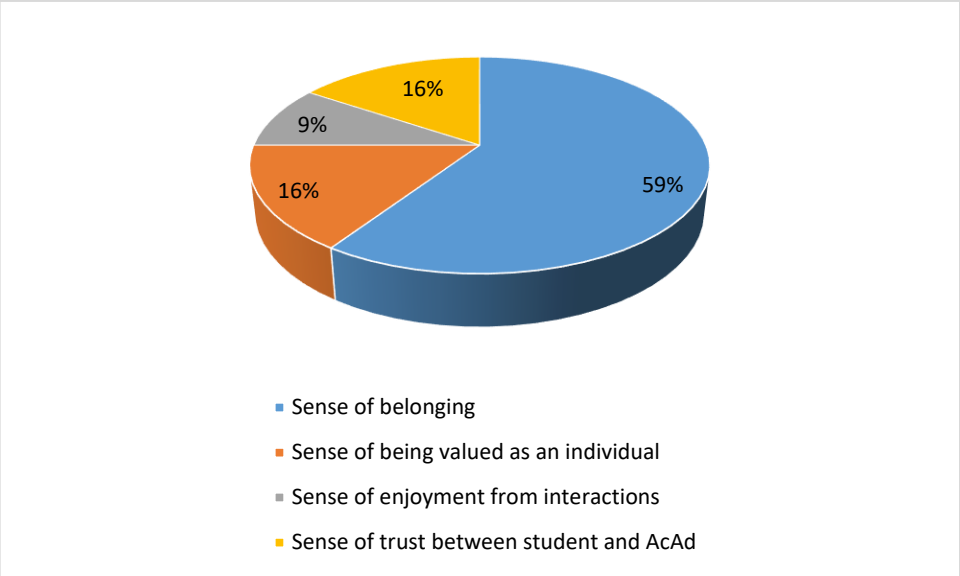

Figure 4.9 **Relative frequency with which coded comments relating to the theme leaning relationships appeared in the parent/caregiver survey**

Parents/caregivers identified their child's sense of belonging (59 per cent), sense of being valued as an individual (16 per cent) and sense of trust in their relationship with their AcAd as the dominant dimensions of this theme. These data indicated the importance of healthy human interactions between the student and the AcAd as an independent member of the education team. The interdependent nature of the dimensions of this theme was also noted in Section 4.2.6.

4.3.7 Fragility and Dependence

The most significant dimension of the fragility and dependence theme in the student data analysed in Section 4.2.7 was managing anxiety/stress (FDan). Student data did not indicate that their involvement in the AcAd Program had significantly reduced their dependence on their classroom teachers, which should be viewed in the contect of the school-based assessment system and the on-going transition to blended learning. There was evidence to suggest that students were becoming more proactive in tapping into their teacher and other resources. This proactive stance should be construed as an effective strategy, rather than a form of dependence. The sample group of parents/caregivers provided both quantitative and qualitative data for analysis. The quantitative data contained in responses to this statement are shown in Table 4.28.

Table 4.28 ***Quantitative data from Statement 5 of the parent/caregiver survey: 'I believe my child is coming to understand that they do not need to rely exclusively on their classroom teachers in order to learn.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.25	0%	0%	8.3%	58.3%	33%

Almost 82 per cent of parents/caregivers agreed or strongly agreed that their child was coming to understand they did not need to rely exclusively on their classroom teachers.

Much of the data from this item in the survey could also have been classified under the learning relationships theme. The distinction hinged on whether or not the dependence on teachers was reduced, only to be replaced by some level of dependence on the AcAd. Qualitative data in the form of elaborations on Statement 5 came in the following forms:

> [She] is confident to search for information from other resources (SAln) (FDan) other than taught by her classroom teacher (FDin). (Survey parent 27)

Of course, this may have been a function of a number of variables, including the natural maturation process, as highlighted by one parent:

> As children *mature* (CLsm) and become more independent learners this becomes more evident' (Survey parent 12).

Parents/caregivers perceived that their children were growing in confidence as a result of the program, and consequently they were less inclined to rely exclusively on their classroom teacher in order to learn. These conclusions were supported by a range of data from across the various themes. The relative frequency with which the codes relating to fragility and dependence appeared in the parent/caregiver survey is shown in Figure 4.10.

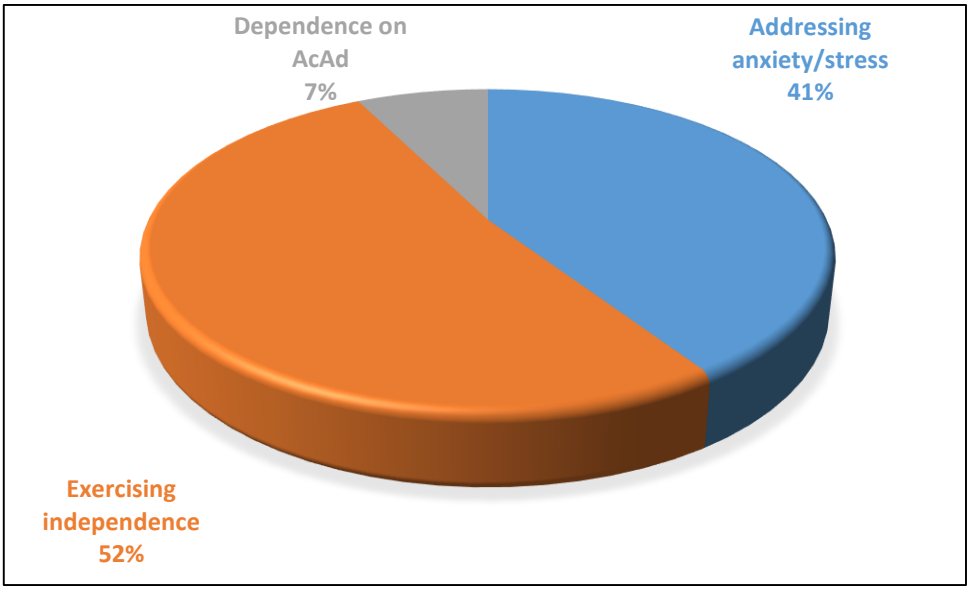

Figure 4.10 **Relative frequency with which coded comments in the fragility and dependence theme appeared in the parent/caregiver survey**

These data indicate that parents/caregivers perceived that students were becoming more independent from teachers, although there were a few codes to suggest that some students were becoming dependent on their AcAds. Parents/caregivers also noted improvements in students' anxiety/stress levels.

4.3.8 Strategic Awareness

This theme incorporated the ability to identify, assess and modify one's overall approach (SAre); understanding the relationship with the learning environment and the resources within it (SAir); and expanding one's learning network (SAln). Quantitative data provided in responses to Statement 15 of the parent/caregiver survey are presented in Table 4.29.

Table 4.29 ***Quantitative data from Statement 15 of the parent/caregiver survey: 'I see evidence that my child is expanding their learning network.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.00	0%	2.8%	19.4%	52.8%	25%

Almost 78% of parents/caregivers agreed or strongly agreed with this statement, but it is worth noting that 19.4% did not know. It should be recognised that a parent's capacity to respond with any accuracy would depend on the degree to which they either observed

their child while learning, or discussed this matter with them. There were only six comments provided with this statement, all of which were affirmations. However, more data were provided in parents/caregivers' answers to Question D, which asked about the behaviours the parent wanted to see their child exhibit at the end of the program.

> Realistic goal setting – *monitoring and adapting as required* (SAre). Ability to be *resourceful* (SAir). Ability to monitor stress levels and *adapt behaviour to cope* (SAre). (Parent 32)

> To be more *confident* (SMse) and *expand her ways of learning* (SAln). (Parent 16)

With respect to understanding the student's interrelationship with their learning environment and expanding their learning network, parents/caregivers wrote:

> *Understanding the way some teachers teach and communicate* (SAir). (Parent 31)

> [She] has been encouraged to *give various strategies a go* in order to determine *what is suitable to her*. She has been able to improve upon research skills taught by her classroom teachers, to enquire further by *using other resources* (SAln). (Parent 4)

> The program is giving her *confidence* (SMse) to *inquire further other than what the teacher is teaching* (SAln). (Parent 14)

These data provided evidence that many parents/caregivers recognised the importance of developing learning networks that extended beyond the classroom. Many students were gaining a new understanding of the learning resources available to them, and were, in some cases, expanding their learning networks. These changes were often related to the increasing confidence that appeared to be developed through the program. The relative frequency with which the various codes appeared in the parent/caregiver survey is presented in Figure 4.11.

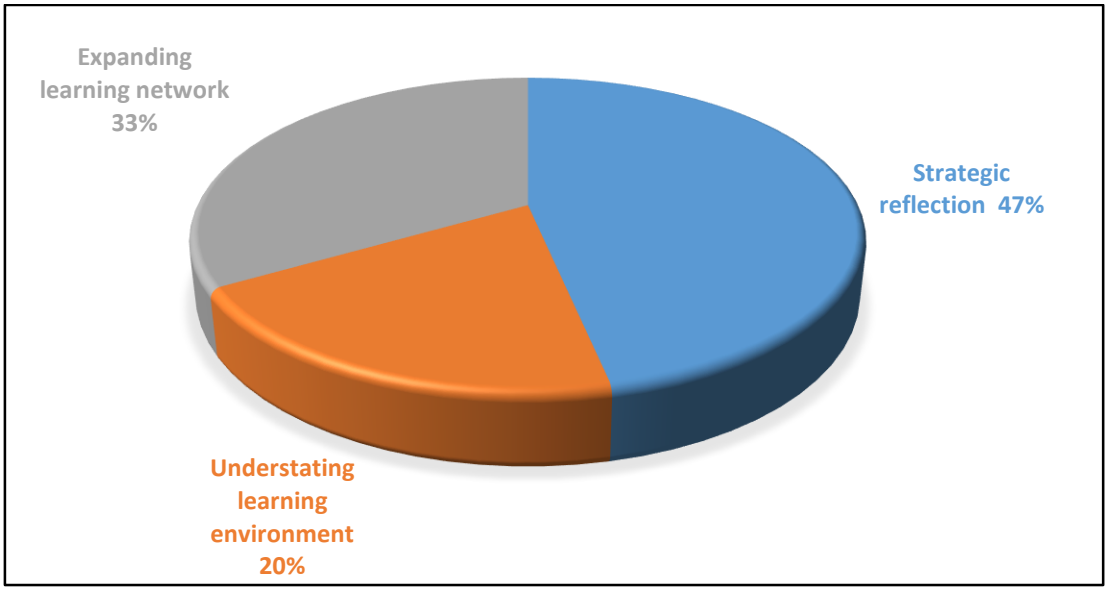

Figure 4.11 **Relative frequency with which the various coded relating to the strategic awareness theme appeared in the parent/caregiver survey**

Strategic reflection was the most common dimension of strategic awareness to appear in the qualitative data from the parent/caregiver survey. Students' increasing understanding of their interrelationship with their learning environment, and their expanding learning networks were also noted by parents/caregivers.

4.3.9 Meaning Making

A student's perceived sense of purpose (MMrg) with respect to them feeling they were making progress towards a goal, and sense of satisfaction gained from having a greater understanding of self (MMss) from their involvement in the program were coded under the theme of meaning making.

> Without doubt; so much so that *he got on with it himself* (MMss) (TSpr). He is far more *independent* (LRin). (Parent 23 S4)

> Grades are improving, therefore *confidence is improving* (MMss) (SMse). (Parent 17)

> Goals have been noted and he is *proud of achieving and meeting deadlines* set (MMrg) (MMss). (Parent 26)

These data support the claim that some parents have perceived a greater sense of satisfaction and purpose in their children. Once again, this sense of satisfaction and purpose was a consequence of the gains made by some students, who may then find themselves in a virtuous circle, where success breeds confidence and confidence breeds further success. All the qualitative data that were coded under this theme have been presented so no graphical summary is required for this theme.

4.3.10 Changing and Learning

Quantitative data were provided in responses to Statement 17 of the parent/caregiver survey. These are presented in Table 4.30.

Table 4.30 ***Quantitative data from Statement 17 of the parent/caregiver survey: 'The knowledge, skills and attitudes being covered in the program will assist my child in their life beyond school.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
36	4.7	0%	0%	5.6%	16.6%	77.8%

Over 95 per cent of parents/caregivers who responded either agreed or strongly agreed that the program would benefit their child in their life beyond school, which resulted in this item having the highest mean score from the parent/caregiver survey.

Qualitative data shed light on why their quantitative data constituted a very positive response to this statement. Comments were coded under this theme if they conveyed a message from parents/caregivers about the student feeling empowered as a lifelong learner (CLll), if they were growing in maturity (CLsm), if they recognised that learning was an ongoing process (Clog), if they believed they were developing valuable life skills (CLwp), if they demonstrated an interest in learning about themselves (CLse) or if they were valuing an improvement in their ability to learn (CLal). Parents/caregivers perceived that the program was developing important life skills, some of which impacted on their general behaviour:

> [Name of student] has just had his best report in [names the case study the school] and all his *behaviours have improved dramatically* (CLwp). (Parent 23)

> This would be considered very individualised. However, overall the *preparation for university is greatly encouraged through this program* (CLll). (Parent 12)

Data were provided when parents/caregivers distinguished between the role of the AcAd and that of the teacher:

> AcAd – focus on *learning methods, how to get the best from your subjects and classes, how to style your learning to suit you* (CLal). Classroom teacher – focus on subject content, subject matter rather than *how* to learn (original emphasis). (Parent 4)

> About *how to learn* (CLal) and not what to learn. (Parent 9)

> It is more of a coaching/mentoring role encouraging the student to materialise their potential. It is about *bringing out the best in a child* (CLwp) (CLal) rather than providing information into the brains of a child. (Parent 22)

> The role of the AcAd is broader and *focusing on learning skills* (CLal) more than in a subject driven environment where naturally the focus is more on results and the topics at hand. (Parent 28)

Information on the relative frequency with which the various codes appeared in the parent data is presented in Figure 4.12.

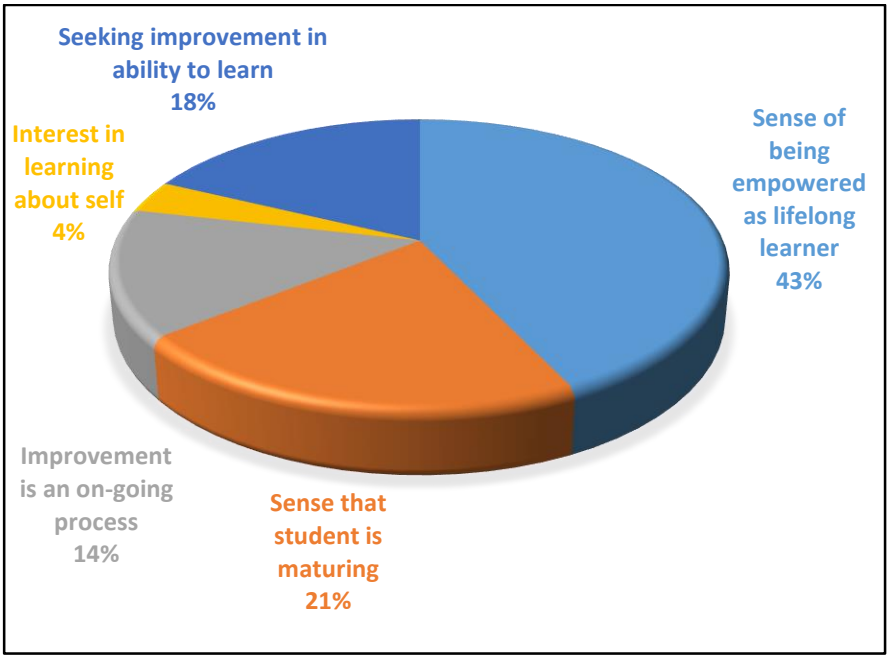

Figure 4.12 **Relative frequency with which the codes relating to changing and learning appeared in the parent data**

Qualitative data from the parent/caregiver survey indicated that parents/caregivers perceived an increased sense of empowerment as a lifelong learner and an increasing level of maturity. These data also indicated parents/caregivers felt that students understood that improvement is an ongoing process and that they were seeking an improvement in their ability to learn. Very few coded comments suggested that students were interested in learning more about themselves.

4.3.11 Summarising the Evidence from the Analysis of Parent/Caregiver Data

The frequency with which the various themes were represented in data from the 2015 parent/caregiver survey is shown in Figure 4.13.

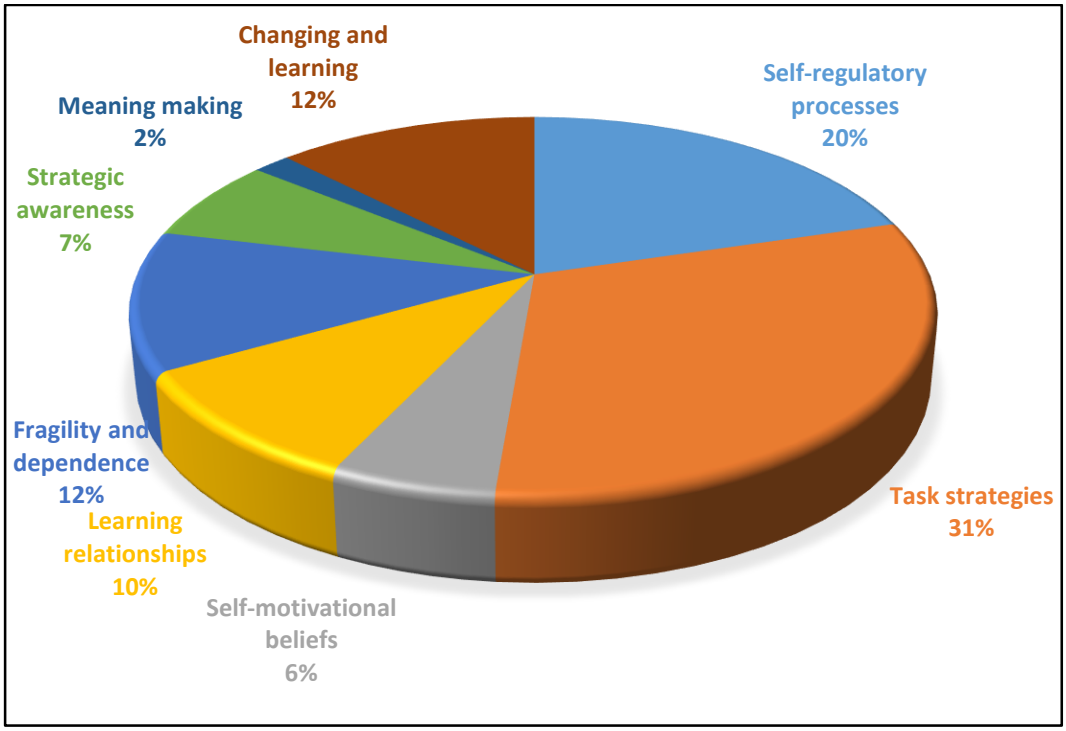

Figure 4.13 **Relative frequency with which the various themes appeared in parent data obtained from the 2015 survey**

Parents/caregivers tended to focus on task strategies significantly more than on any other theme, with time management and organisational skills frequently highlighted by parents/caregivers. Parents/caregivers were also concerned about aspects of changing and learning, and fragility and dependence, where their major concern was their child's ability to manage stress and anxiety – which, they perceived, were helped by the program. Strategic awareness and self-motivational beliefs were less of a concern, although the reader is reminded that self-efficacy was the only code employed to analyse the strategic awareness theme, which meant it ranked highly in the list of individual issues. There were data with relevance to meaning making, particularly with regard to the sense of satisfaction derived from making progress.

4.4 Perceptions of the AcAds

Supporting Research Question 3 asked, 'What are the perceptions of the AcAds in relation to their role, and the impact of the program on the students' level of self-regulation and learning power?'

Data from the quantitative and qualitative components, including the elaborations and answers to open-ended questions of the AcAd survey, were employed to answer this question. That survey was completed by AcAds as they obtained at least one semester's experience in the program (from Semester 2, 2015 to Semester 1, 2017).

Data from all AcAds were analysed in sections that grouped their quantitative and qualitative responses into three broad categories. Data relating to the AcAds' overall level of support for the program are presented in section 4.4.1. Data from students and parent/caregiver surveys that were employed for purposes of triangulation in sections 4.2.1 and 4.2.2 are not repeated, but are referred to in this section. Data relating to their perceptions of their role are analysed in section 4.2.2. Once again, data from parent/caregiver and student surveys presented previously will be noted. De-identified AcAd data relating to the various dimensions of self-regulation and learning power are thematically analysed in sections 2.4.3 to 4.4.10. A summary of the findings from data presented in this section is provided in Section 4.4.11.

4.4.1 AcAds' Support for the Program

There were two survey statements that focused on this aspect of AcAds' perceptions. Quantitative data from Statements 1 and 14 are set out in Tables 4.31 and 4.32 respectively. Table 4.31 focuses on the benefits to students, while 4.32 focuses on the benefits to AcAds.

Table 4.31 ***Quantitative data from Statement 1 of the AcAd survey: 'I believe the AcAd Program is benefiting the students.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.80	0%	0%	0%	20%	80%

All the AcAds agreed or strongly agreed that the program was benefiting students. This was supported by qualitative data provided in elaborations:

> It is an outstanding program with enormous benefits. I have seen wonderful results with most of *my students* (LRba). (AcAd 6)

> The students are all indicating *positivity* (CLal) about the program and a desire to continue next year. (AcAd 10)

Other elaborations contained data that will be analysed in subsequent sub-sections.

Table 4.32 ***Quantitative data from Statement 14 of the AcAd survey: 'I find the program to be professionally fulfilling.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.7	0%	0%	0%	30%	70%

Once again, all the AcAds either agreed or strongly agreed that they found the program to be professionally fulfilling. The following elaborations provide an insight into their responses:

> Absolutely! I enjoy the *one-on-one nature* of the sessions (LRbe). I enjoy seeing *students realise their capabilities* (CLal); and I especially enjoy seeing (and pointing out to the students), *the growth* (CLal) in the year 7 students throughout the first year in secondary school. (AcAd 3)

> When the program is running at its best, it is extremely fulfilling and rewarding. To see the students improve so much and to form *personal relationships* (LRbe) (with students) and knowing you can *contribute to their improvement* (Clog). Especially with all the preparation you put into each session. The hardest thing is when students are busy and then you are trying to organise meetings with them. (AcAd 8)

As being a qualified teacher was not a prerequisite for employment in the program, three of the surveyed AcAds had never taught in schools. It was interesting to note that their responses were uniformly founded on a commitment to making a positive difference to the lives of students. Advisory skills can be taught, but a commitment to students is an innate quality that resides in many people who are not registered teachers. Their commitment was to their students as learners and as people, not to their subject.

4.4.2 AcAds' Perception of their Role

Question D in the AcAd survey was open-ended. It asked, 'In what way does the role of the AcAd differ from the role of the teacher?' There was rich data provided in responses provided by all the AcAds. The following were particularly illuminating:

> An academic adviser is totally different from a teacher. I have never been asked to offer advice on subject matter or content for any assessments. This role is to create an *autonomous learner out of the student* (CLll) (Clog). Where a teacher will work on Maths, English, Science, etc., we work on *time management, goal setting, organisation and planning, dealing with distraction,* etc. (TStm) (TSos) (SRsa). Ours is the base *framework of a learning culture and how to go about learning* (CLll). Teachers completely fill in the frame with knowledge. (AcAd 10)

> My view is that AcAd allows the student to do most of the talking. The content discussed is totally *unique to that individual's lifestyle and experiences* (LRuv). *External factors affecting that student* play a major role (LRuv). This is not the case when teaching a group of students. A teacher's role is more regulated and direct. (AcAd 9)

> An 'adviser' is just that – *we offer ideas and strategies,* but it is *up to students to take the next step* and implement them (SAre). We are also able to *view the students more holistically* than classroom teachers (LRuv). We are not driven by core content or assessment schedules; rather by individual learning and management needs. We work from 'the outside in' if you like. (AcAd 3)

The analysis of these data revealed a message very similar to the one sent by students and parents/caregivers. The learning relationships theme came through very strongly in all responses, particularly with regard to the AcAds' understanding of the whole person, and the fact that students had a life outside of school. AcAd 3's concept of 'working from the outside in' captured the essence of the AcAds' perception of their role.

4.4.3 Self-regulation: Self-regulatory Processes

Quantitative responses to Statement 6 of the AcAd survey were analysed in section 4.2.3, where they were used for purposes of triangulation with student data. All the AcAds agreed or strongly agreed that students had established clear academic goals. Data from Statement 9 in the AcAd survey, which referred to students' written goals, are presented in Table 4.33.

Table 4.33 ***Quantitative data from Statement 9 of the AcAd survey: 'The students have written down their goals.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.8	0%	0%	0%	20%	80%

All the AcAds agreed or strongly agreed that students had written down their goals. Writing down goals was seen as promoting greater student responsibility for outcomes:

> During the program students are required to *write down their goals* (SRsa) each term on paper and take these goals away with them to put them in a place they can see regularly. This process is beneficial, as the students become more *responsible for their goal* (SRpo) and *understand what is required of them in order to achieve it* (SRev), rather than just having a general goal written down or in their head. (AcAd 5)

Two AcAds added some important dimensions to the focus on goals:

> *We* (SRma) do this every term. We also write *specific, associated action steps* (SRev). We *review both* (SRev) at the beginning of every session and *make adjustments necessary* (SRev). (AcAd 3)
>
> Every one of my students writes down *their academic goals* (SRsa) and *working habit goals* every term (CLll). (AcAd 8)

Goal-setting was seen as a process and an opportunity for reflection, rather than an outcome by the AcAds. However, as AcAd 2 pointed out, writing down goals does not guarantee they are put into action by the student:

We write them down, but for some students *this is as far as it goes* (SRmm).

Statement 10 of the AcAd survey inquired about the extent to which students' goals were discussed in AcAd meetings. These data are presented in Table 4.34.

Table 4.34 ***Quantitative data from Statement 10 of the AcAd survey: 'The students and I often refer to their goals when we meet.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.5	0%	0%	10%	30%	60%

The AcAds affirmed this statement, although they were slightly less positive in their responses than they were in their responses to Statement 9. To illustrate, AcAd 10 indicated that:

> The goals are usually rehashed around exam time and this is where *written down goals are invaluable* (SRsa) as there is *no student deniability* with regard to their goal setting (SAid).

Another AcAd elaborated on the statement with a comment and question that contradicted AcAd 10 and explained any lack of commitment on behalf of students:

> Yes, we refer to them often, but *not all students are engaged in this conversation* (FDgi). I feel as though some students do not want to commit to a goal. Maybe it is *fear of failure* (SMse-) and/or *accountability for their learning* (FDin) (AcAd 2)

Question E on the AcAd survey asked: 'What types of behaviours would you expect a student to exhibit at the conclusion of the AcAd Program?' AcAd 3's response included an emphasis on obtaining a balance and self-evaluation/reflection, which were two dimensions of the self-regulatory processes theme.

> I would expect students to view learning as a *lifelong, individualised journey* (CLll). I would hope that they would take risks (FDpa), understanding that disappointments and *failures are 'par for the course'* and often lead to the greatest achievements (SRev). I would expect that these students understand the importance of reflection (SRev). I would expect them to be able to manage tasks and time (TStm); bearing in mind the need for *life balance* (SRba). (AcAd 3)

Data from the AcAd survey indicated a particular focus on student-initiated goal-setting, while recognising that in most cases the road to autonomous goal-setting began with the AcAd helping the student to set their own goals. In contrast to data from either students or parents/caregivers, AcAds expressed some frustration with students who failed to follow through on their goals. The AcAds emphasised the importance of students reflecting on their own performance and, where appropriate, learning from failures. They also identified the need for students to motivate themselves to adopt a positive approach to learning. The relative frequency with which the various coded comments appeared in the AcAd survey data is presented in Figure 4.14.

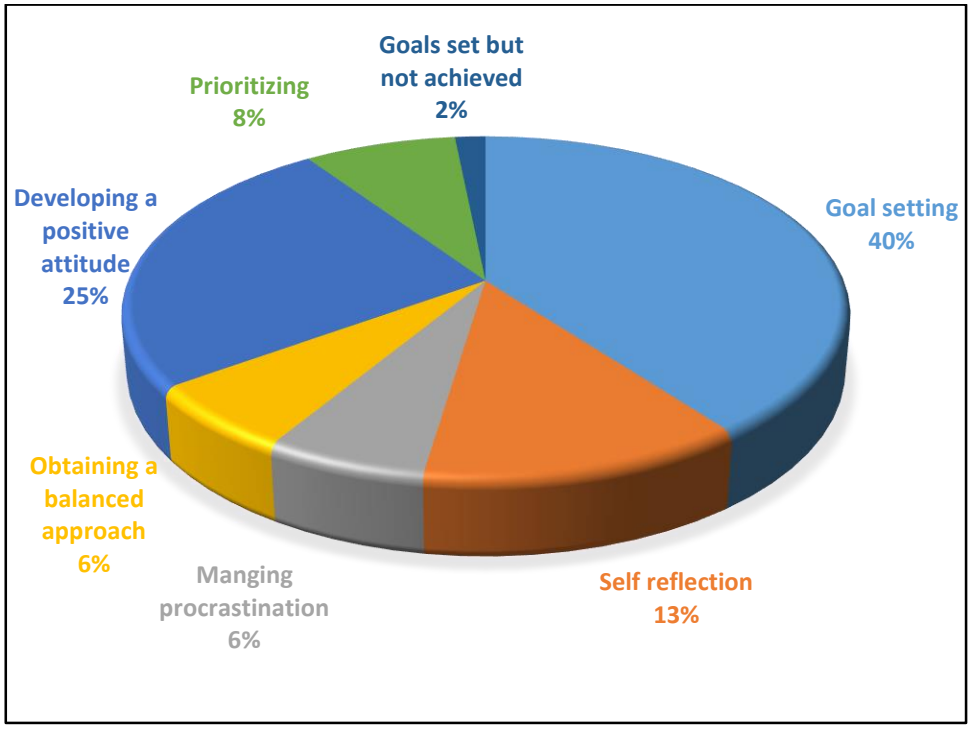

Figure 4.14 **Relative frequency with which coded comments in the self-regulatory processes theme appeared in the AcAd survey data**

Goal-setting (40 per cent) was perceived to be a major focus in AcAds' conversations with students. AcAds perceived that students were setting goals and, with a few exceptions, effectively working towards their goals. Developing a more positive attitude to learning (25 per cent) was another area of focus. AcAds noted that students were developing the ability to reflect upon their own performance. Prioritising tasks (8 per cent), managing procrastination (6 per cent) and obtaining a balanced approach (6 per cent) were also identified as focus areas.

4.4.4 Self-regulation: Task Strategies

Figure 4.1 illustrated the emphasis given to the various task strategies by students. Qualitative student data indicated that organisational strategies (TSos) and time management (TStm) were the most frequent codes to result from the analysis process. A similar emphasis was apparent from the analysis of qualitative data from the AcAds; however, there was a marked difference in the emphasis given to study skills by the two groups. While students didn't refer to study skills as often as organisational or time-management skills, they did consider them to be important. AcAds referred to study skills less frequently than the students, and when they did, it was in the context of helping students to prepare for exams.

The following answer to Question E on the AcAd survey, which asked the AcAd to identify the behaviours students develop through the program, one AcAd wrote:

> To be able to *create their own study plans*, to automatically be able to *manage their time* (TStm) and *plan for upcoming tests and assessments* (TSos), to be able to have skills to *cope with anxiety and test nerves* (FDan) and to know how to be *self-motivated* (SRpo) learners and to *set their own goals* (SRsa). (AcAd 8)

A similar blend of themes emerged from an answer to Question F, which asked AcAds to identify the students' weakest area of self-regulation:

> Students do not look at their available time. They become easily overwhelmed by work and *feel they have no time* (TStm). When available time is identified, it is clear that they are able to commit time to academics and *will have sufficient time for other activities* (SRba). (AcAd 1)

AcAds saw task strategies as the key to solving other issues that concerned students, such as anxiety levels and the need to balance schoolwork with other activities. They noted improvements in various dimensions of this theme. A summary of the relative frequency with which the various coded data appeared in the AcAd survey is presented in Figure 4.15.

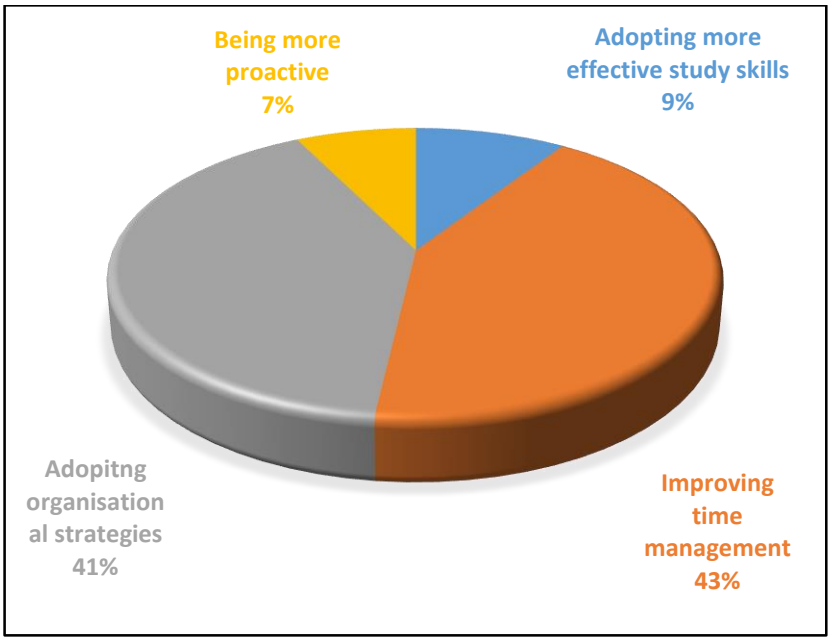

Figure 4.15 **Relative frequency with which coded data relating to task strategies appeared in the AcAd survey**

Data obtained from the AcAd survey were in accord with data obtained from the parent/caregiver and student surveys. AcAds perceived improving time management (43 per cent) and organisational strategies (41 per cent) to be the areas of greatest focus. As noted in section 4.4.7, the AcAds believed that improving task strategies would alleviate students' and parents/caregivers' concerns about anxiety and stress.

4.4.5 Self-regulation: Self-motivational Beliefs

As was the case with data from students and parents/caregivers, AcAds' focus on improving the self-efficacy (SMse) of students dominated this theme. Quantitative data from Statement 8 in the AcAd survey set the scene for analysing this theme. Quantitative data from this part of the AcAd survey are presented in Table 4.35.

Table 4.35 ***Quantitative data from Statement 8 of the AcAd survey: 'The students' level of self-confidence is increasing over time.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.5	0%	0%	0%	50%	50%

All the AcAds either agreed or strongly agreed with the proposition that students' level of self-regulation was increasing over time. These data indicated that AcAds with a mean score of 4.5 were more convinced about the improvement than the students, as the mean for them in response to the same proposition was 4.08, and it was stronger than the parents/caregivers, where the mean was 4.11. While all means are strong, this inconsistency can perhaps be explained by the AcAds' focus on the whole group, and their observation of changes in students as they moved through the program over a number of years. In other words, they may have reflected on a group of students throughout the history of the program, and not on one individual, as was the case with responses to the other surveys. Despite these differences, the majority of respondents in all three groups believed that the students' level of self-confidence had increased.

There were qualitative data in the elaborations to Statement 8 to illustrate this point:

> I feel the *confidence level* (SMse) of those students who attend their regular meetings increase as they try to adapt and *change their learning habits* (CLll), which in turn allows them to *experience positive outcomes* in their learning (MMss). (AcAd 12)

This comment identified a virtuous circle in which the student addressed weaknesses and built on strengths with the assistance of their AcAd, which led to greater self-confidence, which in turn made them open to further improvement. The relatively small amount of qualitative self-motivational data provided from the AcAd survey did not warrant a graphical summary.

4.4.6 Learning Power: Learning Relationships

The significance of the learning relationships theme has been noted in the analysis of student and parent/caregiver data. Survey responses from AcAds also contained an abundance of data relating to the learning relationships theme. AcAds indicated that they

valued their relationships with students in the program, while recognising that the trust students had placed in them had formed the foundation of their work:

> I feel the program is rewarding, as it is working *one on one* (LRbe) with individual needs of the students and allowing them to *overcome challenges they face* (LRuv). I feel the *students can express their feelings and honest opinion to me, as I am not their parent or their teacher* (LRin). I do feel there is a large amount of time required per child for administration and lesson planning/research, as each child has different needs (LRuv). There are a lot of hours outside the 40 minutes allocated per student for the AcAd sessions. (AcAd 5)

The following answers to Question D, 'In what way does the role of the AcAd differ from the role of a teacher?' also provided some interesting data:

> As an AcAd you are *devoted to the overall well-being* and academic progress of your student. You *care for them* (LRbe) on a more broad [sic] level and are *enthusiastic about their future* (LRbe). As a teacher you are more concerned with their performance in your subject area and behaviour during your class time. Your interest in them is more short term and at times can feel quite procedural to fulfil the purpose of the curriculum. (AcAd 2)

> We are each an independent (FDin), arm's length *'coach-mentor'* (LRst) with an objective start to our learning relationship with the students and their families. This is a huge benefit. *Relationships become very strong* (LRbe), but with a comfortable academic focus on 'new ways' to reflect, experiment, learn, etc. (AcAd 4)

Figure 4.16 illustrates the relative frequency with which the various coded dimensions appeared in the AcAd survey.

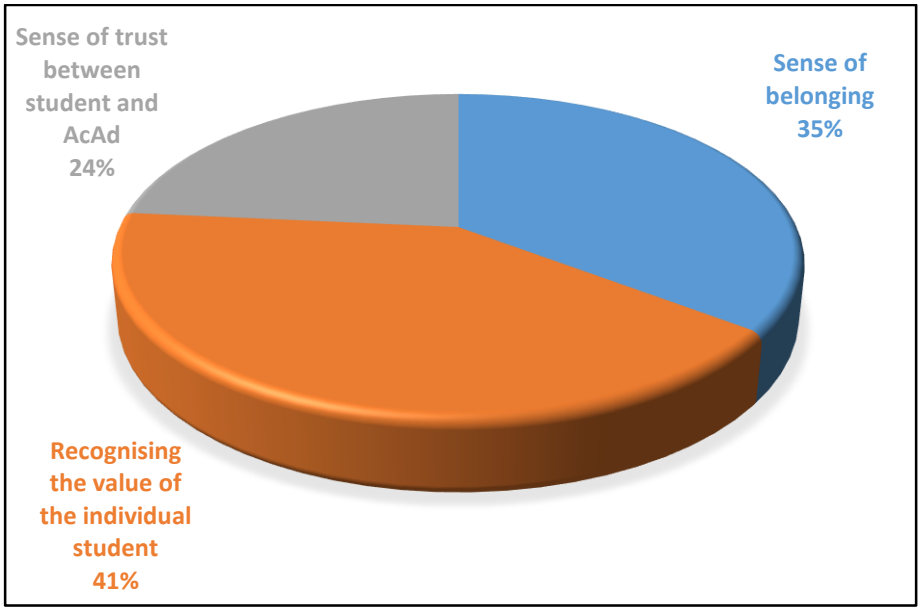

Figure 4.16 **Relative frequency with which coded data relating to the learning relationship theme appeared in the AcAd survey**

Qualitative data from the AcAd survey indicated that AcAds recognised the students as unique individuals with a life beyond school. They felt a sense of attachment (belonging) to students and they acknowledged that their relationship was based on trust. These perceptions were also reflected in the student and parent data presented earlier in sections 2.4.6 and 3.4.6.

4.4.7 Learning Power: Fragility and Dependence

AcAds were invited to respond to Statement 5, which focused on students' reliance on their classroom teachers. These data are provided in Table 4.36.

Table 4.36 ***Quantitative data from Statement 5 of the AcAd survey: 'I believe the students are coming to understand that they do not need to rely exclusively on their classroom teachers in order to learn.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	3.9	0%	10%	10%	60%	20%

The majority of AcAds agreed with this statement, but the overall mean score was less positive. It was reported in section 4.2.7 that the students indicated that they were also somewhat unsure whether they were becoming less dependent on their classroom

teachers. It has previously been suggested that teacher dependency is a function of the disposition of the student's teachers, but it is also a function of the school-based assessment system that prevailed at the time. A student may have been capable of greater independence from their teachers, but they may have made a strategic decision to maintain the people who wrote and marked their assessment tasks at the centre of their learning network.

AcAd 4 wrote a pertinent comment in answering Question E on the AcAd survey, which asked about common areas of weakness with regard to self-regulation:

> Lack of *awareness of learning possibilities* (SAir), given the traditional thinking that the teacher and/or textbook resources provided by the school are the 'font of all knowledge' and the only tools needed for eventual success. Perhaps classroom teachers and parents encourage this perception? (AcAd 4)

Data from the student, parent/caregiver and AcAd surveys pertaining to changes in students' level of self-regulation and learning power were analysed and triangulated in section 4.2.2. Mean quantitative responses to the suggestion that the program was leading to an improvement in the students' level of self-regulation were 4.8 for AcAds, 4.5 for parents/caregivers and 4.28 for students. Once again, even though all groups, on average, were supportive of the suggestion, as a group the AcAds were more confident than the other two groups. This may also be due to the AcAds taking a longer and more general perspective than the other two groups of respondents.

The qualitative data from the AcAd survey facilitated an analysis of the components of fragility and dependence. AcAds placed slightly less emphasis on this dimension of the theme than students and parents/caregivers, who frequently noted the issue of anxiety/stress. Perhaps the discrepancy can be attributed to the fact that AcAds were focused more on the causes and solutions than the problem (effect). In identifying common areas of weakness with regard to students' self-regulation (Question F on the AcAd survey), one AcAd wrote:

> I believe a *lack of organisation* (TSos) (of time and tasks) is central to self-regulation. *Anxiety* (FDan), *disappointing grades, feelings of being overwhelmed*

(FDan) etc. can all be traced back to students not being organised enough, early enough. (AcAd 3)

AcAds recognised that students were suffering from anxiety, particularly in the lead-up to exams and assessments, but they took the view that improved skills – particularly organisational skills – and maturity would help to address the problem. Students and parents/caregivers also recognised that improvements in these areas had led to a reduction in anxiety/stress. The relative frequency with which these codes appeared in the AcAd survey data is shown in Figure 4.17.

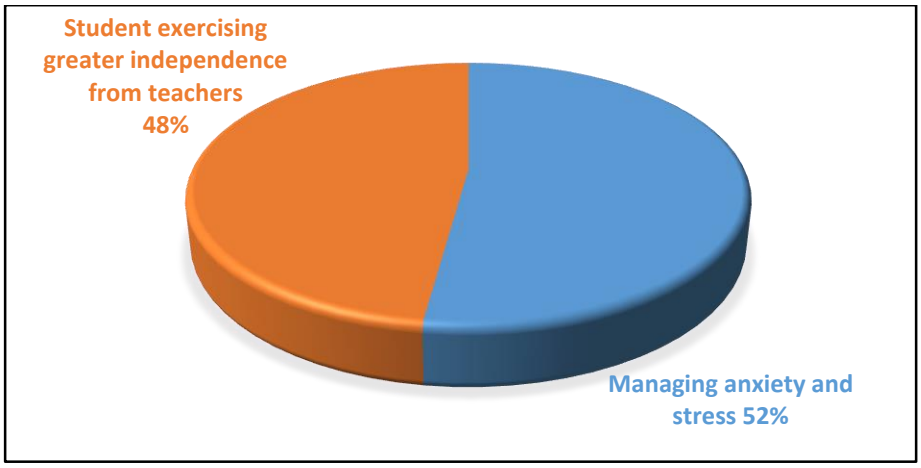

Figure 4.17 **Relative frequency with which coded comments relating to fragility and dependence appeared in the AcAd survey data**

AcAds acknowledged that anxiety among students was a concern (52 per cent), but they believed this could be overcome through better organisation and time management. They also perceived that students were gradually exercising greater independence from their classroom teachers (48 per cent).

4.4.8 Learning Power: Strategic Awareness

Statement 15 on the AcAd survey was an extension on Statement 5. It focused on AcAds' perceptions about students' learning networks. Data from AcAd responses are detailed in Table 4.37.

Table 4.37 ***Quantitative data from Statement 5 in the AcAd survey; 'I see evidence that students are expanding their learning network.'***

Number of responses	Mean score	Strongly disagree	Disagree	Cannot say	Agree	Strongly agree
10	4.3	0%	0%	0%	70%	30%

AcAds believed students were expanding their learning networks, but only 30 per cent strongly agreed with the statement. Section 2.2.8 noted that students responded with some uncertainty to a statement suggesting that, as a result of their program, they were less dependent on their teachers. Nonetheless, there was evidence to suggest that some students were becoming more aware of their leaning environment and were developing learning networks that extended beyond the classroom.

Analyses of qualitative data also indicated that AcAds perceived many students were strategically reflecting on their approach, and were able to identify their own strengths and weaknesses:

> Students who are invested in this program benefit greatly. By the end of this year, *all of my students* were able to *articulate their strengths and ongoing weaknesses/areas of need* (SAid). More importantly, they *all had ideas for how they could continue to move forward* (SAre). They were happy to discuss their learning journey and most were happy to talk about *disappointments/failures* (SRev) in terms of *what they had learned about themselves*; and *how it will help them in the future* (SAre). (AcAd 3)

In responding to Statement 5 (see section 4.4.7), one AcAd revisited the link between the new organisational architecture and the case study school's introduction of blended learning. This AcAd also noted the students' growing awareness of the interrelationship between different aspects of their learning environment:

> I believe the blended learning program offered here helps students to grasp this fact. As they move up the school and become more and more immersed in technology-based learning, *the ability to receive help online is becoming more valuable* (SAir). In the AcAd Program, we stress the importance of the use of the

iCentre and online learning tools (SAir) that are available to supplement class time (e.g. Khan Academy). (AcAd 10)

They are *becoming aware that particular staff members have particular strengths/experiences that they can draw upon* (SAir). (AcAd 7)

This is evidenced especially when students formulate *action plans to support their goals* (SRsa). They begin to realise that the classroom teacher is one very valuable learning resource; but also that *there are many more sources of information/options available to assist them* (24 hours a day) (SAir). (AcAd 3)

AcAds corroborated data from students and parents/caregivers. All three groups took the view that students were gradually expanding their learning networks. However, there was reason to conclude that students who were motivated to perform at the highest standard would be more interested in extending their learning networks. The relative frequency with which these coded data appeared is illustrated in Figure 4.18.

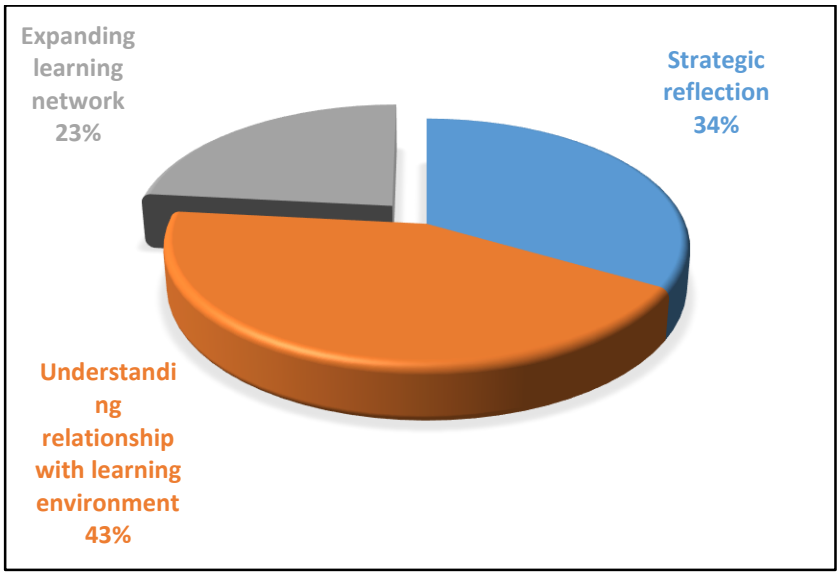

Figure 4.18 **Relative frequency with which coded comments relating to strategic awareness appeared in the AcAd survey data**

AcAds perceived that students were gaining an understanding of their interrelationship with their learning environment. They were also demonstrating an increased capacity for strategic reflection and expanding their learning networks.

4.4.9 Learning power: Meaning Making

Qualitative data relevant to this theme have been presented in previous sub-sections. These, combined with quantitative and qualitative data obtained from students and parents/caregivers, indicated that students had experienced a sense of satisfaction from the progress they had made in the program. Much of the data presented in analysing the self-regulatory processes and self-motivational beliefs themes were also relevant to the theme of meaning making. In fact, the way I have interpreted and coded meaning making has positioned it as a consequence of the aspects of self-regulation and learning power. In other words, AcAds perceived that students felt a sense of purpose and satisfaction as a result of their efforts in the program and, we should assume, other factors. The volume of data extracted from the AcAd survey did not warrant a graphical summary.

4.4.10 Learning Power: Changing and Learning

The components of changing and learning that were assigned codes included a sense of empowerment (CLll), a sense of maturing and becoming stronger (CLsm), recognition that improving is an ongoing process (Clog), positive impacts on the whole person through the development of life skills (CLwp), interest in learning about self (CLse), and seeking an improvement in the ability to learn (CLal). All of these, I would argue, are bound up in another virtuous cycle connecting them with success. In other words, they are both the cause and consequence of greater self-regulation and learning power. The more students experience success, the greater will be their satisfaction, and this stimulates the desire to continue to improve. As evidenced by these data, the AcAds observed growth and maturation:

> This is one of my key messages to all of my students. The AcAd Program is not just for (school), *but for life* (CLll). (AcAd 17)

> Feedback each fortnight is pleasing and can see a positive attitude towards attending the meetings. Students who attend are benefiting from the meetings and *becoming more aware of their learning* and are *seeing improvements in their academic performance* (Clog). (AcAd 5)

> Students are *starting to mature* (CLsm) and *pushing themselves* (Clog). (AcAd 8)

> I really enjoy the *interaction with the students* and love seeing *their personal growth/development* (CLsm). (AcAd 6)

Data from the AcAd survey accord with data from students and parents/caregivers. The changing and learning theme did not appear as frequently as some of the other themes, but the student and parent sample groups and the population of AcAds demonstrated an awareness that it encapsulated the purpose of the program. Figure 4.19 presents a graphical summary of the relative frequency with which these qualitative data appeared in the AcAd survey.

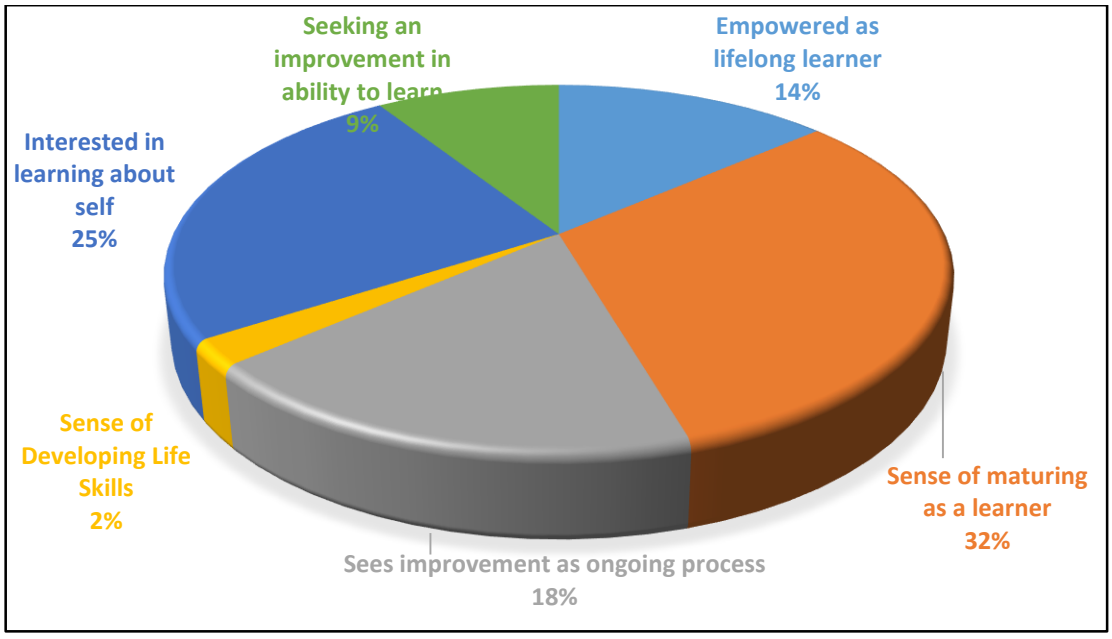

Figure 4.19 **Relative frequency with which coded data relating to dimensions of the changing and learning theme appeared in the AcAd data**

AcAds were predominantly of the view that students were maturing/growing stronger as they progressed through the program. They also perceived that students were being empowered as lifelong learners and understood that improvement was an ongoing process.

4.4.11 Summarising the Evidence from the Analysis of AcAd Data

Data obtained from the AcAd survey complemented data gathered from students and parents/caregivers – and, indeed, confirmed many previously stated conclusions. Data from AcAds placed a similar emphasis on the various themes, as shown in Figure 4.20.

They valued their relationships with their students in a way that mirrored the value placed on these relationships by parents/caregivers and students. They also noted the improvements in self-efficacy that had been acknowledged by students and parents/ caregivers. They recognised that the anxiety highlighted by students and parents/ caregivers was real, but generally saw improvements in self-regulatory processes and task strategies as the ultimate solution to these concerns. Data from students and parents/caregivers accorded with the views of AcAds in this regard.

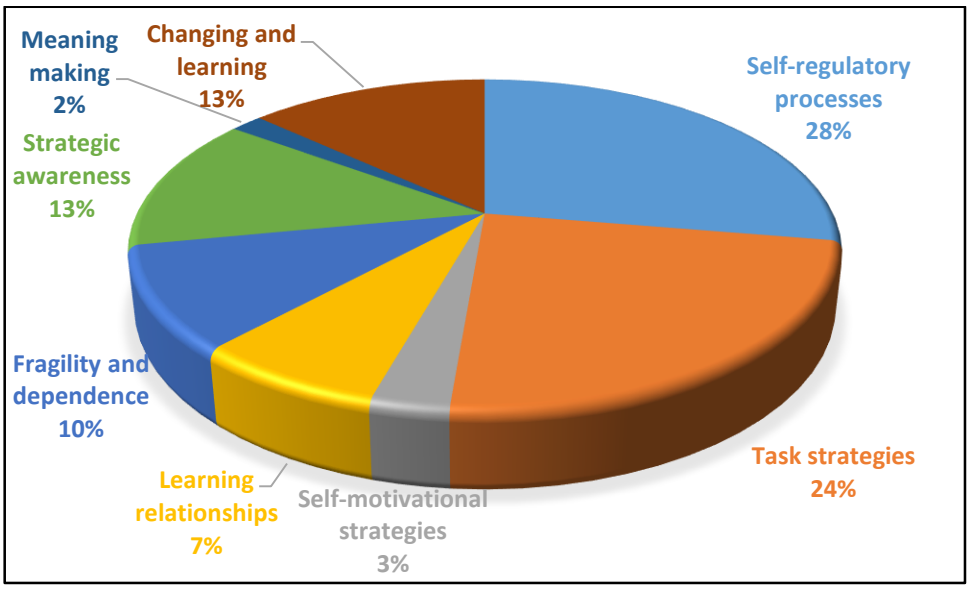

Figure 4.20 **Relative frequency of themes from the 2015 AcAd survey**

Qualitative data from the AcAd survey emphasised self-regulatory processes and task strategies over the other themes. Nonetheless, other themes should not be seen as less significant. Students' concerns about anxiety levels should not be under-estimated, and nor should the relief that they and their parents/caregivers expressed when these levels of anxiety diminished during the course of the program.

4.5 The Perceptions of Heads of Year regarding AcAds as Members of the Education Team

Supporting Research Question 4 asked, 'What are the perceptions of Heads of Year, as members of the traditional school architecture with responsibility for pastoral care, about the AcAds and the AcAd Program?'

Six Heads of Year (HOY) were responsible for the pastoral care of students. Each Head of Year was responsible for a year level, consisting or approximately 120 students. They, more than any other staff member, had insights into the welfare of individual students that often included details of the student's family circumstances. The intention was for them to act as a liaison between the AcAds and the school. They were to communicate with AcAds and, where appropriate, exchange information that might better equip either or both parties to assist the student. Heads of Year participated in a focus group in November 2016. Qualitative data from the transcript of the focus group are analysed in Section 4.5.1.

The themes employed in the theoretical thematic analysis in previous sections of this chapter will be maintained in this section, albeit with some additions. Data relating to communication between AcAds and HOY have been coded, as have data relating to the perceptions of Heads of Year about the role of the AcAds. Data indicating general support for the program has been coded (Supp), while criticisms of the program were coded (Crit). Examples of communication were coded (Comm), with a + or – sign added to indicate if the communication was productive or unproductive. Data indicating that one or more HOY valued the general contribution of one or more AcAds was coded (Cont), with a negative sign added to indicate any dysfunctional contributions. If the contribution was pastoral (had a positive impact on the student's welfare), the code (PC) was used.

4.5.1 Analysis of Data from the Focus Group of Heads of Year

The focus group began by asking the Heads of Year whether they thought the AcAd was making a difference to students. One responded:

> I think *pastorally* it has (PC). I think having someone else to talk to, *having someone else to advise them somehow* (LRtm), *to give them strategies* (SAre), someone to reconfirm what, probably, we all say and the teachers say has been really beneficial, but how do you quantify that? I'm not quite sure. (HOY1)

When asked whether they perceived that the AcAd Program was improving students' attitudes to learning and/or their learning strategies, another responded:

> The Years 7 and 8, it's definitely there. The kids coming out of there – their *organisational skills are definitely on the improve* (expressions of agreement from one other HOY) (TSos). Like just, you know, *having a plan, getting there and coming out with a plan* (TSos), especially just before exams and so on. They definitely helped them with that [expressions of agreement from one other HOY]. You can see they're sort of above some of the other kids (inaudible). (HOY2)

A third Head of Year noted the need for some students to take a more balanced approach school and other activities, which then led into a discussion about communication between the Heads of Year and AcAds:

> With kids on the AcAd Program, um, I get quite *a lot of correspondence back on how he's going* (Comm+). Like he's going through a bit of a tough time. They've actually *taken on too much* (SRba–). Part of their kind of planning is that they need to cut back on some stuff. Can we have a chat to you about doing that? I think that's where it working really well (agreement from other HOY). We have that kind of communication happening (sounds of agreement from several HOY) and, you know, we can just talk through a whole lot of stuff, but *I think it's really great that the kids are able to, in that program* (Cont+), they are able to voice and then actually see change happen. I think that's really important … Yeah. And I think it was great we had to, sort of, had those meetings with the AcAds. *I think those were really valuable for us too* (Cont). Where we can just catch up on individual kids and we most probably, I would suggest, need more of those opportunities. (HOY3)

The group of Heads of Year were unanimous in calling for more regular meetings between them and the AcAds. When asked by the Dean of Students, whether or not the AcAd/HOY meetings need to be more regular, the same Head of Year continued:

> And I think there *needs to be time where we can catch up* (Comm) and bring those things to the table, whether its pastoral care or (inaudible) stuff or not, but it would be great if we could meet those people … (HOY3)

Another Head of Year noted that communication between the AcAds and HOY had diminished when a particular AcAd left the program. The particular AcAd had been in a coordinating role and, in that capacity, provided regular briefings to the Heads of Year.

> I think those meetings, though, I mean, honestly finding any time to get a group of people together is very difficult. Um, I found it very helpful, but I think it stopped because (names an AcAd who left the program and was also assisting with coordination) stepped away, *but I found her emails really useful* (Cont+). Even if it's – here's the report, all good, nothing to worry about – but she would quite often, and then, just say I had issues with a certain student that she wasn't aware of, then the AcAd wasn't aware of, but I can see there were issues [audible agreement from other HOY] with the kid, or the report is just there so I can have a quick look to see what's going on then, from that perspective, *I found that really valuable*. And I know, since she's stepped away, I don't think we've been getting … (HOY4)

Some of the Heads of Year suggested that the AcAds who had previously been on the staff at the school knew the Heads of Year and their responsibilities, and were more likely to communicate with them. Heads of Year were asked whether the students in their year groups gave them positive messages about the program, to which they unanimously responded in the affirmative. The Heads of Year also showed an interest in assisting the AcAds. For example, HOY4 contrasted the students who were engaged with the program with those who needed reminding:

> I think this lines up with the topic you've got, because I think there's some kids that ace it. *They consistently go to their meetings and they've already got their study well and truly under control. They're very organised* (Supp). And then you've got your lower kids, and I know there's been issues with them being flaky with meetings and, you know, not being contactable when they should be, but I suppose that's par for the course. When you look at the top kids that they are, so anyone I have spoken to, um, *the vast majority see it as a very positive, you know, valuable thing* (SRpo), but I think there are that few that like 'Oh! You know, it's good, it's good', but you can tell they're the type of kid that, and I've heard from

> the AcAds themselves, that the kid has missed three meetings in a row and had to be chased, and I know, from what you've said (names the researcher), that it's not the AcAds' place to be chasing the kids. You know, the kids are supposed to turn up, but if they don't turn up, then what are they doing in the program, almost? (HOY4)

Heads of Year are focused primarily on the welfare of students. The following contribution highlighted the pastoral benefits of the AcAd Program from one Head of Year's perspective.

> I think I have with some of the [Year] 8s. And I know feedback, um, from one of the girls, I know her mum really, really pushed to get her in the program and I know (inaudible) … and I *know her mum's feedback to me is that things have definitely improved*, which is awesome, because her, um *the health within her family has been bad and she's been battling a lot of issues* (PC), but *her organisation and her achievement, like, has improved* (TSos). Yeah. So that's really positive feedback from that family. And (names the student), she actually came to me yesterday and was basically really thankful for everything that had been done, and *I'm sure part of that has been that program* (Supp). (HOY5)

Another Head of Year related a similar experience:

> [Names another student in the program] is the same. Like her family has been through some scary health concerns this year, and I think I know her family and her really appreciate the fact *they've someone else that can organise* (TSos), or teach her those skills that *they can't actually provide at the moment because they are in and out of hospital all the time and if it hadn't been for that she would not have been as successful as she has been* (PC). (HOY1)

Yet another Head of Year contributed the following comment containing an abundance of data relating to the program:

> And I think there's almost that, *an air of quiet confidence* (MMrg) (FDin) amongst the kids that, um, are involved in that because, all of a sudden, *they're in control of where they are going* (SRsa) (FDin) and they've got that kind of help, (audible agreement from other HOY) and therefore, even in the classroom situation there's a little bit of that '*Hey, I actually know what's going on*' (CLll) (SAir) [audible agreement from HOY] whereas some of the other kids don't seem to be able to get to where they need to be going, um and not all individual teachers at the time could do that. So that's the kind of change that I've seen. [Inaudible] … *They're in control* (FDin). (HOY6)

4.5.2 Summarising the Evidence from the Analysis of HOY Data

These data confirmed that Heads of Year were very supportive of the AcAd Program. They noted improvements in the attitudes of some students, and pointed to examples where the AcAds had supported them in fostering the wellbeing of students in their care. They called for more frequent communication between them and the AcAds as a means of exchanging valuable information for the benefit of students.

Underlying the focus group conversations was a sense that the Heads of Year saw the AcAds as important members of the education team, who had the time and focus that they themselves lacked due to the nature of their work. Their preparedness to recognise the contribution of the AcAds, who were not officially members of the staff, indicated that they were focused on the welfare of students and not on lines of demarcation.

4.6 Summary of the Data Analysis

The data analysis presented in Chapter 4 provided a range of evidence to answer the four supporting research questions. Section 4.2 presented evidence in the form of quantitative data, and qualitative data that was analysed thematically, to support the claim that the sample of students who participated in the research were strong supporters of the AcAd Program. Subsequently, data were presented in sections 4.3, 4.4 and 4.5 that also indicated a strong level of support for the program from surveyed parents/caregivers, the population of AcAds and the Heads of Year. All stakeholder groups were able to draw a clear distinction between the role of the AcAd and the role of the teacher.

Data from the sample group of students and parents/caregivers, and from the Heads of Year, also supported the claim that students found the program to be beneficial. AcAds themselves agreed – although some of them noted that there were exceptions among the less enthusiastic members of the student body. Data from students and parents/ caregivers also indicated that students generally looked forward to their meetings with the AcAds, although some expressed concern about missing lesson time to attend these meetings. Students and AcAds confirmed that only a few of the students in the program were self-regulating prior to entering the program, and the students who believed they were previously self-regulating acknowledged that their levels of self-regulation had improved as a result of their involvement. Parents/caregivers were less sure about their child/children's level of self-regulation prior to the program, but they also noted improvements in this aspect of the program. All parties also perceived improvements in the students' learning power, although there was some doubt about whether or not all participants understood the meaning of the term. In addition, data were analysed from elaborations on focused survey statements and answers to survey questions relating to the various themes in the learning power category.

Self-regulatory processes formed the first theme in the category of self-regulation. Goal-setting and achievement were commonly referred to, particularly by students and AcAds. There was little evidence that these goals were discussed at home, although a few parents/caregivers noted that their child had displayed their goals and was proud of what they were achieving. Data from students, parents/caregivers and AcAds indicated that some students were reflecting on their performance and making adjustments in order to improve. There was insufficient evidence within the student survey data to warrant conclusions about students managing procrastination, although this aspect of self-regulatory processes did come though more clearly in the answers to open-ended questions in the 2017 survey of students with two or more years' experience in the program. However, there were clear messages contained within student, parent and AcAd data with respect to improvements in time management and organisational strategies that implied improvements with regard to procrastination.

Task strategies were the most dominant of the eight themes analysed. Organisational strategies and time management were cited as areas of improvement by parents/caregivers and students alike. AcAds perceived that improvements in these dimensions of the task strategies theme had a positive effect on study-related anxiety and stress. The theme of self-motivational beliefs contained data from students, parents/ caregivers, AcAds and Heads of Year, suggesting that students' levels of self-efficacy were increasing. There was evidence to indicate an increase in the level of intrinsic interest by some students.

The learning power category housed five themes: learning relationships; fragility and dependence; strategic awareness; meaning making; and changing and learning. All the stakeholder groups that participated in the research acknowledged that the relationships between students and AcAds formed a solid foundation for the program. Several students and parents/caregivers highlighted the healthy, trust-based, 'mentor'-like relationship that existed between them. Several students also noted the happy disposition of their AcAd, which contributed to them enjoying their regular interactions.

The fragility and dependence theme was dominated by students' references to anxiety and stress. Students and parents/caregivers alike acknowledged that the program had led to improvements in this regard. The AcAds themselves expressed less concern about this aspect, because they believed that better organisational and time-management skills would help students to overcome these issues. Indeed, data from students and parents/caregivers associated better skills in these areas with reduced anxiety and stress.

Data from students, parents/caregivers and AcAds indicated that students were expanding their learning networks beyond the classroom. However, all three groups acknowledged that students still relied on classroom teachers who, given the early stage of the transition to the new organisational architecture and the school-based assessment system, maintained a significance position in the life of the student. It was pleasing to note that many students were taking a more proactive approach to accessing help from their teachers and generally taking more ownership of their learning.

In relation to the strategic awareness theme, data from all sample groups indicated an increased tendency for students to engage in strategic reflection. These data were even more convincing when analysed in conjunction with data from the reflection component

of the self-regulatory processes theme. Data relating to students becoming more aware of their interrelationship with their learning environment and expanding their learning networks beyond the classroom were also present. However, as previously indicated, the assessment system that existed in the school at the time the research was conducted tended to place boundaries around what students needed to know in order to achieve a certain grade. Many students believed that they only needed to accommodate the knowledge and skills that were covered in class by their teachers, and in a practical (as opposed to philosophical) sense they were correct.

A relatively small amount of coded data was identified for analysis under the meaning making theme, although there was some explicit and a greater amount of implicit evidence to suggest that some students were gaining an increased sense of purpose and meaning from their studies. There were more data from students, parents/caregivers and AcAds to support the claim that the program was empowering students to become lifelong learners, that they were maturing during their time in the program, and that they recognised that improvement does not occur overnight. A number of students, parents/ caregivers and Heads of Year, and all the AcAds, appreciated that the purpose of the program was to improve students' capacity to learn.

4.7 Conclusion

This chapter analysed quantitative and qualitative data obtained from surveys of students, parents/caregivers and AcAds, as well as qualitative data from focus groups consisting of students and AcAds, and one-on-one interviews with a small sample of senior students. Quantitative data in the form of responses to survey statements using a five-point Likert scale were analysed to provide descriptive statistics. These quantitative data were presented in a series of tables in the various sections of the chapter. Qualitative data from students, parents/caregivers, AcAds and, to a lesser extent, Heads of Year were analysed using theoretical thematic analysis. The theoretical aspect of the analysis was rooted in the work of Cleary and Zimmerman (2004) and Deakin Crick et al. (2004), who identified elements of self-regulation and learning power that were considered germane to this study. Three themes relating to self-regulation and five themes relating to relevant aspects of learning power were chosen from these works. A set of codes relating to these themes was developed and employed to analyse qualitative data.

Quantitative data were triangulated with other quantitative data and with a range of qualitative data. Qualitative data were also triangulated with other qualitative data. This triangulation process occurred within data and between data sets. Inconsistencies and contradictions were noted, as were instances of consistency between data from the various sources. This mixed methods approach rendered benefits in terms of complementarity, expansion, illustration and completeness, which allowed me to increase the depth of my understanding of the perceptions of various stakeholders.

Each section in this chapter used a consistent framework to address each of the four supporting research questions. Data indicated a high degree of consistency between the perceptions of students, parents/caregivers, AcAds and Heads of Year. Each group acknowledged the positive impact of the program, particularly with regard to improvements in task strategies, reduced levels of anxiety/stress among students and learning relationships. The conclusions derived from this data analysis will be revisited in Chapter 5, where they will be synthesised in order to provide an answer to the Key Research Question.

Chapter 5
Conclusion: Implications of this Research for the Organisational Architecture of Schools

5.1 Introduction

This chapter commences in section 5.2, by revisiting the rationale for the study. This is followed in section 5.3 by a review of answers to each of the supporting research questions that were provided in Chapter 4. Section 5.4 synthesises these findings to answer the key research question:

> In times that are characterised by disruptive innovation due to technological changes, what are the implications for the organisational architecture of schools?

The limitations of the research are acknowledged and discussed in section 5.5 and recommendations for future research are presented in section 5.6. Section 5.7 suggests how this research might contribute to the education profession. The conclusion to this chapter is presented in section 5.8.

5.2 Revisiting the rationale for the study

The AcAd Program was introduced in the case study school in 2013. It was designed to improve participating students' capacity to learn by improving their level of self-regulation and strengthening aspects of their learning power. These abilities would position them for success in any learning environment, but they were viewed as essential if students were to reap the full benefits of the school's transition, initially to blended learning and then to a personalised learning model of education.

The transition to blended learning and then to personalised learning required the case study school to harness the potential of rapidly emerging digital technologies. Some of these technologies would be integrated into on-campus operations (e.g. the school's LMS and an adaptive Maths program adopted in 2017), but students would also be encouraged to form their own learning networks that stretched beyond campus boundaries. However,

a body of research had identified many failed attempts by schools to engage with digital technologies in this way. I took the view that the teacher-centric model, which focused the school's supply chain on classroom teachers, was antiquated and thwarting progress.

The shift to connectivism and constructivism, which constituted another dimension of the case study school's strategy, was also inhibited by the school's reliance on an outmoded organisational architecture. Attempts to promote connectivism and constructivism would prove futile while teachers maintained their position at centre-stage in their classrooms and within the school as an organisation. An abundance of literature on change management, presented in Chapter 2, indicated that the change process would be slow and complex. Successful change still requires those responsible for the management of the process to navigate their way through a complex and interrelated series of social, organisational and psychological issues. The literature review also highlighted that professional development is necessary, but not sufficient to overcome the immunity to change experienced by even the most well-intentioned teachers (Kegan & Lahey, 2009). Change managers should ask themselves why they need to focus their energy on convincing teachers to integrate digital technologies if these technologies are challenging teachers' position as the gatekeepers of knowledge.

Resistance to change is found at the organisational as well as at the individual level. Christensen and colleagues (Christensen, 1997, 2002; Christensen & Overdorf, 2000; Christensen et al., 2001; Christensen et al., 2004; Christensen at al., 2011) focused on the impact of disruptive innovations on organisations. They produced a volume of evidence to show that successful incumbents often failed to engage with disruptive technologies because they were blinded by their own success. These incumbents failed to see the potential for these technologies, which take root in markets consisting of disenfranchised consumers, to challenge their place in the education market. I have explained why digital technologies constitute a very rapidly developing disruptive force in education. Successful incumbents have two options: they can either start a new enterprise, populated with people not blinded by the success of the old enterprise; or they can reshape their organisational architecture (the way the physical, digital and human resources are combined) to accommodate the new game-changing technologies.

The case study school had adopted a strategy that required it to reshape its organisational architecture from one that had teachers as the focus of the supply chain to one that harnessed the potential of digital technologies to personalise the learning experience for students. This required a new team-based approach to the delivery of educational services. The Academic Adviser (AcAd) program was an early step in the transformation process that would:

- provide students with a personalised learning experience (with regard to learning how to learn, rather than learning about subjects)
- provide them with one to one support as they grappled with their own immunity to change, and
- encourage students to become more independent of classroom teachers by expanding their learning networks, increasing their capacity to self-regulate, and strengthen aspects of their learning power, which would in turn
- prepare students for a time when teachers would no longer be on centre stage.

The program revolved around a team of AcAds who met approximately once each fortnight with individual students who enrolled in the program. Some of the AcAds were, or had been, registered teachers, but others were not. None of the AcAds had professional counselling qualifications. The AcAds were required to focus on learning capabilities rather that subject content, and to treat their conversations with the students they met in strictest confidence. AcAds formed part of a team of specialist educators. Other team members included subject coaches (aka teachers), academic conditioning coaches, research coaches, a small team of people with responsibility for the student data dashboard, digital content managers and a pastoral care team that included Heads of Year. AcAds were not to take the instructional role of the traditional teacher; rather, they were to empower students to operate in an environment in which teachers would no longer sit alone at the centre of their learning experience. They were to provide support for the student during the transition, and bring the students to understand that they need not rely exclusively on their subject teachers to learn. The structure of the learning day would also need to change in order to provide students with the opportunity to meet with the various specialists. This could only be achieved if self-regulating and empowered students had less ‘seat time’ in subject lessons and more time to access the resources available to them.

Various authors (Carroll & Foster, 2009; Drexler, 2010; Gerlic, 2010) have flagged that the role of the teacher will change from that of an instructor, controller, gatekeeper, arbitrator, sole assessor and judge to that of facilitator, mentor, guide, advocate and organiser of knowledge. Educational leaders should not expect all these tasks to be performed by people who have been trained to deliver content. The case study school's strategy was to transition teachers into subject coaches so they could focus on facilitating and organising (rather than controlling) knowledge, while other members of the education team delivered their own set of specialist services to the students. The AcAds were to take the role of mentor and advocate. It is important to emphasise that these new roles were not to be assigned exclusively to one dimension of the overall team of educators. Some overlap was considered desirable, provided the primary focus of each was clear. To this end, the perceptions of Heads of Year, who were members of the traditional architecture responsible for the welfare of students, were analysed to gauge how well they accepted AcAds as members of the team of educators who bridged the gap between the academic and pastoral agendas of the school.

The strategy was to engage with disruptive innovations because they had the capacity to personalise learning for individual students. Teachers would be given every assistance to adopt the best and most appropriate digital technologies available as they transitioned to their new role as subject coaches, but they would no longer be in a position to control the agenda, because the role of educating students would be shared among a team of specialists, including AcAds. They would be repositioned as an important node in the students' learning network rather than the controller of that network.

5.3 Answering the supporting research questions

Four supporting research questions were introduced in Chapter 1. Each of these questions will now be answered using findings supported by the data analysis in Chapter 4.

5.3.1 Supporting Research Question 1

What are the perceptions of students in the AcAd Program, particularly in relation to the role of the AcAds and the impact of the program on their level of self-regulation and learning power?

Data were obtained from a sample group of 36 students who completed a 2015 survey, focus groups involving a total of twenty students in 2015, one on one interviews with four senior students in 2016, and a 2017 survey of ten students with two or more years' experience in the program in 2017. Analysis of data from these sources supported the following answer to Supporting Research Question 1.

The sample group of students perceived the AcAd Program to be beneficial and, in many cases, enjoyable. They had a clear understanding that the AcAds' role was to work with them to improve their capacity to self-regulate and to increase aspects of their learning power. Qualitative data to support this claim were obtained from many students in the sample group. The students who completed the survey in the second semester of 2015 were asked to distinguish between the role of the AcAd and the role of the teacher. All of the responses demonstrated a clear understanding of the different roles played by each. Students and parents/caregivers often emphasised the AcAds' role in teaching them *how* to learn and not *what* to learn (the goal of the program). They also perceived that AcAds gave students individual attention, which their teachers could not do because they were dealing with class groups.

Qualitative data indicated that some students had a keener sense of purpose and experienced a sense of satisfaction from their progress through the program. Many felt more empowered as lifelong learners and understood that learning was an ongoing process. A number indicated that they were seeking an increase in their capacity to learn, rather than focusing just on short-term improvements in their grades. It should be noted, however, that many students did indicate that their grades had improved because of their involvement in the program.

Quantitative and qualitative data supported the claim that many students perceived improvements in their level of self-regulation, broadly defined, as well as improvements in the various components (the themes) of self-regulation, such as goal-setting. There were clear indications that students perceived improvements in self-regulatory processes, task strategies and the self-efficacy dimension of self-motivational beliefs. There was some doubt about whether students understood the term 'learning power', although they clearly understood the various dimensions that made up the learning power themes.

Quantitative and qualitative data clearly indicated that students had formed strong learning relationships with their AcAds, which were founded on the trust they placed in their AcAd, the interest their AcAd showed in them as a person and, as frequently noted, the personality of their AcAd. Many students also perceived that the program had helped them to overcome the anxiety/stress they associated with schoolwork. Data from several students indicated that they were more aware of how to effectively interact with their learning environment, which in some cases had led to them broadening their learning networks. They indicated a willingness and ability to take greater control of their learning.

5.3.2 Supporting Research Question 2

What are the perceptions of the parents/caregivers of students in the AcAd Program, particularly in relation to the role of the AcAd and the impact of the program on the students' level of self-regulation and learning power?

Quantitative and qualitative data obtained from the 2015 survey of parents/caregivers also indicated a strong level of support for the AcAd Program, which was considered to represent value for the money they contributed. Parents/caregivers perceived that the program was benefiting their child/children. They were uncertain about whether their children were self-regulating prior to the program, but they were generally of the view that the program had increased their child's capacity to self-regulate. These stakeholders perceived that their children were setting and working towards achieving academic goals and were taking a more balanced approach to managing their responsibilities. Data from the parents/caregivers cited improvements in their child's organisational strategies and time management as significant benefits. As was the case with student data, there were some instances where data explicitly indicated an improvement in self-efficacy and increased intrinsic interest, while this theme was implied in a considerable amount of the data.

Parents/caregivers, in common with the students, may not have understood the concept of learning power fully, but they seemed to have good grasp of the various themes residing in this category. They certainly acknowledged the solid relationships that had formed between students and AcAds. The sense of trust felt by students, their perception that the AcAds recognised them as complex individuals and the personalities of the AcAds were also acknowledged in these data. Parents/caregivers perceived that their

children were expanding their learning networks. They identified teachers as important members of the team rather than the only individuals with a role to play in educating their children. Many parents/caregivers acknowledged that their children were reflecting on their own progress and adjusting the learning strategies they employed. Many parent/caregivers also noted reduced levels of anxiety in their children. Parents/caregivers also appreciated the personalised nature of the service being offered by their child's AcAd.

5.3.3 Supporting Research Question 3

What are the perceptions of the AcAds in relation to their role, and the impact of the program on the students' level of self-regulation and learning power?

Quantitative and qualitative data from AcAds indicated that they had a clear understating of their role in building the learning capacity of students through improvements in self-regulation and aspects of learning power. They saw themselves a part of a team of educators and were keen to work with Heads of Year, in particular. They valued their relationship with the students in the program and were keen to maintain regular contact with parents/caregivers. Indeed, they expressed disappointment with parents/caregivers who did not avail themselves of opportunities to meet at least once each semester.

While AcAds cited many instances where students had improved their self-regulation and aspects of their learning power, they noted that not all students were fully engaged in the program. While students had generally claimed they had willingly chosen to participate in the program, the AcAds felt that some students had been forced into the program by their parents/caregivers. They recognised that the *will* is a prerequisite for any *skill* improvement by students (McCombs & Marzano, 1990), which means that student buy-in was required for the program to be successful.

Data from the AcAds indicated that they had focused on key components of self-regulation, such as goal-setting, organisational strategies and time management, which they credited with reducing students' stress/anxiety. They encouraged students to reflect on their own performance and perceived that students' self-efficacy was growing. They

acknowledged that their relationship with the students they met individually each fortnight was pivotal to the success of the program. They also acknowledged the need to build student trust. They appeared to be genuinely committed to, and interested in, their students as people with lives beyond school and spent some time helping students to obtain a balance in managing their various commitments. They saw the goal of the program as building attitudes and skills that would position students as successful lifelong learners. They perceived that they were delivering a personalised service to individual students, and appeared to gain a great deal of professional satisfaction from seeing students improve their levels of self-efficacy, expand their learning networks, and generally develop their learning capacity.

5.3.4 Supporting Research Question 4

What are the perceptions of Heads of Year, as members of the traditional school architecture with responsibility for pastoral care, about the role of the AcAd and the AcAd Program?

The six Heads of Year provided data in a semi-structured focus group in late 2016. They were all experienced educators, registered teachers, established and key members of the organisational architecture that existed at the time. Their primary focus was the welfare of students in their year level.

Heads of Year data indicated that they were keen to work with the AcAds. They recognised that the AcAds provided a personalised service that neither they or the classroom teachers they could not provide, given that they had responsibility for a large number of students. Data from the Heads of Year constituted evidence that they saw the AcAds as valuable members of the team. In fact, they sent a clear message that they wanted more opportunities to meet with the AcAds so they could learn from each other and determine how they could better meet the needs of their students. They considered the goals of the program to be important, and highlighted the pastoral role of the AcAds, citing instances where the AcAd had assisted students in times of difficulty. The Heads of Year gave no indication that they were concerned about lines of demarcation that exist in some workplaces.

5.4 Synthesising findings to answer the Key Research Question: Implications for the Organisational Architecture of Schools

In times that are characterised by disruptive innovation due to technological changes, what are the implications for the organisational architecture of schools?

While the term 'disruption' is often misused, I remain firm in the belief that school-based education is indeed facing significant disruption from digital technologies. Schools need to embrace the best digital technologies, change the pedagogies employed by educators to embrace connectivism and constructivism, and focus their attention on students, both with respect to the personalised delivery of education programs, and by providing personalised support for students as they themselves navigate changes in the organisational architecture of schools.

Educators need to unshackle education from 'seat time' in subject-based classrooms. Students need to harness the educational potential of digital technologies and prepare themselves for a world beyond the school gate that is itself in an enduring state of flux. Consequently, they will need to have high levels of self-efficacy and motivation, a capacity to develop their own learning networks, a determination to set goals and the persistence to achieve them, an ability to maintain balance in a complex and changing world, the wherewithal to prioritise, organisational strategies and time-management skills, and a proactive response to life's challenges. These are some of the attributes of a self-regulated and empowered learner.

These important skills and attitudes can be obtained in an educational environment that fosters a strong sense of belonging and trusting relationships with mentors who are genuinely committed to the long-term development of students, that encourages a sense of enjoyment, and that acknowledges the complex nature of all individuals. Students must be encouraged to take risks and helped to reduce their levels of anxiety and stress through a more effective approach to their academic responsibilities. This, in turn, will lead to greater levels of independence. Of course, care needs to be taken not to replace dependency on teachers with dependency (as distinct from interdependency) on others. Students should be encouraged to reflect on their own performance and shown how they can take a strategic approach to developing their own plans for ongoing improvement. A sense of purpose and pride in achievements needs to be fostered through a purposeful, not

serendipitous, approach. These are the attributes of empowered learners who will be positioned for success beyond graduation.

This research has shown that an Academic Adviser Program can provide such a service to students. Data presented in Chapter 4 established the benefits of the program in the case study school. The achievements of this program represented a fragment – albeit an important one – of the overall strategy being employed. AcAds were not intended to replace teachers, and they did not attempt to do so, but they could claim some success in preparing students for a time when they, and not their teachers, would be in control of the learning process. In doing so, the program has also positioned the organisation to move ahead with its plans to harness the potential of digital technologies to deliver a personalised learning program to each and every student. Data from students and parents/caregivers sent a consistent message about the value they placed on the individual attention provided to students by the AcAds. In improving the learning capacity of many students, it also reduced the potential for teachers who wished to cling to their position as gatekeepers of knowledge to inhibit the change process. The case study school's strategy relied on repositioning teachers from their traditional role at centre stage and at the centre of the school's supply chain to that of a member of a team of educational specialists. The AcAds had established themselves as part of that team.

The organisational architecture of traditional schools is not suited to the needs of tomorrow's students. Many of today's schools remain organised around the work of classroom teachers. This approach was functional when teachers were the main conduit through which knowledge was transmitted to students, but this 'walking textbook' approach is fast becoming redundant. Teachers have effectively been the focus of the supply chain in traditional schooling, and this has enabled them to dictate the nature and pace of technology adoption. A body of research has shown that many teachers have been reluctant to adopt these technologies, particularly if they were seen to challenge their role as gatekeepers of knowledge.

Change poses a complex challenge for individuals and organisations alike. Individual students, students and parents have become used to the traditional school architecture, so it is understandable that they will experience some immunity to change as they and their schools come to terms with the potential of digital technologies and associated pedagogies

(Keagan & Lahey, 2009). Teachers and schools will have difficulty accepting changes to an approach that has, in their view, been successful (Christensen, et al., 2011), yet change is required if we are to harness digital technologies to personalise the learning experience for students. Educational leaders should not abandon teachers, nor should they allow teachers to use their position in an outmoded organisational architecture to inhibit changes that will benefit students.

The focus of this research was the case study school's strategic response to this disruption, but since the research commenced another disruptive force has appeared on the horizon and is moving even more rapidly in our direction. This twin disruptor comes in the form a new purpose for education: that of promoting enterprising skills that will equip the current generation of students to thrive in a work where artificial intelligence and automation will lead to a complete restructure of the job market. In some respects, this disruption also has its roots in computer-based innovations, but its disruptive impact is hitting education indirectly through the job market. This makes the need to improve students' learning capabilities even more of an imperative.

In summary, a number of implications for the organisational architecture of schools have emerged from this study. Educational leaders should reconsider the role of the traditional classroom teacher in the fact of emerging digital technologies that have the potential to personalise learning for individual students. A significant amount of research has shown that teachers have generally been willing to adopt technologies that support them in their traditional role and reluctant to adopt technologies that remove them from their role as gatekeepers of knowledge. It is the traditional organisational architecture of schools, which focuses its supply chain on classroom teachers, that empowers teachers and enables them to inhibit progress. Even if teachers were prepared to fully embrace digital technologies associated constructivist and connectivist approaches to twenty-first century education, there would still be significant benefits from employing a team of specialist educators to address the needs of individual students.

Emerged and emerging digital technologies have the potential to enrich the learning experience for individual students, and not just those in the middle of the academic bell curve. They should also be seen as a catalyst for change in the organisational architecture of schools. The AcAd Program that has been the focus of this research can assist the

process of transformation by equipping students with important skills, reassuring them as they move into a different model of education, encouraging them to expand their learning networks and gradually reduce their dependence on teachers. Fom a strategic perspective, the program can form an important element of a team based approach to the personalization of learning and prepare the school to adopt the best emerging digital technologies.

5.5 Limitations of the Research

This research relied heavily on quantitative and qualitative data obtained from surveys of students, parents/caregivers and AcAds. Statement 13 on the student survey was, 'I believe the AcAd Program is strengthening my learning power.' I have reason to believe that some students may not have fully understood the meaning of learning power. My concern stems from feedback from students that indicated that they might not have fully understood the results of the CLARA diagnostic instrument they completed. However, I am confident that they did understand the various components of learning power that were the subject of other survey statements.

I would have preferred the sample size for the 2015 student and parent/caregiver surveys – approximately 30 per cent of the population of students and parents/caregivers – to have been bigger, but compliance with ethics placed understandable constraints on my ability to access data from more participants, which would have allowed for more sophisticated quantitative analysis of quantitative data. However, as noted in Chapter 1, while the research was mixed, the greatest emphasis was on the theoretical thematic analysis of qualitative data. This sample size limitation was also circumvented by triangulating student and parent data with data from the population of AcAds, who provided data relating to their perceptions of all students in the program, and not just those in the survey group, whose identity was disguised.

The biggest concern about the approach is that only the parents/caregivers and students who were positively disposed to the program volunteered to participate in the research (there was one negatively disposed parent, and their data were included in the analysis). Having said that, a low churn rate of students in the program indicated a high level of satisfaction by all students and parents/caregivers involved in the program. Once again,

these data were triangulated with data from the AcAds, who reflected on the performance of all students in the program.

Finally, my role as both the principal of the school and the researcher has been acknowledged. This role provided me with a rare opportunity to access key stakeholders while taking steps to ensure that the identity of students and parents/caregivers were de-identified before I had access to their data. Participation in the research was voluntary, as was participation in the AcAd Program itself. I found that students, in particular, provided responses that were rich, authentic and mature. The triangulation process left me confident that my position as principal did not compromise the validity of data provided to me as the researcher.

5.6 The Potential for This Research to contribute to the Education Profession

As stated in Chapter 1, the case study was designed to act as a catalyst for discussion among researchers, education policy-makers, school leaders, teachers, parents and students, rather than to provide a blueprint for other schools to follow. Every school has its own culture, and the success of the program in the case study school can be attributed to the absence of some of the demarcation lines that may be present in other schools. The culture among students and staff was based on trust, open communication and team members' commitment to their students. The case study school was also well into its blended learning journey at the time the research was conducted, which might distinguish it from many schools. Nonetheless, I suspect that many students in other schools would value the opportunity to work with their own personal academic adviser. These advisers need not be registered teachers, as some of the advisers in the case study school came from a different background. Nor do these advisers need to be physically present, as one of the AcAds in the case study lived in North Queensland and communicated with his students very effectively using Skype.

The greatest contribution this research can make is to open the eyes of other educators to the potential offered by a different approach. The case study school was not the first school to recognise the potential for digital technologies to assist with the education of its students, but it appears to have been one of the few in its state to rethink its organisational architecture. A school with a singular focus on digital technology, even if it manages to overcome resistance from its teachers, is unlikely to provide the full benefits that can be

delivered to students by a team of focused specialists. Ultimately, the goal of the program was to equip students to become lifelong learners. The reader is reminded of Donnison's (2009, p. 338) description of these learners as

> knowledgeable, capable, autonomous, organised, have an inquiring mind, love learning for the sake of it, be curious, questioning and critical, have a breadth of vision, and will engage in positive and productive self-reflection.

This research has demonstrated the potential for an Academic Adviser Program to equip students with many of these attributes.

5.7 Suggestions for Future Research

This research could form a platform for further research in the case study school, as it continues to pursue its strategy of personalizing the learning for all its students. A similar case study approach could be used to investigate the success of other elements of the education team, such as the impact of the data dashboard on the school's approach to education or the community's response to the adoption of adaptive programs, as well as an investigation into the educational impacts on pedagogy of the various contemporary learning centres that have been developed in recent years.

The data dashboard was intended to provide rich, fine-grained, timely data to members of the education team, parents/caregivers and, most importantly, students. These data should answer the four questions identified in Chapter 1; What? So What? Now What? and Why Not? There is scope for further research into the impact of the dashboard on the planning and delivery of personalised learning programs as well as the effectiveness of the current, rather blunt, approach. I suspect the current approach conveys vague messages that constitute lag indicators that have little impact on the students' approach to learning.

The AcAd Program was designed as part of a broader organisational architecture. It would be interesting to revisit the case study school in the coming years to analyse the extent to which teachers' position in the supply chain has changed, what role teachers (subject coaches) might play in the new architecture, and whether the changes enhance the school's ability to integrate digital technologies. Of course, researching the response of

students to these changes should be a priority. The area that demands immediate research concerns whether teachers are providing students with the opportunity to self-regulate.

It would also be interesting to track the performance of students' levels of self-regulation and learning power beyond graduation. The reader will recall that one of the goals of the program was to position students for success at university and work. It would be particularly interesting to assess how well the students perform without their AcAd to guide them. The program was designed to have built-in redundancy, in that students would feel confident enough to move out of the program. An assessment of the levels of self-regulation and learning power being demonstrated by graduates of the program who remain at the school would shed light on the long-term benefits of the program. Finally, there would be great benefit from researching the introduction of similar programs in other schools, while taking care to situate such research within the culture of each school.

5.8 Conclusion

This chapter has reviewed significant aspects of data and data analysis presented in previous chapters. It has highlighted the key findings from the research related to the perceptions of students, parents/caregivers, AcAds and Heads of Year about the purpose and achievements of the program. It has reminded the reader that all stakeholders were positive about the program and its impact on participating students' levels of self-regulation and aspects of their learning power. The role of the AcAd was seen by all parties as distinct from that of a teacher. This chapter has also noted research participants' perceptions about other benefits to flow from the program, such as reduced levels of anxiety and stress among many students. Finally, the reader was reminded that, even though digital technologies have been identified as offering great benefits to individual learners, there is still a place for interactions between students and capable adults who are committed to their ongoing development. I refer again to the work of Deakin Crick et al. (2001, p. 267): 'learning power … is powerfully influenced by the learning relationships within which individuals find themselves'. The AcAd program was one component of a new, multi-faceted organisational architecture.

The key learnings from the research were that students valued the relationship with their AcAd, and they felt empowered to take greater control of their learning, both because of skill development, and because they progressively saw themselves and in control of their own learning. Increased self-efficacy and reduced levels of stress and anxiety were

pleasing outcomes of the program. The potential for similar programs to yield benefits for students in other schools will depend very much on the approach of the AcAds, the support of parents, and the culture of the school itself. Established members of the case study school were open to newcomers and keen to embrace innovations that would benefit students. Many people with different roles came together to create the right environment for the success of this particular program.

Change is an ongoing, challenging and exciting process. The innovations that have been referred to as disruptions throughout this thesis should be welcomed as catalysts for change. For the first time, we as educators have an opportunity to genuinely personalise the learning experience for every student. The cost of innovative technologies has been falling, and a new breed of entrepreneurs has focused their gaze on a vast, global education market. Innovators at the corporate and school levels have started to collaborate to deliver a range of engaging learning resources to students. These have the potential to tailor themselves to meet the needs of individual learners and to provide their learners and their support team with up-to-date, fine-grained data on their progress. It requires a team of skilled and committed educators, rather than an individual classroom teacher, to take advantage of the opportunities now available to create a rich, focused, personalised learning experience for every student. The AcAds have played an important part in contributing to this new approach in the case study school.

The AcAd program demonstrated the role to be played by semi-atomomous teams, as suggested in Christensen, Horn and Johnson (2011). The AcAds had regular contact with the Heads of Year, the Manager of Student Performance Data and the Headmaster/Principal. Effective communication between the Heads of Year, as the main providers of pastoral care to students, and the AcAds, was consistently identified as important by both parties and steps were taken to refine this communication over time. However, the strategy required the AcAds to be somewhat isolated from other staff members, as the students needed to feel their relationship with the AcAds was based on trust and high levels of confidentiality. The smi-isolation also prevented the AcAds from adopting some of the conventional thinking that prevailed within some sections of the traditional architecture.

This research has illustrated that schools can embrace the disruption that will inevitably accompany continued digital innovation. It has shown that schools can find a place for school education in the changed educational landscape, provided that educational leaders are prepared to rethink the organisational architecture of their schools. New specialist service providers can add significant value to the educational experience of every student if they encourage students to take their place at the centre of their own learning network. These networks will consist of an immense array of digital resources, but they can and should also comprise learning coaches, data specialists, research coaches and other people committed to them as individual learners. This research has demonstrated why Academic Advisers should be among the earliest members of this newly formed team.

The next step in the transition to the new organisational architecture involve employing Academic Conditioning Coaches, expanding the number of people processing and analysing student performance data, introducing pedagogy coaches to focus on aspects of blended learning pedagogy, creating more flexible time for students to meet with various members of the education team and expanding the range of contemporary learning spaces. Each of these innovations warrants thorough research.

References

Note to the reader

All web links to articles were rechecked on July 10, 2017. This date appears in the reference list rather than the original date on which they were retrieved as some of the original links no longer exist. The works of Ruth Deakin Crick appeared in some references as Crick, R.D., but the correct citation should be Deakin Crick, R. This citation method has been employed throughout.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action Control: From Cognition to Behavior* (pp. 11–39). Berlin: Springer.

Anderson, C. (2010). Presenting and evaluating qualitative research. *American Journal of Pharmaceutical Education*, *74*(8), 141.

Anderson, T. & McGreal, R. (2012). Disruptive pedagogies and technologies in universities. *Educational Technology & Society*, *15*(4), 380–389.

Argyris, C. & Schön, D. (1978). *Organisational learning: A theory of action approach*. Reading, MA: Addision Wesley.

Artino, A. R. (2008). Promoting academic motivation and self-regulation: Practical guidelines for online instructors. *TechTrends*, *52*(3), 37–45. doi:10.1007/s11528-008-0153-x.

Ashfari, M., Bakar, K.A., Wong, W.S., Samah, B.A., Fooi, S. & Foo, S. (2009). Factors affecting teachers' use of information and communications technology. *International Journal of Instruction*, 2(1), 77–104.

Aspen Institute Task Force on Learning and the Internet (2014). *Learner at the Center of a Networked World.* Washington, DC: Aspen Institute. Retrieved 10 July 2017 from https://assets.aspeninstitute.org/content/uploads/files/content/docs/pubs/Learner-at-the-Center-of-a-Networked-World.pdf.

Assor, A., Kaplan, H. & Roth, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviours predicting students' engagement in schoolwork. *British Journal of Educational Psychology*, *72*(2), 261–278. doi:10.1348/000709902158883.

Atkins, D., Bennett, J., Brown, J.S., Chopra, A., Dede, C., Fishman, B. … Williams, B. (2010). *Transforming American Education: Learning Powered by Technology, Draft Education Technology Plan*. Retrieved 10 July 2017 from https://www.ed.gov/sites/default/files/NETP-2010-final-report.pdf.

Bailey, J., Schneider, C. & Vander Ark, T. (2013). *Navigating the Digital Shift: Implementation Strategies for Blended and Online Learning*. Washington, DC: Digital Learning Now!

Barnard, L., Lan, W.Y., To, Y.M., Paton, V.O. & Lai, S.-L. (2008). Measuring self-regulation in online and blended learning environments. *The Internet and Higher Education, 12*(1), 1–6. doi:10.1016/j.iheduc.2008.10.005.

Bassey, M. (1999). *Case Study Research in Educational Settings*. Philadelphia, PA: McGraw-Hill.

Bassey, M. (2001). A solution to the problem of generalisation in educational research: Fuzzy prediction. *Oxford Review of Education, 27*(1), 5–22. doi:10.1080/03054980123773.

Bauer, J. & Kenton, J. (2005). Toward technology integration in the schools: Why it isn't happening. *Journal of Technology and Teacher Education, 13*(4), 519.

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

Bell, F. (2011). Connectivism: Its place in theory-informed research and innovation in technology-enabled learning. *The International Review of Research in Open and Distributed Learning, 12*(3), 98–118. doi:10.19173/irrodl.v12i3.

Bell, P.D. & Akroyd, D. (2006). Can factors related to self-regulated learning predict learning achievement in undergraduate asynchronous Web-based courses? *International Journal of Instructional Technology and Distance Learning, 3*(10), 5–16.

Bennett, S., Maton, K. & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology, 39*(5), 775–786. doi:10.1111/j.1467-8535.2007.00793.x.

Bochman, D.J. & Kroth, M. (2010). Immunity to transformational learning and change. *The Learning Organisation, 17*(4), 328–342. doi:10.1108/09696471011043090.

Bogden, J.F. (2014). Blended learning: Bringing personalised education to scale. *National Association of State Boards of Education Discussion Guide*, Arlington, VA: NASBE.

Bos, B. (2011). Professional development for elementary teachers using TPACK. *Contemporary Issues in Technology and Teacher Education, 11*(2), 167–183.

Bovey, W.H. & Hede, A. (2001). Resistance to organisational change: The role of defence mechanisms. *Journal of Managerial Psychology, 16*(7), 534–548. doi:10.1108/EUM0000000006166.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. doi:10.1191/1478088706qp063oa.

Brigman, G., & Campbell, C. (2003). Helping Students Improve Academic Achievement and School Success Behavior. *Professional School Counseling, 7*(2), 91-98. Retrieved 10 July 2017 from http://www.jstor.org/stable/42732548

Brophy, J. (2008). Developing students' appreciation for what is taught in school. *Educational Psychologist, 43*(3), 132–141. doi:10.1080/00461520701756511.

Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research, 6*(1), 97–113. doi:10.1177/1468794106058877.

Buckingham Shum, S. & Deakin Crick, R. (2012). Learning dispositions and transferable competencies: Pedagogy, modelling and learning analytics. *Proceedings of the 2nd International Conference on Learning Analytics and Knowledge, Vancouver, British Columbia, Canada*. Retrieved 10 July 2017 from http://oro.open.ac.uk/32823/1/SBS-RDC-LAK12-ORO.pdf.

Butler, D.L. (2002): Qualitative approaches to investigating self-regulated learning: Contributions and challenges. *Educational Psychologist, 37*(1), 59–63. Retrieved 10 July 2017 from http://dx.doi.org/10.1207/S15326985EP3701_7.

Carroll, T.G. & Foster, E. (2009). *Learning Teams: Creating What's Next*. Retrieved 10 July 2017 from https://nctaf.org/wp-content/uploads/2012/01/NCTAFLearningTeams408REG2.pdf.

Cho, M.-H. & Shen, D. (2013). Self-regulation in online learning. *Distance Education, 34*(3), 290–301. doi:10.1080/01587919.2013.835770.

Christensen, C.M. (1997). *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. Cambridge, MA: Harvard Business School Press.

Christensen, C.M. (2002). The opportunity and threat of disruptive technologies. *MRS Bulletin, 27*(4), 278–282. doi:10.1557/mrs2002.81.

Christensen, C.M., Alton, R., Rising, C. & Waldeck, A. (2011). The big idea: The new M&A playbook. *Harvard Business Review*, 89(3), 48–57.

Christensen, C.M., Anthony, S.D. & Roth, E.A. (2004). *Seeing what's next: Using the theories of innovation to predict industry change*: Cambridge, MA: Harvard Business School Press.

Christensen, C., Craig, T. & Hart, S. (2001). The great disruption. *Foreign Affairs, 80*(2), 80–95. doi:10.2307/20050066.

Christensen, C.M., Horn, M.B. & Johnson, C.W. (2011). *Disrupting Class: How Disruptive Innovation will Change the Way the World Learns*. New York: McGraw-Hill.

Christensen, C.M. & Overdorf, M. (2000). Meeting the challenge of disruptive change. *Harvard Business Review, 78*(2), 66–77.

Clarebout, G., Horz, H., Schnotz, W. & Elen, J. (2010). The relation between self-regulation and the embedding of support in learning environments. *Educational Technology Research and Development, 58*(5), 573–587. doi:10.1007/s11423-009-9147-4.

Cleary, T.J. & Zimmerman, B.J. (2004). Self-regulation empowerment program: A school-based program to enhance self-regulated and self-motivated cycles of student learning. *Psychology in the Schools, 41*(5), 537–550. doi:10.1002/pits.10177.

Coggshall, J., Lasagna, M. & Laine, S. (2009). *Toward the Structural Transformation of Schools: Innovations in Staffing*. Naperville, IL: Learning Point Associates.

Deakin Crick, R., Broadfoot, P. & Claxton, G. (2004). Developing an effective lifelong learning inventory: The ELLI Project, assessment in education. *Principles, Policy & Practice, 11*(3), 247–272. doi:10.1080/0969594042000304582.

Deakin Crick, R., Haigney, D., Huang, S., Coburn, T. & Goldspink, C. (2013). Learning power in the workplace: The effective lifelong learning inventory and its reliability and validity and implications for learning and development. *The International Journal of Human Resource Management, 24*(11), 2255–2272. doi:10.1080/09585192.2012.725075.

Deakin Crick, R.D., Huang, S., Ahmed Shafi, A. & Goldspink, C. (2015). Developing resilient agency in learning: The internal atructure of learning power. *British Journal of Educational Studies, 63*(2), 121–160. doi:10.1080/00071005.2015.1006574.

Deakin Crick, R., McCombs, B., Haddon, A., Broadfoot, P., & Tew, M. (2007). The ecology of learning: factors contributing to learner-centred classroom cultures.

Research Papers in Education, 22, 267–307. doi.org/10.1080/02671520701497555.

Donnison, S. (2009). Discourses in conflict: The relationship between Gen Y pre-service teachers, digital technologies and lifelong learning. *Australasian Journal of Educational Technology*, *25*(3), 336-350. doi.org/10.14742/ajet.1138.

Drake, P. (2010). Grasping at methodological understanding: a cautionary tale from insider research. *International Journal of Research & Method in Education, 33*(1), 85–99. doi:10.1080/17437271003597592.

Drexler, W. (2010). The networked student model for construction of personal learning environments: Balancing teacher control and student autonomy. *Australasian Journal of Educational Technology, 26*(3), 369–385. doi:https://doi.org/10.14742/ajet.1081.

DuBois, D. L., Holloway, B. E., Valentine, J. C. and Cooper, H. (2002), Effectiveness of Mentoring Programs for Youth: A Meta-Analytic Review. *American Journal of Community Psychology, 30*: 157–197. doi:10.1023/A:1014628810714

DuBois, D. L., Doolittle, F., Yates, B. T., Silverthorn, N. and Tebes, J. K. (2006), Research methodology and youth mentoring. *Journal of Community Psychology, 34*: 657–676. doi:10.1002/jcop.20122

Dwyer, S.C. & Buckle, J.L. (2009). The space between: On being an insider-outsider in qualitative research. *International Journal of Qualitative Methods*, *8*(1), 54–63.

Edwards, D. (2015). *Planning and designing for K–12 next generation learning*. Vienna, VA: International Association for K–12 Online Learning.

Eiken, O. (2011). The Kunskapsskolan ('The Knowledge School'). *CELE Exchange, Centre for Effective Learning Environments, 1*(1). doi:10.1787/20727925.

Eby, L. T., Allen, T. D., Evans, S. C., Ng, T., & DuBois, D. L. (2008). Does mentoring matter? A multidisciplinary meta-analysis comparing mentored and non-mentored individuals. *Journal of vocational behavior*, *72*(2), 254-267.

Ercikan, K. & Roth, W.M. (2006). What good is polarizing research into qualitative and quantitative? *Educational Researcher, 35*(5), 14–23. doi:10.3102/0013189X035005014.

Fisher, K. (2010). Technology-enabled active learning environments: An appraisal. Paper presented at the CELE Exchange, Centre for Effective Learning Environments. doi:10.1787/5kmbjxzrmc0p-en.

Flyberg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12*(2), 219–245. doi:10.1177/1077800405284363.

Fredricks, J., McColskey, W., Meli, J., Mordica, J., Montrosse, B. & Mooney, K. (2011). Measuring student engagement in upper elementary through high school: A description of 21 instruments. *Issues & Answers. 98.* Retrieved 10 July 2017 from http://ies.ed.gov/ncee/edlabs.

Gao, P., Choy, D., Wong, A.F. & Wu, J. (2009). Developing a better understanding of technology-based pedagogy. *Australasian Journal of Educational Technology, 25*(5), 714–730.

Garthwait, A. & Weller, H.G. (2005). A year in the life: Two seventh grade teachers implement one-to-one computing. *Journal of Research on Technology in Education, 37*(4), 361–377. doi:10.1080/15391523.2005.10782443.

Gerlič, I. (2010). Challenges of advanced technologies and school of the future. *Organisacija, 43*(1), 49–54. doi: 10.2478/v10051-010-0006-1.

Goodson, I. F. & Mangan, J.M. (1995). Subject cultures and the introduction of classroom computers. *British Educational Research Journal, 21*(5), 613–628. doi:10.1080/0141192950210505.

Graham, C.R., Burgoyne, N., Cantrell, P., Smith, L., Clair, L.S. & Harris, R. (2009). TPACK development in science teaching: Measuring the TPACK confidence of inservice science teachers. *TechTrends, 53*(5), 70. doi:10.1007/s11528-009-0328-0.

Green, H., Facer, K., Rudd, T., Dillon, P. & Humphreys, P. (2005). *Futurelab: Personalisation and Digital Technologies*. Research report. Futurelab. Retrieved 10 July 2017 from https://telearn.archives-ouvertes.fr/hal-00190337.

Greene, J.A. & Azevedo, R. (2010). The measurement of learners' self-regulated cognitive and metacognitive processes while using computer-based learning environments. *Educational Psychologist, 45*(4), 203–209. doi:10.1080/00461520.2010.515935.

Greene, J. A., Muis, K. R., & Pieschl, S. (2010). The Role of Epistemic Beliefs in Students' Self-Regulated Learning With Computer-Based Learning Environments: Conceptual and Methodological Issues. *Educational Psychologist, 45*(4), 245-257. doi:10.1080/00461520.2010.515932

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274. doi:10.3102/01623737011003255

Groth, R., Spickler, D., Bergner, J., & Bardzell, M. (2009). A qualitative approach to assessing technological pedagogical content knowledge. *Contemporary Issues in Technology and Teacher Education, 9*(4), 392-411.

Hannon, V., Patton, A., & Temperley, J. (2011). *Developing an innovation ecosystem for education*. Retrieved July 10, 2017 from https://www.globalcitizenleaders.com/wp-content/uploads/2017/03/Innovation-Educat-CISCO.pdf

Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' Technological Pedagogical Content Knowledge and Learning Activity Types. *Journal of Research on Technology in Education, 41*(4), 393-416. doi:10.1080/15391523.2009.10782536

Hathaway, R.S. (1995). Assumptions underlying quantitative and qualitative research: Implications for institutional research. *Research in Higher Education, 36*(5), 535–562. doi:10.1007/bf02208830.

Hennessy, S., Ruthven, K. & Brindley, S. (2005). Teacher perspectives on integrating ICT into subject teaching: commitment, constraints, caution, and change. *Journal of Curriculum Studies, 37*(2), 155–192. doi:10.1080/0022027032000276961.

Herrera, C., Grossman, J. B., Kauh, T. J. & McMaken, J. (2011), Mentoring in Schools: An Impact Study of Big Brothers Big Sisters School-Based Mentoring. *Child Development, 82*: 346–361. doi:10.1111/j.1467-8624.2010.01559.x

Hernández-Serrano, M.J. & Jones, B. (2010). Innovation, informational literacy and lifelong learning: Creating a new culture. *E-Learning Papers, 21*, 1–10.

Hollingshead, A.B. (1975). *Four factor index of social status*. New Haven, CT: Yale University. Retrieved 10 July 2017 from http://s3.amazonaws.com/academia.edu.documents/30754699/yjs_fall_2011.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1500619185&Signature=cVSTe2byfslZAvgM%2FmhH4CNarHc%3D&response-content-disposition=inline%3B%20filename%3DAugust_B._Hollingshead_s_Four_Factor_Ind.pdf#page=21.

Hope, W.C. (1997). Resolving teachers' concerns about microcomputer technology. *Computers in the Schools, 13*(3–4), 147–160. doi:10.1300/J025v13n03_12.

Howe, K.R. (1988). Against the quantitative–qualitative incompatibility thesis, or dogmas die hard. *Educational Researcher, 17*(8), 10–16. doi:10.3102/0013189X017008010

Hoyle, E. (2001). Teaching: Prestige, status and esteem. *Educational Management & Administration*, *29*(2), 139–152. doi:10.1177/0263211X010292001.

Inan, F.A. & Lowther, D.L. (2010). Factors affecting technology integration in K–12 classrooms: A path model. *Educational Technology Research and Development, 58*(2), 137–154. doi:10.1007/s11423-009-9132-y.

Jonassen, D.H., Howland, J., Moore, J. & Marra, R.M. (2003). *Learning to solve problems with technology: A constructivist perspective* (2nd ed.). Upper Saddle River, NJ: Merrill.

Karcher, M. J., Kuperminc, G. P., Portwood, S. G., Sipe, C. L. and Taylor, A. S. (2006), Mentoring programs: A framework to inform program development, research, and evaluation. *Journal of Community Psychology*, *34*: 709–725. doi:10.1002/jcop.20125

Kegan, R. & Lahey, L.L. (2009). *Immunity to change: How to overcome it and unlock potential in yourself and your organisation*. Boston, MA: Harvard Business Press.

Kennedy, S. & Soifer, D. (2013). *Why Blended Learning Can't Stand Still: A Commitment to Constant Innovation Is Needed to Realise the Potential of Individualised Learning*. Retrieved July 10, 2017 from http://www.lexingtoninstitute.org/wp-content/uploads/2013/11/WhyBlendedLearningCantStandStill.pdf.

KnowledgeWorks & Saveri Consulting (2012). *Recombinant Education: Regenerating the Learning Ecosystem (Disruption Digest)*. Retrieved 10 July 2017 from http://knowledgeworks.org/forecast-3.

Koehler, M. & Mishra, P. (2009). What is Technological Pedagogical Content Knowledge (TPACK)? *Contemporary Issues in Technology and Teacher Education, 9*(1), 60–70.

Kop, R. & Hill, A. (2008). Connectivism: Learning theory of the future or vestige of the past? *International Review of Research in Open and Distance Learning*, 9 (3), 1-13.

Kopcha, T.J. (2010). A systems-based approach to technology integration using mentoring and communities of practice. *Educational Technology Research and Development, 58*(2), 175–190. doi:10.1007/s11423-008-9095-4.

Lombardi, M.M. (2007). Authentic learning for the 21st century: An overview. *Educause Learning Initiative, 1*, 1–12.

Lynch, R. & Dembo, M. (2004). The relationship between self-regulation and online learning in a blended learning context. *The International Review of Research in Open and Distributed Learning, 5*(2), 16. doi:10.19173/irrodl.v5i2.189.

Martin, A. (2005). DigEuLit – A European framework for digital literacy: A progress report. *Journal of eLiteracy*. doi=10.1.1.469.1923&rep=rep1&type=pdf.

Martin, A. & Grudziecki, J. (2006). DigEuLit: Concepts and tools for digital literacy development. *Innovation in Teaching and Learning in Information and Computer Sciences, 5*(4), 1–19. doi:10.11120/ital.2006.05040249.

McCombs, B.L. & Marzano, R.J. (1990). Putting the self in self-regulated learning: The self as agent in integrating will and skill. *Educational Psychologist, 25*(1), 51–69. doi:10.1207/s15326985ep2501_5.

Miller, R.B., Greene, B.A., Montalvo, G.P., Ravindran, B. & Nichols, J.D. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. *Contemporary Educational Psychology, 21*(4), 388–422. doi:10.1006/ceps.1996.0028.

Mishra, P. & Koehler, M.J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

Moyle, K. & Owen, S. (2008*). Students' Voices Learning with Technologies: Students' Expectations About Learning with Technologies – a Literature Review*. Canberra: DEEWR.

Murgatroyd, S. (2010). 'Wicked problems' and the work of the school. *European Journal of Education, 45*(2), 259–279. doi:10.1111/j.1465-3435.2010.01428.x.

Murphy, R., Gallagher, L., Krumm, A.E., Mislevy, J. & Hafter, A. (2014). *Research on the use of Khan Academy in schools: Research brief*. Retrieved 10 July 2017 from http://www.edweek.org/media/2014-03-07_implementation_briefing.pdf.

Nagel, D. (2017). First-year teachers more confident in tech but use it less than experienced teachers. *The Journal*, 26 April. Retrieved 10 July 2017 from

https://thejournal.com/articles/2017/04/26/first-year-teachers-more-confident-in-tech-but-use-it-less-than-experienced-teachers.aspx.

Niglas, K. (2004). The combined use of qualitative and quantitative methods in educational research. Dissertation, Tallinn Pedagogical University, Estonia.

Observatory of Educational Innovation (2014). Adaptive learning and testing. *EduTrends Report.* Retrieved July 10, 2017 from http://observatory.itesm.mx/edutrendsadaptive/?rq=adaptive%20learning%20and%20testing.

OECD (2003). OECD Report warns of growing risk of teacher shortages in OECD countries. Retrieved 10 July 2017 from http://www.oecd.org/edu/research/oecdreportwarnsofgrowingriskofteachershortagesinoecdcountries.htm.

Onwuegbuzie, A.J. & Leech, N.L. (2005). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research methodologies. *International Journal of Social Research Methodology*, *8*(5), 375–387.

Papastergiou, M. (2009). Digital game-based learning in high school Computer Science education: Impact on educational effectiveness and student motivation. *Computers & Education, 52*(1), 1–12. doi:10.1016/j.compedu.2008.06.004.

Patrick, S., Kennedy, K. & Powell, A. (2013). *Mean What You Say: Defining and Integrating Personalised, Blended and Competency Education*. Retrieved 10 July 2017 from http://files.eric.ed.gov/fulltext/ED561301.pdf.

Peters, M.A. & Araya, D. (2011). Transforming American education: Learning powered by technology. *E-Learning and Digital Media, 8*(2), 102–105. doi:10.2304/elea.2011.8.2.102.

Pintrich, P.R. & De Groot, E.V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, *82*(1), 33–40.

Price, S., & Oliver, M. (2007). A framework for conceptualising the impact of technology on teaching and learning. *Journal of Educational Technology & Society*, *10*(1), 16–27.

Priest, N., Rudenstine, A. & Weisstein, E. (2012). *Making mastery work: A close-up view of competency education*. Retrieved July 10, 2017 from http://www.competencyworks.org/wp-content/uploads/2012/11/Making-Mastery-Work-NMEF-2012-Inline.pdf.

Prince, K., Saveri, A. & Swanson, J. (2015). *Exploring the Future Education Workforce: New Roles for an Expanding Learning Ecosystem*. Washington, DC: KnowledgeWorks.

Ramorola, M.Z. (2013). Challenge of effective technology integration into teaching and learning. *Africa Education Review, 10*(4), 654–670. doi:10.1080/18146627.2013.853559.

Ravenswood, K. (2011). Eisenhardt's impact on theory in case study research. *Journal of Business Research, 64*(7), 680–686. doi:http://dx.doi.org/10.1016/j.jbusres.2010.08.014.

Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational Psychologist, 44*(3), 159–175. doi:10.1080/00461520903028990.

Reeve, J., Jang, H., Carrell, D., Jeon, S. & Barch, J. (2004). Enhancing high school students' engagement by increasing their teachers' autonomy support. *Motivation and Emotion, 28*(2), 147–169. doi:10.1023/B:MOEM.0000032312.95499.6f.

Rhodes, J. E. (2008), Improving Youth Mentoring Interventions Through Research-based Practice. American Journal of Community Psychology, 41: 35–42. doi:10.1007/s10464-007-9153-9

Robertson, S.L. (2005). Reimagining and rescripting the future of education: Global knowledge economy discourses and the challenge to education systems. *Comparative Education, 41*(2), 151–170. doi:10.1080/03050060500150922.

Sandelowski, M. & Leeman, J. (2012). Writing usable qualitative health research findings. *Qualitative Health Research, 22*(10), 1404–1413.

Schraw, G. (2010): Measuring self-regulation in computer-based learning environments. *Educational Psychologist*, 45(4): 258-266. doi:10.1080/00461520.2010.515936.

Selwyn, N. (1999). Why the computer is not dominating schools: A failure of policy or a failure of practice? *Cambridge Journal of Education, 29*(1), 77–91. doi:10.1080/0305764990290106.

Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning, 2*(1), 8.

Siemens, G. & Long, P. (2011). Penetrating the fog: Analytics in learning and education. *EDUCAUSE Review, 46*(5), 30.

Silverman, L.L. (1997). *Organisational Architecture: A Framework for Successful Transformation*. Partners for Progress. Retrieved 10 July 2018 from http://www.partnersforprogress.com/Articles/Organizational_Architecture.pdf.

Skilbeck, M. & Connell, H. (2003). *Attracting, Developing and Retaining Effective Teachers: Australian Country Background report*. Canberra: Commonwealth Government.

Soland, J., Hamilton, L.S. & Stecher, B.M. (2013). *Measuring 21st Century Competencies: Guidance for Educators*. Retrieved 10 July 2017 from http://www.rand.org/pubs/external_publications/EP50463.html.

Sonwalkar, N. (2013). The first adaptive MOOC: A case study on pedagogy framework and scalable cloud architecture – Part I. Paper presented at the MOOCs Forum, September. doi:10.1089/mooc.2013.0007.

Stake, R.E. (1995). *The Art of Case Study Research*. Thousand Oaks, CA: Sage.

Staker, H. (2011). *The Rise of K–12 Blended Learning: Profiles of Emerging Models*. Retrieved 10 July 2017 from http://files.eric.ed.gov/fulltext/ED535181.pdf.

Staples, A., Pugach, M.C. & Himes, D. (2005). Rethinking the technology integration challenge: Cases from three urban elementary schools. *Journal of Research on Technology in Education, 37*(3), 285–311. doi:10.1080/15391523.2005.10782438.

Sturgis, C. (2015). *Implementing Competency Education in K–12 Systems: Insights from Local Leaders. CompetencyWorks Issue Brief*. International Association for K–12 Online Learning. Retrieved 10 July 2017 from http://files.eric.ed.gov/fulltext/ED557750.pdf.

Sugar, W., Crawley, F. & Fine, E. (2004). Examining teachers' decisions to adopt new technology. *Journal of Educational Technology & Society, 7*(4), 201–213.

Tam, M. (2000). Constructivism, instructional design, and technology: Implications for transforming distance learning. *Journal of Educational Technology & Society, 3*(2), 50–60.

Tanenbaum, C., Le Floch, K.C. & Boyle, A. (2013). Are personalised learning environments the next wave of K-12 education reform? Retrieved 10 July 2017 from http://www.air.org/sites/default/files/AIR_Personalised_Learning_Issue_Paper_2013.pdf

Tavakolizadeh, J., Yadollahi, H. & Poorshafei, H. (2012). The role of self regulated learning strategies in psychological well being condition of students. *Procedia –*

Social and Behavioral Sciences, 69, 807–815. doi:http://dx.doi.org/10.1016/j.sbspro.2012.12.002.

Taylor, A. (2007). Learning to become researching professionals: The case of the Doctorate of Education. *International Journal of Teaching and Learning in Higher Education, 19*(2), 154–166.

Trochim, W.M.K. (2006). *Centre for Social Research Studies*. Retrieved from http://socialresearchmethods.net/kb/intreval.php

Tüzün, H., Yılmaz-Soylu, M., Karakuş, T., İnal, Y. & Kızılkaya, G. (2009). The effects of computer games on primary school students' achievement and motivation in geography learning. *Computers & Education, 52*(1), 68–77.

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

Weinstein, C.E., Zimmerman, S.A. & Palmer, D.R. (1988). Assessing learning strategies: The design and development of the LASSI. In C.E. Weinstein, E.T. Gooetz & P.A. Alexander (Eds.), *Learning and Study Strategies: Issues in Assessment, Instruction, and Evaluation* (pp. 25–40). San Diego, CA: Academic Press.

Weinstein, C. E., Acee, T.W. & Jung, J. (2011). Self-regulation and learning strategies. *New Directions for Teaching and Learning,* 126, 45–53. doi:10.1002/tl.443.

Wiersma, W. & Jurs, S.G. (2005). *Research Methods in Education: An introduction* (8th ed.). Boston: Pearson.

Young-Jones, A.D., Burt, T.D., Dixon, S., & Hawthorne, M.J. (2013) "Academic advising: does it really impact student success?", *Quality Assurance in Education, 21*(1), pp.7-19. Retrieved 10 July 2017 from https://doi.org/10.1108/09684881311293034.

Zimmerman, B.J. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist, 25*(1), 3–17. doi:10.1207/s15326985ep2501_2.

Zimmerman, B.J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice, 41*(2), 64–70. doi:10.1207/s15430421tip4102_2.

Appendix A

Informed consent

A New Organisational Architecture to Support Blended Learning: The Role of the Academic Advisor.

Who is conducting the research	Professor Glenn Finger Griffith University, Gold Coast Campus (07) 555277541 g.finger@griffith.edu.au and Mr Jamie Dorrington Saint Stephen's College (07) 55738606 jdorrington@ssc.qld.edu.au

Why is the research being conducted?

The research will investigate the effectiveness of the Academic Advisor program (AcAd), a key element of an expanded team of educators being employed at Saint Stephen's College. It will report on the change process as well as the impact the new roles have on students' level of self-regulation, 'learning power' and academic performance.

The research will be undertaken as part of the Doctor of Education program at Griffith University by Jamie Dorrington under the supervision of Professor Glenn Finger.

What you will be asked to do

Various forms of data will be collected.

1. Parents of students as well as students in the AcAd Program will be invited to complete an online survey (draft copy attached). The following steps will be taken to ensure that **no one feels compelled to participate in the survey**:
    a. All students in the AcAd Program and parents of students in the AcAd Program will be invited to participate.
    b. Responses will be sent to a third party (not the researchers) who will randomly select a certain percentage of completed surveys from each of Years 7 to 12 to form a sample and present the list and the surveys of that sample group to the researchers. **The researchers**, one of whom is also the College Headmaster, will not know the names of people who chose not to participate.
    c. The survey responses and other data (listed below) from the randomly selected sample will be used in the research.
2. LASSI-HS is an on-line questionnaire that has been used to measure the various

components of self-regulation exhibited by the sample of Year 9 to 12 students involved in the AcAd Program. The researchers are seeking permission to access and analyse the data that is already collected as part of the AcAd Program.

3. CLARA is an on-line questionnaire that has been used to measure the various components of 'learning power'. Once again, the researchers are seeking permission to access and analyse the data from the sample group that is already collected as part of the AcAd Program.
4. The researchers seek permission to access, analyse and report on any significant changes in students in the sample group's academic performance as indicated by their Grade Point Average (GPA).
5. Some students in the AcAd sample group (following the process outlined above) program will be invited to participate in interviews at a mutually convenient time, either in small focus groups or individually. **They will not be compelled to attend**.
6. The researchers seek permission to access, analyse and report the records kept by the AcAds, including their notes about meetings with students and parents who are in the sample group.
7. The AcAds will be invited to participate in a survey and one to one interviews at a mutually convenient time. **They will not be compelled to attend.** The interviews will focus on the AcAd Program as a whole but will only draw on examples from the student sample group.
8. Heads of Year will be invited to participate in a survey and one on one interviews at a mutually convenient time. **They will not be compelled to attend.** The interviews will focus on the AcAd Program as a whole but will only draw on examples from the student sample group.

Please note that the identity of all participants will be disguised (de-identified) in all reports and published papers. Parents who complete the survey will not be asked to contribute any additional time to data collection. There will be a modest contribution of time for students in the sample group, AcAds and Heads of Year to attend interviews (estimated to take no more than 30 minutes on no more than two occasions during the year).

The basis by which participants will be selected or screened

The researchers are inviting all students involved in the AcAd Program, their parents, the AcAds and Heads of Year to participate.

A random sample of students and their parents will be drawn from those who return their surveys. **No student will be compelled to attend interviews even if they have agreed to participate in the research.**

All AcAds and Heads of Year who agree to participate will be asked to complete a survey and attend no more than two interviews.

The expected benefits of the research

The research will guide the development of the AcAd Program and assist the College's education team to refine their practice. This is an important part of ensuring that each individual student is assisted and determining whether or not the program is being appropriately resourced.

Risks to you

The researchers are seeking to analyse and report data that is already collected as part of the program (LASSI-HS, CLARA, GPAs and the records of AcAds) as well as academic reports.

A random sample of students and their parents as well as all AcAds and all Heads of Year will be invited to participate in interviews. This will require them to devote approximately 30 minutes on two occasions at mutually convenient times during the year.

The identity of participants will be disguised in reports in order to protect their privacy.

The nature of feedback received from participants will not influence their on-going participation in the AcAd Program.

The data will not be used by the researchers to influence any other reports on student achievement or activity.

The College Counsellor or other suitable counsellor will be available at no cost to participants should it be requested by the participant, a parent or is otherwise deemed necessary.

Your confidentiality

The identity of participants will only be used to track any changes over time. No participant will be identified in any publication or reporting process. Pseudonyms (false names) will be used so as to de-identify the sources of the data in reports and publications.

The researchers are seeking permission to access, analyse and report on these data. The interviews of a random sample of students, the AcAds and Heads of Year constitute the only forms of data being collected exclusively for the research.

Any data collected exclusively for the purpose of this research project will be stored in a secure location with access only available to the researchers.

The data that is collected will be checked for accuracy before publication.

Your participation is voluntary

The participation of students, parents, AcAds and Heads of Year is voluntary. The voluntary nature of participation extends to the use of data from LASSI-HS, CLARA, Academic Achievement (GPAs) and records kept by AcAds as well as interviews conducted by the researcher. No data will be used in the research project without permission.

Your decision regarding participation will in no way impact upon your relationship with Saint Stephen's College, including opportunities to participate in the AcAd Program.

The research is designed to refine and improve the quality of the program, not to make inferences about the individuals involved.

Participants may withdraw from participation in either the research or the AcAd Program at any time by contacting the manager of the AcAd Program (Mrs Nicola Dennet).

Mechanism for distribution and return / Web backend

The LASSI-HS and CLARA questionnaires are conducted on-line as part of the AcAd

Program. These data are collected and reported using software embedded in the program. Data on GPAs are collected through the school's existing reporting software. Surveys will be completed on-line. Interviews will be held at the College at times that are convenient to the participants. All data are analysed but not changed by the researchers.

Questions/further information

Please do not hesitate to contact Jamie Dorrington on 55738606 or by email: jdorrington@ssc.qld.edu.au if you have any questions regarding the research.

The ethical conduct of this research

The research is being conducted under the guidance of Griffith University. The university conducts research in accordance with the *National Statement on Ethical Conduct in Human Research*. If you have any concerns or complaints about the ethical conduct of the research project you should contact the Manager, Research Ethics on 3735 4375 or **research-ethics@griffith.edu.au**.

Feedback to you

The researchers intend proving you with a summary of a report on their research at the beginning in 2016.

Privacy Statement – non-disclosure

The conduct of this research involves the collection, access and/or use of your identified personal information. The information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded.

For further information consult the University's Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone (07) 3735 4375.'

How do you indicate your willingness to participate in the research?

Please complete and return the survey that will be sent to you soon. Your son and/or daughter who is in the AcAd Program can indicate their willingness to participate by completing the survey.

Thank you

Thank you for reading this long invitation to be part of the research.

A New Organisational Architecture to Support Blended Learning:
The Role of the Academic Advisor

CONSENT FORM RELATING TO PARENT AND STUDENT PARTICIPATION

Research Team Professor Glenn Finger
Griffith University, Gold Coast Campus
(07) 555277541
g.finger@griffith.edu.au
and
Mr Jamie Dorrington
Saint Stephen's College
(07) 55738606
jdorrington@ssc.qld.edu.au

By signing below, I confirm that I have read and understood the information package and in particular have noted that:

- I understand that my involvement in this research will include (a) giving permission for the researchers to access data normally collected as part of the AcAd Program and (b) giving permission for my child who is participating in the AcAd Program to be invited to one or two interviews to be conducted by Mr Jamie Dorrington.
- I have had any questions answered to my satisfaction;
- I understand the risks involved;
- I understand that there will be no direct benefit to me from my participation in this research;
- I understand that my participation in this research is voluntary and my participation or non-participation or the participation or non-participation of a student in my care will in no way negatively impact on the nature of services offered to me/us by the College.
- I understand that if I have any additional questions I can contact the research team;
- I understand that I am free to withdraw at any time, without explanation or penalty;
- I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on 3735 4375 (or research-ethics@griffith.edu.au) if I have any concerns about the ethical conduct of the project; and
- I agree to allow my child to participate in the project.

Parent's Name			**Student's Name**		
Signature		**Date:**	**Student's Signature**		**Date:**

A New Organisational Architecture to Support Blended Learning:
The Role of the Academic Advisor

CONSENT FORM RELATING TO ADULT PARTICIPATION

Research Team Professor Glenn Finger
Griffith University, Gold Coast Campus
(07) 555277541
g.finger@griffith.edu.au
and
Mr Jamie Dorrington
Saint Stephen's College
(07) 55738606
jdorrington@ssc.qld.edu.au

By signing below, I confirm that I have read and understood the information package and in particular have noted that:

- I understand that my involvement in this research will include (a) giving permission for the researchers to access data normally collected as part of the AcAd Program and (b) giving permission for my child who is participating in the AcAd Program to be invited to two interviews to be conducted by Mr Jamie Dorrington or, (c) in the case of AcAds and Heads of Year, to be invited to participate in interviews and provide access to records kept about the AcAd Program.
- I have had any questions answered to my satisfaction;
- I understand the risks involved;
- I understand that there will be no direct benefit to me from my participation in this research;
- I understand that my participation in this research is voluntary and my participation or non-participation or the participation or non-participation of a student in my care will in no way negatively impact on the nature of services offered to me/us by the College.
- I understand that if I have any additional questions I can contact the research team;
- I understand that I am free to withdraw at any time, without explanation or penalty;
- I understand that I can contact the Manager, Research Ethics, at Griffith University Human Research Ethics Committee on 3735 4375 (or research-ethics@griffith.edu.au) if I have any concerns about the ethical conduct of the project; and
- I agree to participate in the project.

Name		
Signature		**Date:**

Appendix B

2015 Surveys

School of Education and Professional Studies

A New Organisational Architecture to Support Blended Learning:

The Role of the Academic Advisor.

This letter invites AcAds and Heads of Year with students in the Academic Advisor program to participate in research I am conducting through Griffith University. It appears rather detailed because it, by necessity, needs to ensure you do not feel compelled to participate and that you are satisfied that the privacy or all participants will be respected.

Who is conducting the research

Professor Glenn Finger

Griffith University, Gold Coast Campus

(07) 555277541

g.finger@griffith.edu.au

and

Mr Jamie Dorrington

Saint Stephen's College

(07) 55738606

jdorrington@ssc.qld.edu.au

Why is the research being conducted?

The research will investigate the effectiveness of the Academic Advisor program (AcAd), a key element of an expanded team of educators being employed at Saint Stephen's College. It will report on the change process as well as the impact the new roles have on students' level of self-regulation, 'learning power' and academic performance.

The research will be undertaken as part of the Doctor of Education program at Griffith University by Jamie Dorrington under the supervision of Professor Glenn Finger.

What you will be asked to do

Various forms of data will be collected.

1. The AcAds will be invited to participate in a survey and one to one interviews at a mutually convenient time. **They will not be compelled to attend.** The interviews will focus on the AcAd Program as a whole but will only draw on examples from the student sample group.

2. Heads of Year will be invited to participate in a survey and one on one interviews at a mutually convenient time. **They will not be compelled to attend.** The interviews will focus on the AcAd Program as a whole but will only draw on examples from the student sample group.

Please note that the identity of all participants will be disguised (de-identified) in all reports and published papers.

There will be a modest contribution of time by AcAds and Heads of Year to attend interviews (estimated to take no more than 30 minutes on no more than two occasions during the year).

The basis by which participants will be selected or screened

All AcAds and Heads of Year who agree to participate will be asked to complete a survey and attend no more than two interviews.

The expected benefits of the research

The research will guide the development of the AcAd Program and assist the College's education team to refine their practice. This is an important part of ensuring that each individual student is assisted and determining whether or not the program is being appropriately resourced.

Risks to you

The identity of participants will be disguised in reports in order to protect their privacy.

The nature of feedback received from participants will not influence their on-going participation in the AcAd Program.

The data will not be used by the researchers to influence any other reports on student achievement or activity.

The College Counsellor or other suitable counsellor will be available at no cost to participants should it be requested by the participant.

Your confidentiality

The identity of participants will only be used to track any changes over time. No participant will be identified in any publication or reporting process. Pseudonyms (false names) will be used so as to de-identify the sources of the data in reports and publications.

The researchers are seeking permission to access, analyse and report on these data. The interviews of a random sample of students, the AcAds and Heads of Year constitute the only forms of data being collected exclusively for the research.

Any data collected exclusively for the purpose of this research project will be stored in a secure location with access only available to the researchers.

The data that is collected will be checked for accuracy before publication.

Your participation is voluntary

The participation of AcAds and Heads of Year is voluntary.

No data will be used in the research project without permission.

Your decision regarding participation will in no way impact upon your relationship with Saint Stephen's College, including opportunities to participate in the AcAd Program.

The research is designed to refine and improve the quality of the program, not to make inferences about the individuals involved.

Participants may withdraw from participation in either the research or the AcAd Program at any time by contacting the College's HR Administrator Mrs Vanessa Vanderveen.

Mechanism for distribution and return/Web backend

Surveys will be completed on-line. Interviews will be held at the College at times that are convenient to the participants. All data are analysed but not changed by the researchers.

Questions / further information

Please do not hesitate to contact Jamie Dorrington on 55738606 or by email: jdorrington@ssc.qld.edu.au if you have any questions regarding the research.

The ethical conduct of this research

The research is being conducted under the guidance of Griffith University. The university conducts research in accordance with the *National Statement on Ethical Conduct in Human Research*. If you have any concerns or complaints about the ethical conduct of the research project you should contact the Manager, Research Ethics on 3735 4375 or **research-ethics@griffith.edu.au**.

Feedback to you

The researchers intend proving you with a summary of a report on their research at the beginning in 2016.

Privacy Statement – non-disclosure

The conduct of this research involves the collection, access and/or use of your identified personal information. The information collected is confidential and will not be disclosed to third parties without your consent, except to meet government, legal or other regulatory authority requirements. A de-identified copy of this data may be used for other research purposes. However, your anonymity will at all times be safeguarded.

For further information consult the University's Privacy Plan at http://www.griffith.edu.au/about-griffith/plans-publications/griffith-university-privacy-plan or telephone (07) 3735 4375.

How do you indicate your willingness to participate in the research?

Please complete and return the survey.

Thank you

Thank you for reading this long invitation to be part of the research.

Yours sincerely

Jamie Dorrington

Headmaster

Saint Stephen's College

Professor Glenn Finger

Griffith University

Appendix B: Surveys

Survey of Academic Advisers

What is your name? _____ Have you previously taught at SSC? Y/N

When did you join the program? (Circle one)

In 2015 During 2014 Start of 2014 In 2013

The following questions relate to your role as an Academic Advisor (AcAd) and your assessment of the program. Please respond to the questions or statements using the scale provided. You are invited to provide written comments that expand on your response in the space below each item. You are also invited to provide written answers to open ended questions at the end of the survey.

Please consider each item separately. The survey relates to your views about YOUR group of students who have agreed to participate (as detailed in a list to be provided).

The term 'learning network' refers to the variety of sources being accessed for learning. These may include digital sources, the I Centre staff, other members of the learning team and/or people from outside the school. A student with a narrow learning network will rely exclusively on their subject teachers and subject texts to learn. Students with expansive networks will find new sources of learning as the need arises.

Response scale: Please insert the appropriate number in the space provided.

Your response	I strongly agree	I agree	I do not know or cannot decide	I disagree	I strongly disagree
Insert the number	5	4	3	2	1

Item	**Statement requiring your response:**	**Coded Response (1 to 5)**
1	I believe the AcAd Program is benefiting the students.	
Comments:		
2	The students are generally positive about the program.	
Comments:		
3	The parents of the students are actively supporting the program.	
Comments:		

4	I believe the program is leading to improvements in students' self-regulation.	
Comments:		
5	I believe the students are coming to understand that they do not need to rely exclusively on their classroom teachers in order to learn.	
Comments:		
6	Students have established clear academic goals.	
Comments:		
7	The students and I use their CLARA data to guide our discussions.	
Comment:		
8	The students' level of self-confidence is increasing over time.	
Comment:		
9	The students have written down their goals.	
Comment:		
10	The students and I often refer to their goals when we meet.	
Comment:		
11	The students were interested in the feedback they received from CLARA.	
Comment:		
12	The students generally thought CLARA gave them an accurate assessment of their learning power.	
Comment:		
13	I believe the program is strengthening the learning power of students.	
Comment:		
14	I find the program to be professionally fulfilling.	
Comment:		

15	I see evidence that students are expanding their learning network.	
Comment:		
16	I believe the students who entered the program were already self-regulating.	
Comment:		
17	The knowledge, skills and attitudes being covered in the program will assist students in their life beyond school.	
Comment:		
Items relating to LASSI-HS: The following item relates only to students in Years 9 and above. Please leave this section blank if you do not have any students in Years 9 to 12.		
18	The data from the LASSI-HS instrument has guided my work with the students.	
Comment:		
19	Students generally thought LASSI-HS gave them an accurate insight into their level of self-regulation.	
Comment:		
20	The data from LASSI-HS is in accord with my own observations and other data I have received about the students in my group.	
Comment:		

Open-ended responses

Please use the space provided to respond to the questions below. Feel free to attach more extensive or additional comments if you deem it appropriate.

A. What is the most common area of focus when you meet with your students?

_____
_____
_____
_____
_____
_____

B. What suggestions do you have to improve the AcAd Program?

C. Do you meet your students in person or digitally? Is there anything you would like to change about how and/or when you meet your students?

D. In what way does the role of an AcAd differ from the role of a teacher?

E. What types of behaviours would you expect a student to exhibit at the conclusion of the AcAd Program?

F. What do you believe are common areas of weakness with regards to students' self-regulation? (If you identify more than one please note them in order of importance starting with the most common area.) Why have you identified this area/ these areas?

G. What do you believe are common areas of weakness with regards to students' learning power? (If you identify more than one please note them in order of importance starting with the most common area.) Why have you identified this area/ these areas?

The space below is provided for more extensive and/or additional comments:

Thank you for participating in the survey.

Survey of Students in the Academic Advisor Program

What is your name? _____Year Level? ___ Name of your AcAd?_____ When did you join the program? (Tick one)

In 2015 ☐ During 2014 ☐ Start of 2014 ☐ In 2013 ☐

The following questions relate to your participation in the Academic Advisor (AcAd) program. Please respond to the questions or statements using the scale provided. You are invited to provide written comments that expand on your response in the space below each item. You are also invited to provide written answers to open ended questions at the end of the survey.

Please consider each item separately. The survey relates to your views, not the views of your AcAd of other students.

The term 'learning network' refers to the variety of sources being accessed for learning. These may include digital sources, the I Centre staff, other members of the learning team and/or people from outside the school. A student with a narrow learning network will rely exclusively on their subject teachers and subject texts to learn. Students with expansive networks will find new sources of learning as the need arises.

Response scale: Please insert the appropriate number in the space provided.

Your response	I strongly agree	I agree	I do not know or cannot decide	I disagree	I strongly disagree
Insert the number	5	4	3	2	1

Item	**Statement requiring your response:**	**Coded Response (1 to 5)**
1	I believe I am benefiting from the AcAd Program.	
Comments:		
2	I generally look forward to meeting my AcAd.	
Comments:		
3	My parents believe the program is beneficial.	
Comments:		
4	I believe the program is improving my ability to direct my own learning.	
Comments:		

5	I find I am relying less on my classroom teacher than I did before the start of the program.	
Comments:		
6	I have established clear academic goals.	
Comments:		
7	My AcAd and I use the feedback I received from CLARA to guide our discussions.	
Comment:		
8	My level of self-confidence is increasing over time.	
Comment:		
9	I have written down my goals.	
Comment:		
10	My AcAd and I often refer to my goals when we meet.	
Comment:		
11	I was interested in the feedback I received from CLARA.	
Comment:		
12	I thought CLARA gave me an accurate assessment of my learning power.	
Comment:		
13	I believe the program is strengthening my learning power.	
Comment:		
14	I believe some of my friends could benefit from the AcAd Program.	
Comment:		
15	I am expanding my learning network beyond the classroom.	
Comment:		

16	I believe I was already self-regulating and did not need the AcAd Program.	
Comment:		
17	The knowledge, skills and attitudes being covered in the program will assist me in my life beyond school.	
Comment:		
Items relating to LASSI-HS: The following item relates only to students in Years 9 and above. Please leave this section blank if you are not in Years 9 to 12.		
18	The data from the LASSI-HS instrument has guided my work with my AcAd.	
Comment:		
19	I thought LASSI-HS gave me an accurate insight into my level of self-regulation.	
Comment:		
20	I enjoy learning about myself.	
Comment:		

Open-ended responses

Please use the space provided to respond to the questions below. Feel free to attach more extensive or additional comments if you deem it appropriate.

A. What is the most common area of focus when you meet with your AcAd?

_____
_____
_____
_____
_____
_____

B. What suggestions do you have to improve the AcAd Program?

_____
_____
_____
_____

C. Do you meet your AcAd in person or digitally? Is there anything you would like to change about how and/or when you meet your AcAd?

D. In what way does the role of an AcAd differ from the role of a teacher?

E. What types of behaviours would you expect exhibit at the conclusion of the AcAd Program? How do you think it will change you (If at all)?

The space below is provided for more extensive and/or additional comments:

Thank you for participating in the survey.

Survey of Parents of Students in the Academic Adviser Program

What is your name? _____

Your child's name and year level? _____

The following questions seek your opinion about Academic Advisor (AcAd) program. Please respond to the questions or statements using the scale provided. You are invited to provide written comments that expand on your response in the space below each item. You are also invited to provide written answers to open ended questions at the end of the survey. If you have more than one child in the program please focus on one of them and note their name at the top of the survey. Please contact Jamie Dorrington via email on jdorrington@ssc.qld.edu.au and request another survey and envelope if you would like another survey for your other child.

Please consider each item separately. The survey relates to your views about YOUR perceptions.

The term 'learning network' refers to the variety of sources being accessed for learning. These may include digital sources, the I Centre staff, other members of the learning team and/or people from outside the school. A student with a narrow learning network will rely exclusively on their subject teachers and subject texts to learn. Students with expansive networks will find new sources of learning as the need arises.

Response scale: Please insert the appropriate number in the space provided.

Your response	**I Strongly Agree**	**I Agree**	**I Do Not Know or Cannot Decide**	**I Disagree**	**I Strongly Disagree**
Insert the number	5	4	3	2	1

Item	**Statement requiring your response:**	**Coded Response (1 to 5)**
1	I believe the AcAd Program is benefiting my child.	
Comments:		
2	My child is generally positive about the program.	
Comments:		
3	I personally support the program.	
Comments:		

4	I believe the program is leading to improvements in my child's self-regulation (ability to determine how best to learn).	
Comments:		
5	I believe my child is coming to understand that they do not need to rely exclusively on their classroom teachers in order to learn.	
Comments:		
6	My child has established clear academic goals.	
Comments:		
7	My child was interested in the feedback they received from CLARA.	
Comment:		
8	My child's level of self-confidence is increasing as a result of the program.	
Comment:		
9	My child has written down his or her goals.	
Comment:		
10	My child refers to his or her goals when we discuss what they are doing at school.	
Comment:		
11	I was interested in the feedback my child received from CLARA.	
Comment:		
12	I thought CLARA gave my child an accurate assessment of their learning power.	
Comment:		
13	I believe the AcAd Program is strengthening my child's capacity to learn.	
Comment:		

14	I believe the program represents good value for money.	
Comment		
15	I see evidence that my child is expanding his or her learning network.	
Comment:		
16	I believe my child was already self-regulating before the AcAd Program began.	
Comment:		
17	The knowledge, skills and attitudes being covered in the program will assist my child in their life beyond school.	
Comment:		
Items relating to LASSI-HS: The following item relates only to students in Years 9 and above. Please leave this section blank if your child is not in Years 9 to 12.		
18	The data from the LASSI-HS instrument has given me an insight into my child.	
Comment:		
19	The feedback from LASSI-HS was accurate.	
Comment:		
20	The data from LASSI-HS is in accord with my own observations and other data I have received about my child.	
Comment:		

Open-ended responses

Please use the space provided to respond to the questions below. Feel free to attach more extensive or additional comments if you deem it appropriate.

A. What is the most common area of focus when you and your child have discussions about their learning?

_____
_____
_____
_____
_____
_____

B. What suggestions do you have to improve the AcAd Program?

_____
_____
_____
_____
_____
_____

C. In what way does the role of an AcAd differ from the role of a teacher?

_____
_____
_____
_____
_____
_____
_____

D. What types of behaviours would you expect your child to exhibit at the conclusion of the AcAd Program?

_____
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_____

The space below is provided for more extensive and/or additional comments:

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Thank you for participating in the survey.

Jamie Dorrington and Professor Glenn Finger

Open-ended student survey of students who have been in the AcAd Program for 4+ years

June, 2017

Thank you for agreeing to answer these questions. Your lengthy experience in the program will provide me with valuable insights into the strengths and weaknesses of the program. There are only 7 questions to answer. Please provide detailed answers where possible. Please email the document to me as soon as it is finished.

My email is jdorrington@ssc.qld.edu.au.

1. What is your name and how long have you been in the program?

2. Were there areas where you focused most often with your AcAd, or did you change focus often?

3. In what ways (if any), do you believe you have benefited from your participation in the program? Please refer to a) knowledge you have gained, b) skills you have acquired, and c) attitudes you have developed.

4. What aspects of the program (e.g. personality of your AcAd(s), resources, frequency of meetings), do you consider to be strengths of the program (why it worked for you)?

5. What aspects do you consider to be weaknesses of the program (what didn't work so well for you)?

6. If you think of the people at SSC as part of a team of educators, what is the role of the AcAd? (What does the AcAd do that teachers do not do?)

7. To what degree has the AcAd Program equipped you for success in the future (university, work etc.)? If not, what else would you like it to have done for you?