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TEACHJOURNAL
OF CHRISTIAN EDUCATION

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Implications for schools

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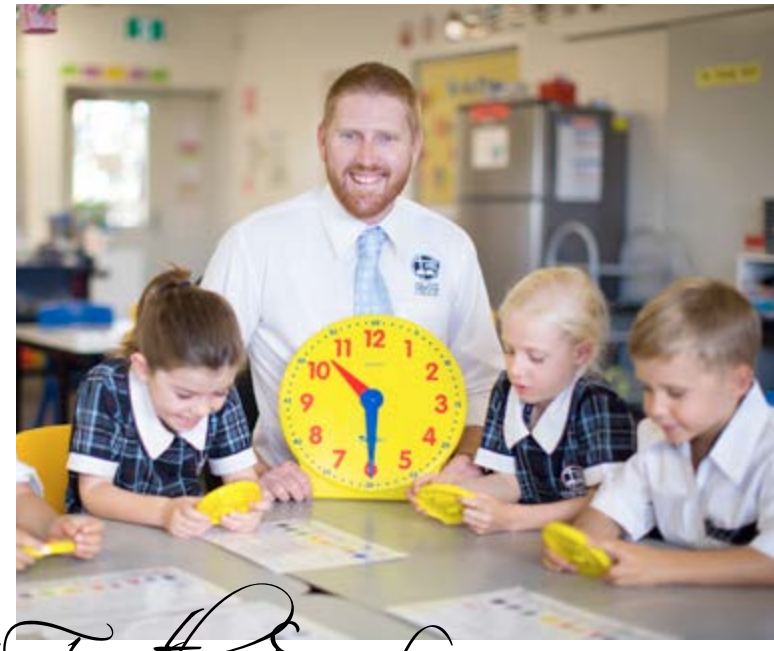
Modelling Explicit Instruction

TEACHING CHRISTIANLY
A cathedral framework

A NEXUS OF EYES
Praxis of chaplaincy

Ministry Of Teaching



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Aina Antonino-Fernandez, a Year 10 student of Hills Adventist College, receiving piano tuition from music teacher Ben Milis.

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Ministry Of Teaching

EDITORIAL

Graeme Perry

“We are in a crisis!” Barna has exclaimed, “If the church does not wake up and solve it [the crisis], biblical Christianity in the United States is in jeopardy” (cited in Jordache, 2017, para. 4).

This view has emerged from research by the American Culture & Faith Institute (ACFI, 2017). It reveals that 4% of 18-29 year-olds and only 7% of 30-49 year-olds hold a biblical worldview, but that the incidence doubles in older age groups (ACFI, 2017, para. 12). Claiming children form their worldview by age 13, Bana noted only 5% of parents of children 5-13 years-old have a biblical worldview, so he asserted “Our children usually make their spiritual choices by default, acquiescing to cultural norms” (Jordache, 2017, para. 4).

While 46% in the population of the USA claim to have a biblical worldview, the research measured only 10% as demonstrating a biblical worldview (ACFI, 2017, para. 7) as defined by the researchers (Relevent, 2017). Conflicted approaches in parenting by which children spent two hours in pursuits valued by 58-80% of the parents and eight hours in activities supported by 33-43% may account for outcomes mismatched to parental hopes and goals (Jordache, 2017, para. 3).

This research accentuates the necessity of creating, even within populations claiming biblical worldviews, cultural environments that explicitly cultivate and establish biblical worldviews and consequent Christian life styles. What proportion of Christian school parents chose to take children to see *The Case for Christ* (Hartcher-Travis, Horstmann, Lefebvre, Scott, White & Wolfe, 2017) the movie based on the award-winning investigative journalist, and avowed atheist Lee Stroebels’ conversion, a consequence of his wife’s commitment after a family crisis? Compared say, to a popular holiday movie attended? How intentional are we as parents and/or teachers in ensuring our children know, experience and choose Christianity?

In this issue, Swibel shares how St Andrews Cathedral School has intentionally changed its organisation structure and is implementing *The Teaching Christianly Framework*. Christian suggests educators cannot treat nature based learning as optional within a biblically based curriculum, rather that it is definitely essential, purposefully evoking emotions like awe, that challenge beginnings and help conceptualise the ‘continuing’ Creator. From this initial context, through a metanarrative, this author also invites reflection on classrooms and redemptive discipline. Parker considers the variety of perceptions that inform chaplains’ perceptions of involvement in guiding students and communities. Is it as “fellow traveller” or “the God man”? What currently ‘inspires’ or ‘saps’ the motivation and effectiveness of a chaplain in a school?

Accepting that intentional purpose is not sufficient for successful achievement, how can educators optimise their practice? Gibbons describing professional development resulting in implementation of Explicit Teaching reports awarded NAPLAN score gains across a school population. Given that an expanding literature supports student involvement in ‘service learning’ as a strongly affirming activity for the developing faith and commitment of students, Watson and Rierson advise on ‘best practice.’ Shields’ offers ‘gracious’ methods of ensuring that autism does not prejudice students’ school participation, forming positive practice suggestions for optimising complete life courses.

In planning for successful Christian learning, avoiding short-sighted options, ‘doing what we have a reason for’ and imploring in prayer are all sound preparations for sharing our Christian legacy.

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[Photography: Glenys Perry]

Caption: Brayden Kent, Design and Technology teacher at Hills Adventist College, affirms Adam Dean’s completion of a joint on his wood project.

Level one autism/high-functioning autism: Implications for schools, principals and teachers

Marion Shields
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Key words: autism, classroom climate, classroom interventions

A Contextualisation

Recently a Master of Teaching student shared with me his practicum experience at a local primary school. "If only I had done your assignment first" he said, for a new student with high functioning autism had been enrolled in the class but his supervising teacher was at a loss to manage the perplexing behaviour in the classroom.

Then a Master of Education student shared the experience of a little boy with high functioning autism who was frequently punished at his school for his 'different' behaviour.

Can these scenarios be improved? I believe they can. So this paper has been written to increase understanding and to provide some practical and easily implemented suggestions.

> *"education in mainstream secondary classrooms is perceived by the students and their families as the next step … and onwards toward university"*

Introduction

Although Hans Asperger in Austria and Leo Kanner in Boston identified similar patterns of behaviour in children over seventy years ago, little was heard of Autism Spectrum Disorders (ASDs) for many years. However, in recent times the names Autism, Asperger's and ASDs have become common terms, especially in school staffrooms. When did widespread recognition of this cluster of behaviours begin?

The Diagnostic and Statistical Manual of Mental Disorders (DSM), published by the American Psychological Association, is recognised internationally as the definitive guide on all things related to the classification of mental disorders. Over the last sixty five years and in six editions of the DSM, this cluster of behaviours has variously been referred to as: Childhood Schizophrenia (1952, 1968); Infantile Autism (1980, 1987); Autism, Asperger's Disorder (1994); and Autism Spectrum Disorders (2015).

Within the last twenty years not only have there been several name changes for this phenomenon, but more significantly, a very substantial increase in the incidence in the western world in particular. The US based Centers for Disease Control and Prevention (CDC) reported 1 in 88 American children had an autism spectrum disorder in 2012, but by 2014 this had increased to 1 in 68 children (Arehart-Treichel, 2014; CDC, 2016). Further, half the children in the latest report had average or above average intelligence.

So what does this mean for schools? For school principals?

Australian Schools (public and private) are covered by the 1992 Disability Discrimination Act (DDA) which protects people with a disability against discrimination in education, such as by a school refusing or failing to accept an application for admission from a child with a disability (Australian Human Rights Commission [AHRC], 2016). In 2005 the DDA was further developed with the publication of the Disability Standards for Education which outlines schools' responsibilities towards children with disabilities.

As children with high functioning autism have increasingly been educated in mainstream primary classrooms, so now education in mainstream secondary classrooms is perceived by the students and their families as the next step (White, Ollendick, & Bray, 2011), and onwards toward university (Camarena & Sarigiani, 2009). Parents also want their children who have ASDs, to be able to be educated with their siblings and peers (Zager & Alpern, 2010).

However, the reality is that this situation often provides a dilemma for school principals, especially if the school is small. Konza (2008) comments:

> Few mainstream schools are prepared to advertise that they accept students with significant special

> needs for fear that they be seen as a "dumping ground". This is true even of schools that claim to offer high levels of pastoral care and an ethos that contributes to the overall development and potential of all students. Being able to claim a high percentage of students in the upper bands of ability on state-wide assessments attracts more students than does a claim that the school welcomes and caters for all comers. (p. 41)

Further, Christian schools are also likely to attract a disproportionate number of students with disabilities, as they are perceived by many to have smaller classes and a more caring ethos (Rieger, 2010). The implication of being seen as a 'special school' has in many instances led to resistance on the part of principals from independent schools to enroll these students (Williams, Pazey, Shelby & Yates, 2013). From a Christian perspective though, should we not make a genuine effort to include these children in a faith based educational environment together with their brothers and sisters?

So what does this mean for classroom teachers?

Within the classroom, teachers interact on a daily basis with their students. However, Vaz et al (2015, p. 2) while researching teachers' attitudes towards inclusion, noted that practical concerns about how inclusive education can be implemented were the main issues. The day to day difficulties of managing and educating students who 'march to the beat of a different drum' within a regular classroom can be overwhelming. That statement, attributed to Thoreau, exactly describes the reality for many children and adults on the autism spectrum. Routine activities and many teaching methods do not align with ASD characteristics (Able, Sreckovic, Schultz, Garwood & Sherman, 2015) and yet the traits of this spectrum, when understood and acknowledged, can be addressed, leading to a happier and more effective educational experience for all – students and teachers. Learning to understand the characteristics and needs of these students and then working to adjust their learning experiences validates the Christian ethos of justice, equity and compassion.

While it is openly acknowledged that all children on the spectrum are unique: "If you've met one person with autism, you've met one person with autism" (Shore, 2014), nevertheless there are many characteristics that are common to this group and specific ways to address them effectively.

Some children on the autism spectrum exhibit a complete loss of behavioural control known as a meltdown, from time to time (Koch, 2010) and sometimes these are incorrectly labelled as tantrums. However, a meltdown is the result of extreme anxiety and stress when the child just cannot cope with the situation; it is not behaviour to manipulate and get his or her own way. Meltdowns are not inevitable and can often be prevented by addressing and accommodating some of the following common characteristics for students with ASDs.

Common ASD characteristics and proactive accommodations:

1. Severe widespread anxiety—leading to low frustration tolerance, fixations, sickness, apprehension about worrying and confusing thoughts (Trenbath, Germano, Johnason & Dissanayake, 2012; Hare, Wood, Wastell & Skirrow, 2014).

   Proactive accommodations set 1.
   - Communicate clear structured organisation throughout the day, including well-defined requirements, instructions and clear expectations.
   - Establish and maintain consistent routines.
   - Schedule calm times in the classroom.
   - Post a visual timetable close to the child.
   - Make provision for cognitive behavioural therapy to assist in correcting misperceptions of reality.
   - Consider using dialectical behavioural therapy (DBT, Koch, 2010) which assists in regulating emotions.

2. Hyper-sensitivity to sensory stimulation—touch, smell, sound, light and people (Lawrence, Alleckson, & Bjorklund, 2010).

   Proactive accommodations set 2.
   - Anticipate events and conditions that may trigger a sensory stress-reaction in the student and make relevant adjustments to the student's timetable and/or classroom/ environmental conditions.
   - Adjust transition between activities and classes, allowing the child to exit earlier or later than the main group.
   - Allocate the child a locker on the end of a row, not in the middle.
   - Provide a quiet place in the room as a refuge/or have a signal or card to indicate stress and a need to leave.

3. Difficulties with executive functioning—such as cognitive control, reasoning, problem solving,

> *"a meltdown is the result of extreme anxiety and stress when the child just cannot cope with the situation; it is not behaviour to manipulate"*

planning as well as organisational skills (White, Ollendick & Bray, 2011).

Proactive accommodations set 3.
- Use colour coding for documents.
- Provide visual timetables.
- Train in the use of checklists, daily planners, post-it notes, a memory notebook.
- Train in specific problem solving strategies and processes.

4. Time management (Roberts, 2010).

Proactive accommodations set 4.
- Practise reference to clocks, timers, alarms, and written timetables.

5. Problems understanding social conventions—including social cues such as gestures, facial expressions, and body language (Adreon & Durocher, 2007; Zager & Alpern, 2010).

Proactive accommodations set 5.
- Engage in role plays.
- Share 'Social Stories' (intentionally written for the student).
- View short video clips depicting correct behaviour or the student's own behaviour as a learning tool.

6.. Difficulties interacting and communicating with others—that are often blocks to successful group work (Madriaga & Goodley, 2010) including different vocal intonation and lack of eye contact.

Proactive accommodations set 6.
- Train in social skills (including communication and conflict management).
- Carefully select and assign group membership.
- Alert to and prevent bullying.
- Organise buddies and create a 'caring-class' approach.
- Have options for some work to be done individually.

7. Dealing with change—including unexpected changes in schedules and locations (Roberts, 2010).

Proactive accommodations set 7.
- Train the student in change management, even rehearsing a particular event and how to problem solve.
- Plan early for any foreseen change (advising some time ahead/notifying both parents and the student).

8. Intense personal interests—in particular topics/'obsessions' with a corresponding lack of interest in (or motivation towards) areas not related to these interests (Schlabach, 2008).

Proactive accommodations set 7.
- Incorporate (where possible) their personal 'interests' into other curriculum areas.
- Use the 'interest' as a motivator or reward for other work completed (this could include a project on a stand-alone screen phone/ tablet/computer).
- Draw on their extensive knowledge of their high-interest 'topics' where appropriate and allow them to demonstrate their expertise.

> *"encouraged and taught how to participate meaningfully in their transition programs … [students] are three times more likely to undertake further study and five times more likely to be in work"*

Individualised Plans

In addition, students with ASDs need to have an Individualised Education Plan (IEP) sometimes known as an ILP (Individual Learning Plan) or similar. This plan, designed by a transdisciplinary team which includes the teacher, the parents, the student (if aged 14 or over as recommended by the Human Rights and Equal Opportunity Commission in 2005), and other educational/therapy/medical/ behavioural support as needed, sets out the relevant major goals for the student for the next six months. The omission of students from this important aspect of transition was described by Strnadova and Cummings' (2014) Australian research as alarming. When students are encouraged and taught how to participate meaningfully in their transition programs in high school they are three times more likely to undertake further study and five times more likely to be in work some years after leaving school (Papay & Bambara, 2014).

Secondary schools have a critical role in preparing young people with ASDs for post-school life with practical life skills. In addition, assisting their transition into tertiary education is essential, for research (Camarena & Sarigiani, 2009; Pillay & Bhat, 2012) has demonstrated that many university providers are not well-prepared to support students with ASDs. Therefore, Support Teachers (and parents) need to assist the student through a number of visits that familiarise the student with locations, facilities, procedures, interviews with lecturers and the Disability Support Officer.

Conclusion

An understanding of these characteristics and incorporation of the suggested accommodations will ease the educational path for both students

with ASDs and their teachers. The role of the principal is also critical in providing both emotional support (scheduled conferencing on concerns, casual intentional affirmation and encouragement, discussing a suitable mentor with ASD experience), and practical support (such as—assessment of need for a classroom assistant, relief time for significant meetings with parents and IEP meetings, and relevant professional development for teachers). Further, it should always be remembered that parents of students with disabilities must be included in this educational process and treated with understanding and respect; they know their child well and can be an invaluable resource and support for the teacher.

A willingness to understand, differentiate and make accommodations for the student on the autism spectrum will lead to a happier student, teacher and classroom! This foundational experience facilitates a positive transition to post-school training, successful employment and a fulfilling life.

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> *willingness to understand, differentiate and make accommodations for the student on the autism spectrum will lead to a happier student, teacher and classroom!*

NAPLAN gains and Explicit Instruction

Jenny Gibbons
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Key words: NAPLAN, teaching practice, school improvement, explicit instruction

Mountain View Adventist College (located in Doonside, NSW) has been receiving funding as part of the NSW Literacy and Numeracy Action Plan that is targeted at improving literacy and numeracy skills in early primary students since 2013.

At the beginning of the program specific research was shared with the staff that highlighted the importance of teaching literacy and numeracy well in the early years of schooling. Juel (1988) stated that the probability of 'at risk' readers remaining poor readers in later grades ranges from 50-90%' while Morgan (2009) goes on to say students with poor mathematic achievement in Kindergarten (lowest 10%) have a 70% chance of being in the lowest 10% five years later. According to OECD data (2013), the literacy level of 44% of adult Australians and the numeracy level of more than 50%, make everyday tasks very difficult. Mountain View Adventist College teachers decided to impact this deficit by accepting the challenge of improving their professional practice and students' learning.

> *"Successful instruction does not depend upon the attention, memory and motivation of the student. The attention, memory and motivation of the student depend on successful instruction"*

As part of the requirements to receive the funding the school had to develop a yearly Implementation Plan. This plan mainly focused on professionally developing the skills of the K-2 teachers. The school leadership then decided that the Years 3-6 teachers needed to be included in the training if there was to be a change across the whole school. The primary teaching staff at Mountain View Adventist College was consequently trained intensively for four years by consultants from the Association of Independent Schools and partnered university lecturers in Reading, Phonics, Writing, and Mathematics.

So what did we do differently?

Research from The National Research Council, the National Reading Panel, and the National Enquiry into the Teaching of Literacy and Numeracy all came to the same conclusions that the most successful way to teach a young student literacy and numeracy is through ***Explicit Instruction***.

> It is concrete and visible, the teacher explains new concepts and strategies in clear and concise language. It involves modeling and explaining concepts and skills using many examples. Teachers provide a high level of support as teachers practice and apply new learned concepts. (Vaughn Gross Center for Reading and Language Arts, 2005, p. 2)

The teachers from Mountain View Adventist College came to the understanding that "Successful instruction does not depend upon the attention, memory and motivation of the student. The attention, memory and motivation of the student depend on successful instruction" (Howell & Nolet, 2014). This understanding lead to the 'Morning Routine' happening in each Kindergarten to Year 6 classroom. During the Morning Routine the teachers would spend 30 minutes each day following a very intense, fast paced direct instruction program that follows the same format every day. Students, by the end of the first week, know exactly what to expect and are very motivated to work together at this time.

The students in Junior school sit on the floor facing the Smartboard (in Years 5 and 6 they sit at their desks). The teacher directs the whole session with the students not asking questions - no hands up - but all giving a choral response to what the teacher has said as prompted. The teacher will typically introduce new or repeated elements within the categories listed below:

- A sentence of the day – (grammar based)
- Talk for learning – (vocabulary building)
- Mental maths – (number)
- Time concepts – day/date/month/season/ weather
- Capital cities – (geography)
- Other pieces of information are added to the Morning Routine, all depending on the subjects taught at that time.

There is emphasis on learning intention – all students and teacher says "*we are learning to … .*" There is also emphasis on success criteria "*I will be successful if I can … .*" By reminding the students at all times what the expectations for learning are, they begin to see relevance in what they are learning and

become more engaged.

As I walk around each class I have watched every child and their engagment in their learning during the morning process. I honestly got goosebumps when I walked into one of the classrooms and the Morning Routine was in process. The teacher used the Smartboard, put a PowerPoint up that they had created and began a

Figure 1. Ms Candace Dalton going through the Morning Routine with Year 1 Students "Mind the step!" said Gran.

routine they will repeat every day until the children 'get it'.

This morning they were talking about time. The teacher told them a fact, they all chanted the fact, then she told them to turn to the child beside them and repeat the fact to them. Watching Year 1 do this in such a natural way tells me that it wasn't "put on" because I was in the room. I walked around every Kindy - Year 6 (K-6) class and they were all engaged in some form of learning. In Year 6, the class talked about what success looked like. They all gave an opinion, then wrote on cardboard what they all came up with, as a consensus statement, "In Year 6 we will work to the best of our ability and we will not give up until we succeed." To watch these kids totally engaged was a beautiful thing.

Another change in practice, implemented at the beginning of each lesson, involved each teacher modelling and explaining what the learning expectations for the lesson will be initially a presentation by them (I DO). They then engage all the students in a discussion of the content that has just been taught (WE DO), and finally the students then follow through by engaging with the content in individual or group activities (YOU DO).

Results

What gains have we seen as possible outcomes of this systematic, across all K-6 classes, intervention?

In 2017, after the four years of training and implementing the different teaching strategies, the school received notification from the Australian

Figure 2. Explicit Teaching Model
Source: Rosenshine (2012). The Association of Independent schools of NSW

Table 1: Summary of NAPLAN Growth 2016

	NSW schools	AIS schools	MVAC
Growth From Year 3 to Year 5			
Reading	80	79	**114**
Spelling	78	77	**91**
Grammar/ punctuation	76	73	**94**
Numeracy	92	91	**96**
Growth From Year 5 to Year 7			
Reading	38	36	**40**
Spelling	44	**45**	44
Grammar/ punctuation	**32**	31	31
Numeracy	59	62	**73**
Growth From Year 7 to Year 9			
Reading	33	34	**41**
Spelling	34	37	**47**
Grammar/ punctuation	21	19	**28**
Numeracy	41	40	**61**

> *"demonstrated substantially above average gain in over 70% of the cohort in their 2016 NAPLAN results, as students progressed from Year 3 to 5, 5 to 7 and 7 to 9."*

Development in both Literacy and Numeracy that the K-6 teachers have participated in … is now paying off with significant growth in student achievement.

Curriculum, Assessment and Reporting Authority (ACARA) that the College had demonstrated substantially above average gain in over 70% of the cohort in their 2016 NAPLAN results, as students progressed from Year 3 to 5, 5 to 7 and 7 to 9.

The College is understandably very pleased with these results and realise that the Professional Development in both Literacy and Numeracy that the K-6 teachers have participated in over the last four years, mainly funded through the NSW Literacy and Numeracy Action Plan, is now paying off with significant growth in student achievement. The teachers are also aware that it is through consistently good explicit teaching and effective student engagement with the content, that these results will continue to show significant growth in student achievement.

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The parable of the Master Teacher: Redemptive discipline and biblical metanarrative

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Key words: freedom, love, redemptive discipline

This is a story about a teacher.

CHAPTER ONE: The Master Teacher

This teacher is a Master Teacher, the principal of a prestigious school. He is a great leader, exceptional communicator and has some rather unusual strengths, but what he is known for most of all is his love and compassion.[i] Everyone feels like a prince or princess in his presence. His lessons are engaging and he nurtures his students in their learning with joy and enthusiasm, recognising each student as unique and full of potential. He leads his school with vision and passion and his staff worships him.

CHAPTER TWO: An Unfortunate Situation

There is a choir master in this school of whom the Master Teacher is particularly fond. Not only is he charismatic, but he has an amazing voice and he coaxes the most glorious music out of his choir. Celestial melodies and harmonies interweave in songs of praise to the Master Teacher, and drift down the corridors in a symphony of worship.

Sometimes, after work, the Master Teacher sits down with the choir master to chat about the day's events and their joy in being teachers. But one day, a tiny seed of discontent begins to grow in the choir master's mind.[ii] He waters it with his thoughts, fertilises it with his words, and protects it with his actions until it begins to consume him. He starts to resent that he is not the Master Teacher, but merely the choir master.[iii] And so, with a whisper and smear campaign, he begins to undermine the Master Teacher, casting aspersions about his character, and calling into question the principles on which the school is established.[iv] His popularity grows, and his following increases.

Finally it all comes out in the open,[v] and in an unprecedented move, the choir master is dismissed from the school. Leave he does, taking with him one third of the staff and students, and a bitterness that blinds him to the love the Master Teacher still longs to bestow on him. At this point, a precious relationship is severed, the results of which will prove devastating.[vi]

CHAPTER THREE: A New School

As visionary educators do, the Master Teacher decides to open another school in a brand new location – a school that will run on his eternal principles of selfless love. First comes the building, strong and sturdy. Then come the furnishings. It is the latest in design and aesthetic appeal. It has everything to attract the attention of its pupils. It has plenty to engage the students in learning. It has spaces to stimulate, and places for quiet reflection. It has living things incorporated into the classroom and large outdoor learning areas. It is everything a student could desire. The curriculum is built on a foundation of love and grace and includes worship, loving relationships, and care for the environment.

In this school the Master Teacher places his pupils[vii] ... just two at first, and he gives them freedom to learn how they choose ... with just one boundary, and just one choice to make, a choice that will be repeated by future generations of students.

It appears that everything about the new school is perfect, but into this new learning environment comes a voice of dissent. The choir master, adopting a new persona, and armed with charm and cunning, secures a position on staff. Without wasting any time, he sets out to infiltrate the school. It is here that the battle to seize control of the minds and hearts of the students begins all over again. The battle rages in the minds of the students – to choose to follow the path of selfless love or to be controlled by the spirit of selfishness. Enticed by the song of the choir master, many students make their choice; to believe the cleverly constructed lies, to satisfy their own desires rather than remember the unconditional love of the Master Teacher. Sin, in the form of a lie, breaks the circuit of life.[viii]

> *"a tiny seed of discontent begins to grow … He waters it with his thoughts, fertilises it with his words, and protects it with his actions until it begins to consume him."*

> *he captivates his students with love, knowing that the love that draws them into the safety of his 'way' is the same love that gives them the freedom to turn and walk away.*

CHAPTER FOUR: A Dilemma and a Plan

Now the Master Teacher is faced with a dilemma. He could use his amazing powers at this point in time. He could obliterate the school and everyone in it and begin afresh. He could install robotic-like minds in his pupils so that he can control them, or he could control them by force and punishment; but he doesn't work that way. He could even banish the choirmaster and take out an affidavit to keep him off the school property, but he doesn't do any of these things. Instead, he lets his students choose. You see, he loves too much to take away their power of choice, so instead he captivates his students with love, knowing that the love that draws them into the safety of his 'way' is the same love that gives them the freedom to turn and walk away. Why would a teacher grant his students this much free-will? Because he is the epitome of love, and love means unconditional freedom.

The school enrolment increases, and the battle for the minds and hearts of the students continues. Sometimes the Master Teacher appears to be losing the battle. School is disrupted and learning comes to a standstill. A culture of fear threatens to close the school. People are hurt, anger leads to disruption, and on top of it all public and social media denigrate the Master Teacher's character. The situation appears hopeless. The Master Teacher longs to intervene, but taking control by force is the antithesis of love, and because he is love, he cannot force control.

The Master Teacher has foreseen this situation. He has a plan already in place. It is a plan constructed out of his great love, and executed by his own choice. Leaving the running of the school and implementation of the curriculum to his most trusted teachers, he takes extended leave. When he returns, he comes disguised as a pupil from a disadvantaged background. He is mocked by classmates, physically abused by bullies in the playground, and dismissed as lacking potential by some teachers. He never retaliates. He works diligently. He champions the weak. Some love him but others simply do not understand and are jealous of his status and integrity. In the end, incognito, he does what he must to demonstrate his love for his students. He buys back their right to flourish forever, a right they forfeited with their selfish choices. In a furious playground battle one Friday morning, his fellow students turn on him and he is mobbed, trussed and tied to a tree. He is stabbed and then abandoned as his gasps of pain give way to the silence of death.[ix] The students watching become silent. Mocking tongues are still, fists uncurl and hang limply. No one laughs now. Most do not understand what is happening as a sense of foreboding settles over their school.

The choir master is not finished yet. The ethos of the school has been damaged and now he begins to demoralise the school community. A skilled spin doctor, he uses persuasion, technology, and even the words of the Master Teacher himself to sway others to his way of thinking. Despite his spin, some staff and students resist his powerful lies and foster a culture of hope amidst the fabric of fear.

CHAPTER 5: An Unprecedented Outcome

It is Monday morning. The school bell rings. Teachers are cajoling the students into lining up for morning assembly. Suddenly, the school PA system crackles into life. Listening, the students hear a familiar voice, a voice that fills them with hope and evokes memories of love. Turning they see a familiar smile, a smile that melts their rebellious spirits, and offers forgiveness. He has returned, their beloved Master Teacher![x] He is unchanged, except he carries the scars of a playground battle on his hands. His students stand in awe of his love for them, and as they once again begin to learn in his presence, they are released from the hurt and hate, the fear and frustration, the anger and anxiety that their behaviour has caused them and they learn instead the ways of love.

CHAPTER SIX: A Choice

Finally, the sounds of laughter are heard in the classroom again. The grounds echo with the excited voices of discovery as the students prepare to spend eternity learning from the One who loves them more than life. They have witnessed his love. They are free to choose, for he will not hold them against their will. Regardless of their choice, he will still love them.

This is the parable of the Master Teacher, with one crucial difference from other parables. This parable not only claims that it happened once upon a time, but that it has kept happening ever since and is happening still in every student, in every classroom through all time.

Discussion Questions

1. God is love. Love means freedom. Freedom means the power to choose. What implications does this have for how we manage classroom behaviour in Christian Schools?
2. In this parable, the students had a choice to make: to follow the path of love or the path of selfishness. What does it mean to follow the path of love or the path of selfishness? How does this concept change the way you might think about the behaviour of your students?
3. How might our understanding of the biblical metanarrative impact on our approach to behaviour management?

4. What picture of God's character does my classroom management portray? What are the implications of representing God the way I do?
5. How does the statement, 'We are punished by our sins, not for them'[xi] fit with a philosophy of redemptive discipline?
6. What implication does the following text have for the attitude that Christian teachers should demonstrate. Psalm 86:5 'For you, Lord are good, and ready to forgive, and abundant in loving-kindness to all who call upon you.'
7. Read Graham's quote.[xii] Discuss with a peer the implications of what he is saying.

Classroom management and discipline in a redemptive teacher's classroom is not based simply on a system of rewards and punishments, which tend to treat students more like dogs than human beings. Instead of trying to control behaviours and feelings to gain an acceptable appearance, the focus is on finding value and identity in Jesus alone. The atmosphere provides students with the freedom and challenge of making choices and being responsible for them, rather than forcing the students to comply with rules for the sake of order. Discipline builds character and takes students back to the cross for their security but not in forms that tell students they are okay if they comply and not okay if they don't.

[i] I John 4:8 God is love
[ii] Ellen White, *Patriarchs and Prophets* (Mountain View, CA: Pacific Press, 1958), 35. Little by little Lucifer came to indulge the desire for self-exaltation.
[iii] Isaiah 14:13-14
[iv] Ellen White, *Patriarchs and Prophets* (Mountain View, CA: Pacific Press, 1958), 37. Leaving his place in the immediate presence of the Father, Lucifer went forth to diffuse the spirit of discontent among the angels. He worked with mysterious secrecy, and for a time concealed his real purpose under an appearance of reverence for God. He began to insinuate doubts concerning the laws that governed heavenly beings, intimating that though laws might be necessary for the inhabitants of the worlds, angels, being more exalted, needed no such restraint, for their own wisdom was a sufficient guide.
[v] Ibid, p. 41 God permitted Satan to carry forward his work until the spirit of disaffection ripened into active revolt.
[vi] Ibid, p. 42 Even when he was cast out of heaven, Infinite Wisdom did not destroy Satan. Since only the service of love can be acceptable to God, the allegiance of his creatures must rest upon a conviction of His justice and benevolence.
[vii] Ibid, p. 50 The holy pair were not only children under the fatherly care of God but students receiving instruction from the all-wise Creator.
[viii] Timothy R. Jennings, *The God-shaped Brain: How Changing Your View of God Transforms Your Life* (Downers Grove, IL: InterVarsity Press, 2013).
[ix] Isaiah 53:5
[x] Romans 4:25
[xi] Elbert Hubbard, in *The Note Book of Elbert Hubbard: Mottoes, Epigrams, Short Essays, Passages, Orphic Sayings and Preachments (1927)* (Whitefish, MT: Kissinger Publishing, reprint 1998), 12.
[xii] Donovan L. Graham, *Teaching Redemptively: Bringing Grace and Truth Into Your Classroom (2nd ed.)* (Colorado Springs, CO: Purposeful Design Publications, 2009), 39.

"Discipline builds character and takes students back to the cross for their security but not in forms that tell students they are okay if they comply and not okay if they don't."

TRANSFORMING CLASSROOM PRACTICE

Michelle Cutajar
Teacher, Tweed Valley Adventist College
shared with
Beverly Christian
Senior Lecturer, Discipline of Education,
Avondale College of Higher Education,
Cooranbong, NSW

"Each student also designed his or her own butterfly garden. Their designs and ideas were presented to the Principal"

Hearts are all aflutter in the Kindy/One classroom. How does learning about butterflies offer opportunities for learning about God?

Michelle Cutajar, the Kindy/Year One teacher at Tweed Valley Adventist College (TVAC) wants her students to see God in everyday life. A class project involving butterflies is one way she achieves her goals.

"The Kindergarten and Year One children at Tweed Valley Adventist College have been learning about butterflies. They discovered that butterflies need nectar plants to feed off, host plants for the caterpillars to eat, a mud pit for nutrients, a water source, and some rocks for sunning themselves. The children took their knowledge and wrote reasons why it would be a good idea to have butterflies at school. Each student also designed his or her own butterfly garden. Their designs and ideas were presented to the Principal in the form of a proposal.

Figure 1. Elle Stojanovic's submitted request for permission to build a butterfly garden (Kindergarten -2016).

The children were delighted to see their visions and designs come to life as TVAC's very own Butterfly Garden emerged. Each child planted their chosen nectar plant in the butterfly enclosure outside of the Kindy/One classroom. Every afternoon the children were enthusiastic about caring for their plant. The movements of the hungry caterpillars and the majestic Monarch Butterflies enchanted them: the colourful plants and butterflies proof of our awesome Creator God's lovely design.

The children were experiencing God in their butterfly garden. Standing in amongst God's beauty in the enclosure, or in quiet moments watching through the window from their seats in the classroom, our children had an opportunity to watch the carefully designed lifecycle unfold before their very own eyes. The students watched with wonder the miracle of the caterpillar spinning and turning into a chrysalis. As time went by my students marveled at the black striped wings of the Monarch Butterfly curled up inside the chrysalis just waiting to emerge into new life. As the children watched the caterpillar give up its life in order for the butterfly to emerge, I used these moments to

Figure 2. Darcy O'Grady and Solomon Bolt with a Monarch Butterfly (Year: One, 2016).

remind my students of the new life that they are given through Jesus. Raising butterflies as a class project is instilling awe for our Creator and amazement in His miracles."

Therefore if anyone is in Christ, the new creation has come: the old has gone, the new is here!
2 Corinthians 5:17 (NIV)

Figure 3. Monarch butterfly larva or caterpillar.

Figure 4. Kayla Pleskovic and Darcy O'Grady from Year One (2016), and Levi Harding Kindergarten (2016) enjoying the butterfly garden.

> *Raising butterflies as a class project is instilling awe for our Creator and amazement in His miracles*

TEACH[R]

St Andrew's Cathedral School's Teaching Christianly Framework

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Key words: change management, structural alignment, teaching Christianly, visioning

Abstract

This article seeks to outline the challenges faced in developing and implementing the *Teaching Christianly Framework* to an established, elite Sydney independent school. The success of its implementation has relied on strong strategic alignment to the school's mission and vision as well as building capacity with mid-career staff to work with Heads of Department who tend to be gatekeepers of change. Evidence based research and academic partnerships have allowed the project to be sustained and gain momentum throughout the process.

> *The framework seeks to provide practical and clear approaches to Christian education for faculties and teachers.*

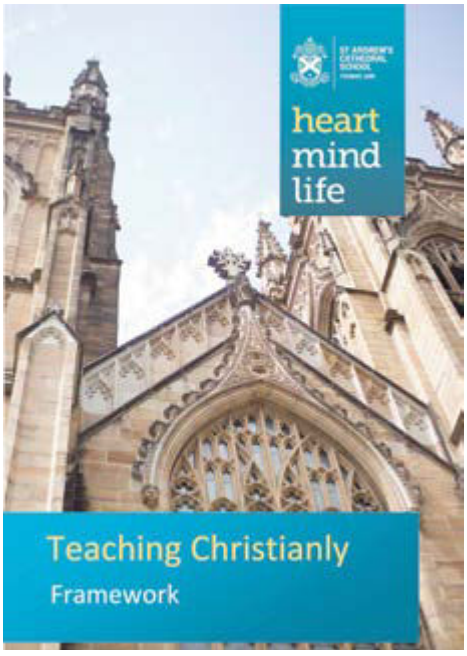

Figure 1: Policy documentation introduced TCF.

The Teaching Christianly Framework[1] (*TCF, see Figure 1*), the first teaching framework to be developed at St Andrew's Cathedral School, was launched to staff in January 2016[2]. A teaching framework seeks to inform and shape educational practices within a school across all Key Learning Areas. The framework is an outworking of the mission and vision of the school and is articulated in the school's strategic plan.

As Richard Edlin states, "All education is philosophically committed (ie., religious) as it seeks to nurture students in a manner consistent with the beliefs, reality perspectives and practices of its key stakeholders and curriculum designers" (Edlin, 2014b, p. i). If there is no neutrality in education, then it is important that St Andrew's, as a Christian school, is clear about its educational philosophy as a distinctly Christian institution.

The framework seeks to provide practical and clear approaches to Christian education for faculties and teachers. The framework outlines four broad aims (God's world, God's views, God's word and God's values) which sit on the wider biblical foundation of God's story (Creation, Humanity, The Fall, Redemption, and Restoration, see Figure 2).

Building a Vision

The framework unpacks each aim in light of

Figure 2: Four broad TCF aims emerge from five biblical elements of God's Story

[1] http://sacsconnect.sacs.nsw.edu.au/images/b/b2/TCF_v2.1.pdf
[2] St Andrew's has a second teaching framework called the Challenging Learning Framework launched in January 2017 which focusses on learning analytics.

God's story to assist in developing faculty vision statements for each department and to be incorporated into Scope and Sequences and programs. A program development template, professional development and support structures are also outlined within the document.

The development and implementation of the framework required considerable change leadership. This involved developing a culture of change linked to the strong mission and vision of the school. It was important in the launching of the *TCF* in January 2016, that staff were strongly supportive of the school's core purposes. During 2015, School Council reviewed the school mission and vision in developing the new strategic plan. Through numerous forms of consultation, the following were adopted:

> Mission: St Andrew's Cathedral School is a leading city based, globally connected learning community which is authentically Christian.
>
> Vision: Our vision is to inspire students to be passionate, creative learners, who engage with the message of Christ and fully develop their gifts and abilities in order to serve in the world.

The consultations in the development of the mission and vision were realised when the Parent and Staff Surveys conducted in 2016, showed that 85% of parents and 95% of staff strongly supported the mission, vision and values of the School.

Eighteen months of consultation occurred with School Chaplains, a working party of ten Christian staff, a wider group of thirty Christian staff, Leaders of Learning (Heads of Department) and School Council. Critical friend of the project, Dr Richard Edlin, the author of *The Cause of Christian Education* and I launched the *TCF* to staff in January 2016 to K-12 staff at a professional development day. During that previous 18 month period, the Framework drew on input from meetings with other external consultants such as Professor Trevor Cooling[3], John Shortt[4] and Beth Green[5].

Through these consultations, it became clear that the principles of the *TCF* were a core part of the school's mission and vision. As reminded by Collins and Porras (2011), core purpose "is the organisation's reason for being" (p. 85) which guides and inspires. It is meaningful to those inside the organisation as it inspires them to action. If this is accepted and embraced by staff, then this provides clarity of decision making, as everything which is not part of the core purpose should be part of the change process. It has been a happy opportunity that as the school finished debating its vision, the staff began, through the *TCF*, to develop their own aligned faculty vision statements.

From Vision to Alignment

As Collins and Porras (2011, p. 101) also state, "building a visionary company [or school] requires 1% vision and 99% alignment." This movement from vision to strategy was very important for the *TCF* to be successful (see Figure 3). When the draft *TCF* was presented to Leaders of Learning, they were each asked to recommend a member of their department who could act as a Christian Integrator on this project. This Christian Integrator's role was to work with the Leader of Learning and the department to develop a Teaching Christianly faculty vision and trail blaze the development of

> *"Leaders of Learning … were each asked to recommend a member of their department who could act as a Christian Integrator"*

[3] Professor of Christian Education at Canterbury Christ Church University and Director of the National Institute to Christian Educational Research

[4] Professorial Fellow in Christian Education at Liverpool Hope University and Senior Adviser to EurECA

[5] Program Director of Cardus Education and was previously part of the international research team that developed What If Learning website (http://www.whatiflearning.com/). She previously directed the National Centre for Christian Education at Liverpool Hope University

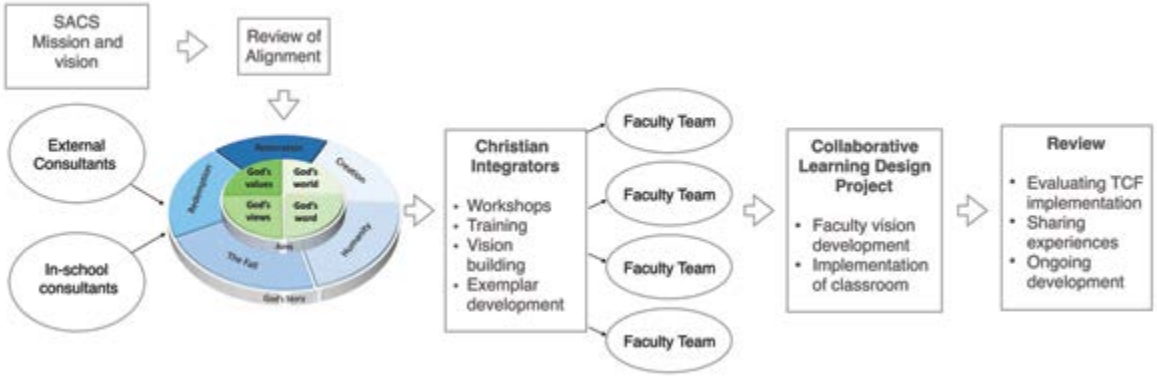

Figure 3: Development of the Teaching Christianly Framework

teaching programs which incorporate the Teaching Christianly aims.

The opportunity to be appointed as a Christian Integrator was vital in providing staff, who would not normally have a leadership role, to work on a strategic change project with a coordinator. In recent years, change management literature has noted a movement away from the notion of the charismatic leader to that of distributed leadership and shared leadership. New models of leadership practice have seen a need to build leadership capacity in schools – it is the pursuit of "engaging many people in leadership activity" (Bridges 1995, p. 8). Effective leadership is the product of debate, dialogue and discussion that results in action rather than a set of leadership tasks, responsibilities or functions that is carried out or is given. Harris (2005) sees leadership not as a set of skills but as "an organisational resource that can be maximised" (p. 8). This empowerment of others to lead provided much of the energy needed for the implementation of the *TCF*.

> *"distributed leadership has allowed for many conversations … at varying levels of the school on the change progress. This has allowed for greater dialogue and sense of trust in moving forward."*

Time must always be found for collaboration and professional development for a change effort to be successful. Each semester, faculties work on a Collaborative Learning Design Project (CLDP). In terms of Teaching Christianly, this meant that faculties worked through the facilitation of the Christian Integrator to develop their Teaching Christianly vision statement and identify how that vision assists in developing a unit of work which addresses one or more of the Teaching Christianly aims. This not only provided insights but, through their own enthusiasm, encouraged dialogue throughout the school. The distributed leadership has allowed for many conversations to be had at varying levels of the school on the change progress. This has allowed for greater dialogue and sense of trust in moving forward. Additionally, the CLDP was registered with the National Education Standards Authority (NESA) as a school accredited course, which gave the project a perceived legitimacy.

Change affects the beliefs that are important to people, which is why some change efforts can be difficult. "As a manager, you must guide people through this exercise with understanding and sensitivity" (Kegan & Lahey, 2001, p. 3). While leadership may be distributed, it can be ineffective if it does not resonate with people's core beliefs and purposes. Fullan, Cutters and Kilcher (2005) state that people need to understand the purpose of change. This is linked to its moral purpose. "Moral purpose in educational change is about improving society through improving educational systems and thus the learning of all citizens" (p. 54). It was important throughout this process and subsequent professional development at St Andrew's to keep linking the framework to the School's mission and vision as well as having the Head of School enthusiastically commit to it at staff meetings and briefings for as Edlin (2014a, p. 261) states, "to promote change, PD should tap into teachers' core values." It was also important to reinforce that this framework was accessible by staff from a range of religious backgrounds and, to some extent, those who were not Christian at all. The message that was constantly shared with staff was that the school upholds Christian principles and those principles must come through in all we do, including our curriculum.

Building on the development of vision comes the development of strategy. Through effective strategy, educational leaders can deliberately and purposefully align the organisational structure to its vision and purpose. Strategy "focusses on the creation of meaning and purpose for the organisation and provides an analytic framework to guide managerial practice" (Eacott, 2007, p. 359). Strategy provides for consistency and alignment. The Christian Integrators meet each term for a half day workshop to review how the framework is developing and how it is being incorporated into different parts of the school and reflect on how they are adding to the framework with their own faculty vision statements and teaching exemplar units. The group has strategic conversations, building on critical reflection and establishing purpose for actions. The group has begun to explore data on its implementation, by using electronic registers at the end of units of work where teachers indicate how they are implementing the framework into their programs. This opportunity to share experiences, resources and feedback, allows the Christian Integrators to see their contributions to the change effort and have increased ownership in the entire process.

Taking Others on the Journey

Middle management leaders in schools (such as faculty heads and year coordinators) are the gatekeepers of successful change. As they are leaders of teams of staff in schools, they can either be advocates for change process or advocates for status quo. The successful management of this group is essential for effecting successful change efforts in a school. As Stoll and Brown (2015, p. 1) indicate, "middle leaders can often be the most effective drivers of evidence-informed change and should be harnessed to do so." The CLDP has provided Christian Integrators to work beside Leaders of Learning in developing vision statements

and incorporating Christian aims into programs. By providing time and opportunity for Leaders of Learning to have rich discussions on the vison for their department, this has provided buy-in for them in the project and for the teams they lead.

Having the faculty Christian Integrators work alongside their Leaders of Learning has been a powerful process. The Leader of Learning works in partnership with their fellow faculty member. The fact that the Christian Integrator is a trusted member of the team is vital. As Bridges (1995) states, engaging people in change is a matter of trust. "When people trust their manager, they're likely to undertake a change even if it scares them." (p. 78). Developing trust is vital, both in relationships between teachers and leaders but also those between teachers. Christian Integrators and other Christian staff have been affirmed in their work on this project by the mentoring of chaplaincy staff and visits over the last two years by experts in this field such as John Shortt, Beth Green, Trevor Cooling, Ruby Holland and Richard Edlin. The latter two have served as critical friends over the last year, working with Christian Integrators on how to effectively lead the project in their faculties. The use of experts to facilitate the collaboration between Christian Integrators in different subjects and parts of the school has helped transform the knowledge that they have, into explicit knowledge that they share. Having the staff exposed to research in this area allows them to see it as a useful perspective on practice.

Evidence is also crucial to develop trust in the framework. Staff are beginning to use end of unit electronic registers to record how the *TCF* is being implemented in units of work and to what extent some aims are implemented more frequently than others. For research and evidence based collaboration to be meaningful, time and place to plan needs to be carefully resourced. Additionally, teachers need to be provided with opportunities to make connections with research partners and other critical friends. "Collaborations between practitioners and researchers potentially can make a real difference to students' learning experiences and outcomes" (Stoll, 2015, p. 6). These practices also need to be sustainable so that the change that is intended and effected is built to last. This has been the case at St Andrew's where professional learning has been implemented through the role of collaborative research groups, of which the *TCF* is one area. Teacher teams not only develop a Teaching Christianly rationale/vision and implement the aims in programs, but they also use research, collect data and present their findings to their colleagues. This allows for teachers to explore professional learning that is relevant, meaningful and shared with others.

Conclusion

The development and implementation of the *TCF* has meant distributing leadership effectively amongst influential teams and team members to have maximum effect throughout the school. Without this, the task would have been insurmountable. The project has required the effort to be sustainable by considering the school environment. It has been critical to align the project to the school's new mission and vision in order to convince staff of the project's moral purpose.

The journey has not been without its challenges and has involved many hours of consultation and numerous revisions to the *TCF*. Aligning the comprehensive nature of the Bible to four aims and God's story has been very demanding but also extremely rewarding. Every conversation has added more and more clarity to this framework which seeks to integrate the Christian worldview in accessible, significant and relevant ways in all areas of curriculum and stages of education.

Collins (2001) states that is important to create a culture of genuine respect, trust and credibility, noticing the contributions of others – both real and potential. Hargreaves and Fullan (2012) indicate that in their study "more than three-quarters of teachers who demonstrated sustained commitment said that good leadership helped them sustain their commitment over time" (p. 60). In deciding who was going to be critical to sustaining this change effort, it was decided that middle management as well as Christian Integrators who were mid career teachers were the ones who were key change agents. Mid career teachers are characterised by Hargreaves and Fullan (2012) as having less frustration, being more aware, more tolerant, calmer, able to laugh, willing to try new things, confident, open and questioning (p. 71). Change efforts seem most likely to be supported by these groups. These staff have been constantly engaged in the change process and given a voice and opportunities to lead and contribute.

The *TCF* continues to be implemented in 2017 with more faculties developing rationale/vision statements and units of work implementing the aims. The framework continues to develop as more voices are involved in the discussion, and evaluation shows how the framework is being implemented. Reflections include surveying the Christian Integrators involved, having termly workshops and plenary time, as well as introducing electronic registers at the end of units of work for staff to indicate which parts of the framework they have taught in the unit of work and describing examples. These show the Christian Integrators developing greater confidence in their leadership role and its

> *"Collaborations between practitioners and researchers potentially can make a real difference to students' learning experiences and outcomes"*

> *Dealing with … challenges will require further partnerships with other schools as we learn from their experiences*

impact in their faculties, as well as the various ways the framework is being implemented across the school.

We continue to explore how the *TCF* is consistently implemented across the school, how we induct new staff members, how it aligns closely with the International Baccalaureate Learner Profile, and how it acknowledges Aboriginal culture and spirituality. The last factor is important to St Andrew's as we have an Aboriginal school on campus, called Gawura. Dealing with all these challenges will require further partnerships with other schools as we learn from their experiences in these areas. What remains clear is that ongoing prayer, alignment with the school's Christian mission and vision, coupled with creativity, persistence and a focus on building relationships through trust and acknowledgement are vital to the future of the framework.

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Brad Swibel Biography

Brad Swibel is Deputy Head of School of St Andrew's Cathedral School, a coeducational Anglican day school of over 1250 students situated in two high rise buildings in the heart of Sydney's CBD. In 2016, he launched the Teaching Christianly Project across the entire school.

Nature-based learning in Christian schools: Essential element or optional extra?

TEACH[R]

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Key words: nature-based learning, nature education, wellbeing, spirituality, Christian education

Abstract

When children commence school, they face thirteen or more years of formal education, most of it within four walls. Outside of school, many children are growing up in a world that offers decreasing opportunities to connect with nature. Advances in technology, changing social structures and urbanisation are factors that limit the time children spend in the natural world. In the face of these changes, the voice of educators advocating for a return to nature-based learning is growing. These champions of nature-based learning cite physical, cognitive, social-emotional, spiritual, and sustainability benefits as their rationale. This article explores the relationship between nature-based learning and the aims of Christian education, with specific reference to student wellbeing, spirituality and stewardship.

Introduction

Nature-based learning, once assumed a part of every child's life, is being eroded by changes in society. Whether informally through outdoor play in parks and bush areas, or formally, through structured activities in organisations such as Scouts, Pathfinders and Girl Guides, children used to have regular contact with the natural world. This can no longer be assumed. Therefore nature-based learning is appearing on the agenda in the educational arena. The term nature-based learning has potential for multiple meanings. For the purpose of this discussion, a broad meaning has been adopted. Nature-based learning is any learning; formal or informal, inside or outside, short or long term, in which students have direct interaction with the natural environment, or elements of it. It involves students using their senses to explore, interpret and make discoveries relating to the natural environment, themselves, God and others. It embraces everything from outdoor play in natural settings for very young learners, to science observations and experiments, gardening and field trips at all levels of education. Also included are outdoor education activities such as camping, hiking, backpacking and orienteering. Using this definition, the following discussion explores three aims of Christian education, and working on the premise that it is better to do what we have reasons for than merely to have reasons for what we do, explores whether nature-based learning is foundational to the aims of Christian education and is therefore an essential element, or if it is simply an optional extra.

> *"it is better to do what we have reasons for than merely to have reasons for what we do"*

Rationale for discussion on Nature-based learning

Our world is one of changing relationships between people and the natural environment. (Chawla, 2012; Kellert, 2005). The industrial revolution heralded a change in the order of life that had been established for centuries. People began to congregate around factories and urban life was born. Today's society is facing a new revolution, just as impactful on children, that is centred on technology. This revolution touches every level of life, and impacts how we use our time. In 2008, Rushkoff coined the term *Screenagers* for adolescents whose lives are dominated by technological devices. Around the same time, Louv (2008) introduced the term *Nature Deficient Disorder* to describe a condition found in children and adolescents who live in nature deprived environments, whether through choice or necessity. Both these terms are indicative of trends in society that are changing how many children live. One significant change is the decrease in 'connectivity' with the natural world.

Urbanisation contributes to the shrinking of green space available for recreation as families migrate towards the world's cities (Louv, 2012; Sobel, 2008). Although this trend is strongest in developing countries, the western world is also

impacted. Social structures are changing, families are increasingly diverse, and the social life of children and adolescents is characterised by an emphasis on structured activities, both in and out of school time, resulting in less unregulated time in nature. Additionally, when leisure time is offered, the default play mode for many children is to reach for a technological device, and parents comply, preferring the perceived safety of the family home over backyard bush areas (Louv, 2008).

Schools have also been impacted by technology with strong advocates for a technology driven education crowding out the 'back to nature' supporters. Technology has much to offer educators, although Sobel (2008) suggests that in terms of awe and wonder, "our children are getting their first glimpse of God by going into cyberspace rather than up onto the mountaintop" (p. 111). However, nature documentaries and virtual field trips do offer opportunities to explore inside the leaves of plants or take a virtual dive on a coral reef, experiences that would otherwise be impossible for many students. Technology also assists us in capturing, preserving and learning about the natural world. Technology, whether supporting, or as a virtual substitute for nature-based learning has a place in education, but it also has limitations. There is evidence that technology restricts sensory input (Aitken, Hunt, Roy & Sajfar, 2012). Therefore, relying exclusively on virtual nature experiences restricts the full learning potential of students. These contrasting findings lend support to Louv's (2012) concept of the *Hybrid Mind*, a multitasking mind that uses "computers to maximise our ability to process intellectual data, and natural environments to ignite our senses and accelerate our ability to learn and feel" (Louv, 2016, p. 23). This article supports this notion that nature-based learning and technology are not mutually exclusive, but can co-exist within learning plans.

> *"the **Hybrid Mind** … uses "computers to maximise our ability to process intellectual data, and natural environments to ignite our senses and accelerate our ability to learn and feel"*

The trend for children in and outside of schools to spend less time interacting with nature has attracted the attention of educators worldwide and consequently they are asking whether schools have a responsibility to include nature-based learning in what some consider an already overcrowded curriculum. This global attention to the 'nature connection' makes a discussion about the place of nature-based learning in Christian education both important and timely.

Exploring the nexus between three aims of Christian education and nature-based learning

Christian education has several identified aims. Three aims on which the literature concurs are:

1. To provide a holistic education that enhances wellbeing;
2. To develop spirituality and a redeeming relationship with God in the lives of students; and
3. To encourage lives of service.

While these aims may not represent every goal of Christian education, they are central and therefore form the focus of this discussion.

Aim One: Holistic education that enhances wellbeing

Christian educators view students as being created in the image of God (Cairney, Cowling & Jensen, 2011; Roy, 2008), with physical, cognitive, social emotional and spiritual capacities. One aim of Christian education is to provide holistic education that fosters the development of the whole child and the restoration of God's image in the life of each student (Roy, 2008). Luke 2:52 reminds us that Jesus' development included the cognitive, physical, social-emotional and spiritual domains. The importance of a holistic approach to Christian education is well supported by Christian educators (Knight, 2006; Roy, 2008; Skrzypaszek, 2012; White, 2000), and parallels the concepts of wellbeing and flourishing that currently have a high profile in education globally (Chawla, 2015; Seligman, 2012). In this sense, Christian education aims to not only prepare students for a future with God, but to live a fulfilled life in the present.

From a worldwide education perspective, an overarching goal of the movement to reconnect children with nature is to enhance their wellbeing (Chawla, 2015; Knight, 2013; Warden, 2015). Scandinavia has led the Forest School movement, and other countries, including Australia, are embracing this group interest, especially in the early childhood sector. These schools set aside regular time each week for pre-school and primary students to be immersed in nearby forest, woods or natural areas. Activities range from free play to lessons in nature study, construction, fire lighting, and campfire cooking (Warden, 2015). At the upper end of a child's education, there is a trend for high schools to operate outdoor education and wellbeing programs, and in school planning, environmental architects are also discovering the wellbeing benefits of natural spaces and are increasingly incorporating them in their designs (Chawler, 2012; Kellert, 2005). Educators in Australia are listening to the evidence from research and gradually implementing a range of nature-based initiatives in their schools (Lloyd & Gray, 2014).

Table 1 contains a compilation of research-based findings that outline some of the physical, social-emotional and cognitive benefits of various nature-based learning activities. While these studies are representative only and not all results

can be generalised to other populations, the results give an indication of the evidence-based benefits that connecting with nature has on the holistic development of children. This nurturing of the whole child and enhancement of wellbeing impacts the emotions, engagement, relationships and sense of accomplishment (Seligman, 2012), and fits well with the first identified aim of Christian education; holistic education that enhances well-being.

Table 1: Literature summary of benefits of Nature-based learning

Benefits	Researchers/authors	Type of nature-based learning
Physical benefits		
Develops gross motor skills	Fjortoft (2001); Wilson (2012)	Nature play
Builds physical agility and coordination	Chawla (2012); Knight (2013)	Nature play
Promotes healthy sight development	Erickson & Ernst (2011)	Nature play
Lowers heart rates, blood pressure and stress levels	Chawla (2012)	Walking in nature
Benefits overall health	Debenham (2014)	Playing in nature
Social emotional benefits		
Develops responsibility and social skills	Katcher & Teumer (2006); Knight (2013)	Caring for animals
Builds empathy	Katcher & Teumer (2006)	Caring for animals
Inspires a sense of belonging and self-worth	Melson & Fine (2006); Warden (2007)	Interaction with animals
Fosters social skills including cooperation	Barlow (2015); Cutter-MacKenzie (2009); Knight (2013); Robinson & Zajicek (2005)	Gardening
Improves attitude and school pride	Blair (2009)	Gardening
Assists self-control and moderates impulsiveness	Faber Taylor, Kuo & Sullivan (2002)	Views of the natural world
Heightens resilience to upsets of everyday life	Wells & Evans (2003)	Views of the natural world
Builds a sense of agency and leadership skills	Barlow (2015); Knight (2013)	Outdoor education
Raises confidence	Knight (2013)	Nature play
Cognitive benefits		
Enhances concentration and ability to stay on task	Faber Taylor & Kuo, (2008); Knight (2013)	Walking, playing in nature
Promotes creativity	Wilson (2012)	Nature play
Promotes cognitive development	Wilson (2012)	Nature play
Inspires the mind	Hanscom (2016)	Outdoor play
Awakes aesthetic awareness	Taylor (2009)	Nature-based learning

> *"research-based findings that outline some of the physical, social-emotional and cognitive benefits of various nature-based learning activities."*

> *nature-based learning has … confirm[ed] the creative powers of God, but there is also a side to nature that displays … an ugliness that mars creation.*

Aim Two: Developing spirituality and a redeeming relationship with God

It is not only the physical, social-emotional and cognitive domains that are characteristic of holistic education. Several educators also note wellbeing in a spiritual sense (Kessler, 2002; Warden, 2007; Wilson, 2012), however, few elaborate on these benefits, describing them in broad terms such as experiences "larger and more meaningful than day-to-day existence" (Kessler, 2000, p.29), or feelings of transcendence, connectivity and a deep sense of respect. For Christian educators, however, there is a more precise perspective on spirituality. The spiritual component of holistic education for Christian educators moves beyond the transcendent to faith development and spiritual growth with a focus on grace and a relationship with God. The twin aims of redemption and restoration are evident in the literature on Christian education (Cairney, Cowling & Jensen, 2011; Knight, 2006; Skrzypaszek, 2012; Roy, 2008; Starling, Cook, & O'Doherty, 2016; White, 2000). Strategies to achieve these twin aims are varied. Most Christian schools have a Bible based curriculum, and foster belonging to a faith community. Nature-based learning is another strategy that can be considered. Barrett (2012) posits that from birth, children have sense-making brains; that is, they observe pattern and purpose in nature and presume a designer. Children continuously learn through their senses, but Louv (2012) suggests that a child's ability to sense a higher power is heightened when the senses are fully engaged, as when immersed in nature. Therefore connection with nature, whether it be a grand panorama after a long mountain ascent or the incredible softness of a chicken's golden down, has potential to enrich a child's relationship with God by creating moments of awe and wonder (Christian, 2010; National Institute for Christian Education, 2015; Stankard, 2003).

Nature-based learning has historically complemented faith development in some Christian communities where nature is recognised as God's second book (Bailey, 2009; Goodwin, 2009; White, 2000). The Bible indicates that aspects of God's character can be revealed through his creation. It opens with the context of God as Creator (Genesis 1-3) and Old Testament writers, in particular, David, make several references that link the wonders of creation to a Creator God (Psalm 8:3-4; 24:1-2; 95:4-5; 19:1; 124:4-5), a theme which is carried on through the New Testament (Matthew 6:26; Romans 1:20, Revelation 4:11; 10:6).

Exploring the design, beauty, adaptability, purpose and diversity of the natural world provides opportunities for students to ponder the origins of life within a biblical context and explore facets of God's character. A giraffe's neck, for example, leaves us in awe of the design that allows this stately creature to drink without its vertebrae exploding (Greisen, n.d.). The order evident in the Fibonacci patterns of sunflower seeds, pinecones and some cactus plants is paralleled in design by the fractal spirals of the nautilus shell, red cabbage and tree fern. The beauty of the peacock's feathers display chance defying design that produces their iridescent colours (Sarfati, 2008). The adaptability of animals to flourish in extreme habitats, and the diversity of living organisms all bear testament to a God who is a designer par excellence, and who values both beauty and diversity. Not only is design evident in individual plant or animal species, but it manifests in the interconnectedness of living things and the symbiotic relationships that exist in nature. Fungi, for example, grow on rotting logs and assist the breaking down of plant matter into soil. Galapagos finches feed on parasites found on marine iguanas, and both flora and fauna respond to the turning of the seasons. Exploring the natural world first hand prompts children to ponder the origins of life from a first-hand perspective and potentially opens their eyes to God's character.

Within the Christian faith, nature-based learning has traditionally been used to confirm the creative powers of God, but there is also a side to nature that displays a breach in the relationship between God and humanity; an ugliness that mars creation. Rather than ignore or dismiss this anomaly, a wonderful opportunity exists to acknowledge the impact of sin and to explore its remedy. Jennings (2013) claims that the natural world operates on the law of God's unselfish love, stating, "God's nature of love is seen in creation because all nature, all life is built, designed, constructed to operate on the template of God's love" (p. 24). Although we cannot be certain what changes occurred in the natural world after the fall, the cycle of death and this law of unselfish giving can be observed in the flower that withers so fruit can grow, in the caterpillar that gives up its life in order that a new life can materialise, in falling leaves that nourish the soil and provide fertile ground from which new seedlings emerge. As students observe the cycles and seasons of life, as their senses are awakened in the natural world, they begin to develop a greater sense of who God is and how his law of unselfish love operates. They will start to understand his redemptive love and restorative power in their lives. Nature-based learning therefore plays an important role in the spiritual growth of children. Learning to love the creation of God may be instrumental in learning to love the God of creation.

Aim Three: Service through responsible stewardship

A third aim of Christian education found in the literature is to encourage lives of service (Knight, 2015; Rice, 2008; Smith, 2013; White, 2000). Jesus exemplified this in his life. Mark 10:45 clearly states that Jesus came to serve others. The concept of service is a guarding, guiding and giving action that rises out of a love response to a creating and redeeming God. It guards by respecting and standing up for the rights of others, guides by demonstrating love in action, and gives generously of both time and talents with no expectations for a return. Serving others is one way of worshipping God in everyday life. It is how individuals demonstrate their values, and show others what God is like. Set in an environmental context, service to the earth is stewardship. Stewardship means taking care of God's creation, and is evident in sustainable practice (Goodwin, 2009). In Genesis 2:15 we find God inviting humanity to enter a partnership with him in caring for the earth and everything in it. Stewardship through care for the environment is one aspect of service that connects children with nature.

There is an increasing body of literature on sustainability education (Ashton, 2013; Abbaté; 2009; Futcher, 2013; Hauk et al., 2015; Lloyd & Gray, 2014; Wolfe, 2013). One idea becoming prominent is that society is in danger of creating environmental orphans, that is, children who have second hand knowledge about the environment but little or no firsthand experience, and therefore no 'real' connection with it. This can be illustrated, for example, by the attitude taken to the logging of rainforests. This topic aims to educate children about sustainability of forestry practices and explore environmental values, but if they have never entered the awe-inspiring world of a rainforest, never gazed up into the canopy or explored the 'heartbeat' that emanates from the litter on the forest floor, never seen the rainbow feathers of a lorikeet catch the morning light or heard the amphibious symphony that breaks the deep silence, they will find it difficult to connect; to feel that tug that calls them to be responsible stewards of God's creation. Therefore, in the long term, it may be more useful to connect them with the tree outside their classroom, or the bush at the end of the oval, than to focus on distant unexperienced places (Sobel, 2008). Research also supports the belief that adults who are environmentally pro-active all experienced ongoing interaction with the natural environment in their childhood (Chawler, 2012; Lloyd & Gray, 2014; Place, 2016). Hauk et al (2015) agree, positing that awakening the senses in nature contributes to a sense of agency as stewards of the natural world, highlighting the importance of experiential nature-based learning. While we cannot assume that students will value our earth simply because they live on it, there is evidence that students who have regular encounters with the natural world will form a connection that motivates them to be good stewards of God's creation.

Exploring these three aims of Christian education, builds a strong case for Christian education to engage in nature-based learning and strengthen students' connections to the natural world. Achieving this may be challenging.

The challenge for schools

Professor Tonia Gray has been championing the cause of nature-based learning in Australia by lobbying the Australian Curriculum and Reporting Authority (ACARA) to include Outdoor Education as a subject in its own right and pointing out the benefits of doing so (Gray & Martin, 2012; Lloyd & Gray, 2014). Barlow (2015) explores why more schools are not adopting outdoor education programs, despite the documented benefits. He cites budget constrictions, limited understanding of Outdoor Education across education generally, and a focus on academic achievement, especially national testing programs. Other factors may include the risks involved, lack of resources including qualified staff, and in the case of outdoor learning that involves animals or gardening, added responsibility to the many expectations already resting on teachers. Others look at an already crowded curriculum with its emphasis on national testing and decide by default that there is no room for nature-based learning (Remington & Legge, 2016). These concerns are real but not insurmountable. Sobel (2008) suggests a way forward for schools, stating, "The problem with lots of nature education, or really, with lots of any kind of education, is that it gets too big, or too abstract, too fast. If we could just abide by the turtle's guiding wisdom that slow and steady wins the race, we'd be doing much better on those international tests of science and math aptitude" (p. 46). Keeping the challenges and benefits of nature-based learning in mind, this article poses three questions that may encourage discussion at a school level. It also suggests some possible starting points.

1. *How can we adapt our school's learning environment to make it more nature-friendly?* This could include construction of outdoor learning areas or nature corridors, planting greenery outside classroom windows, introducing pot plants into classrooms, growing vegetables, planting a butterfly attracting garden, or adopting a short term classroom pet.

> *"there is evidence that students' … encounters with the natural world will form a connection that motivates them to be good stewards of God's creation."*

> *nature-based learning is more than an optional extra. … [it] can play a role in achieving the aims of Christian education in a practical and engaging way.*

2. *How can we use existing curriculum documents to maximum the advantages of Nature-based learning?* One example is Primary Connections (Australian Academy of Science, 2011), a Science program that is compatible with the Australian curriculum. It contains units, (e.g. *Plants in Action, Friends or Foes, Watch it Grow and Staying Alive*), that connect children with nature in direct ways. Teachers could maximise nature-based learning in these units and also adapt them so students are challenged to think about God's creative, redeeming and restoring power. Teachers could also be encouraged to explore ways of authentically integrating nature-based learning with their teaching fields and with their school's biblical studies curriculum. Helpful resources include outdoor education opportunities mapped to the Australian Curriculum (http://www.toec.com.au/australian-curriculum/) and *Outdoor Education Australia's* Outdoor Education Curriculum guidelines for Health & PE, Geography and Science (http://outdooreducationaustralia.org.au/education/oe-curriculum-guidelines-for-hpe-geog-and-sc/#toggle-id-7).
3. *What could a nature-based program look like in our school?* The key here is to think big but start small. Natural play areas or dedicated times for nature activities are a good starting place for young children. School camps or days with a nature/outdoor focus are a good inclusion at the primary and junior high level. Outdoor education activities for high school students can extend from art or cooking days in the bush to extreme sports including abseiling and white water kayaking. As many outdoor education activities require qualifications and specialist resources, they should be thought through carefully, and rigorous risk management procedures applied. One holistic program that includes a strong outdoor education component is the *Invictus Wellbeing Program*, developed by Joshua Brown of Macquarie College (http://theinvictuswellbeingprogram.com/). Gilson College is another school that has developed a Year Nine *Learning 4 Life* program that features outdoor education as one of its components.

Like any curriculum offering, the inclusion of nature-based learning in a school program takes time and commitment, but it is worthy of consideration, as it aligns with the philosophy on which Christian schools operate.

Conclusion

This article has explored the nexus between nature-based learning and three aims of Christian education in respect to student wellbeing, spirituality and stewardship. The literature is clear in identifying holistic development and wellbeing as an aim of Christian education and an outcome of nature-based learning. It includes physical, cognitive and social-emotional benefits such as resilience, independence, confidence, creativity and community building. Furthermore, as part of holistic Christian education, nature-based learning fosters spiritual development by allowing children to encounter God's creation through their senses, and connect with God to develop a greater sense of both his character and his redemptive actions. Lastly, nature-based learning helps develop a connection with, and appreciation for the natural world which fosters a sense of service and stewardship, and ultimately the development of global citizens who are informed, responsible and active in caring for the natural environment. Polis asks in *The Wisdom of Nature* (n.d.), "Must we always teach our children with books? Let them look at the stars and the mountains above. Let them look at the waters and the trees and flowers on Earth. Then they will begin to think, and to think is the beginning of a real education" (p. 45). The challenge of a paradigm shift to expand nature-based learning in Christian schools is real, but it is also clear that nature-based learning is more than an optional extra. Nature-based learning can play a role in achieving the aims of Christian education in a practical and engaging way. When it comes to implementing nature-based learning in schools, the real challenge, as previously stated, is to have Christian educators who are inspired to do what they have reasons for doing. The aims of Christian education provide the reasons. Nature-based learning provides an additional way forward.

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> *"the real challenge … is to have Christian educators who are inspired to do what they have reasons for doing."*

OUTDOOR RECREATION

SHORT COURSES

Avondale offers Outdoor Education short courses, ideal for teachers who plan to facilitate effective outdoor education programs and activities for their school students.

These courses will train teachers to be guides in the three activity areas of Bushwalking, Kayaking and Abseiling. The competencies are from the Sport, Fitness and Recreation Training Package (SIS10) and the qualification is a Statement of Attainment from the Certificate III in Outdoor Recreation, which is the recommended certification for those who wish to guide outdoor education activities. Short courses are available online with a practical assessment in your local area..

BUSHWALKING

Bushwalking Guide Controlled Environments — Controlled bushwalking involves walking in the natural environment for a day or overnight bushwalk. This a skill set of units for those wishing to guide bushwalks in locations such as tracked and easily untracked areas that are reliably marked on maps, and are obvious on the ground.

ABSEILING

Abseiling Guiding Single Pitch (Natural Surfaces) — Abseiling single pitch involves descending vertical or near vertical surfaces using ropes and descending friction devices where there is access to the top and bottom of the cliff. This is a skill set of units for those wishing to guide abseiling activities on natural surfaces which are single pitch.

PADDLING

Canoeing/kayaking Guide Flat Water — Canoeing and kayaking has a broad scope. It involves paddling activities done in a variety of different locations from rivers and lakes to estuaries and protected waters. This is a skill set of units for those wishing to guide canoeing/kayaking trips on flat and undemanding water.

Best practice in International Service Learning (ISL): Aspects of risk and impact

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Introduction

Provision of cross-cultural, service learning opportunities has become a distinctive feature of Christian, and more specifically, Seventh-day Adventist (SDA) secondary schooling in Australia. At time of writing 95% (21/22) of SDA senior secondary high schools offer students participation in international travel with a service emphasis, typically over a period ten to twenty-one days. Such trips are usually referred to as mission trips. By way of comparison, 73% (19/26) of independent Christian senior secondary schools in New South Wales provide similar international service learning activities for their students. For teachers facilitating these trips, international service learning is a valuable learning experience and for many principals it is a unique marketing feature characterised by significant benefits to individual participants, teachers and beneficiary communities. However, there are also unique challenges, risks and stressors associated with international travel in a service learning context.

The following article outlines the difference between international service learning and short term mission trips. It then proposes six features of effective international service learning that are likely to minimise risk while resulting in demonstrable impact.

What is the difference between international service learning and short term mission?

SDA schools are more likely to refer to international service experiences as 'mission trips' or 'short-term mission trips' (STM) which, although varying in nature, commonly include "evangelism, service provision, cultural immersion, education, or social justice advocacy" (LiErin, 2013, p. 204). At time of writing, four schools ran international service learning under the banner of STORM Co, an adventure-based, short-term mission program. As an acronym for 'Service To Others Really Matters', STORMCo emphasizes "… friendship evangelism and community service, seeking to bring the message of Christianity directly to an entire community …" (NNSW Youth, 2016). Whether badged as STORMCo or more broadly as mission trips and service trips, SDA schools that engage students in cross-cultural experiences with a service dimension tend to emphasise meeting a community need in practical ways. In some contexts this may involve students in building, painting, maintenance, clowning, play, teaching, worship and other services.

Concurrently used in broader education sector terminology, is the term International Service Learning (ISL). ISL implies a stronger level of structured learning and may or may not have a spiritual dimension. Crabtree (2008, p. 18) notes simply that ISL "combine[s] academic instruction and community service in an international context." It is noteworthy that service learning has been a feature of the USA education landscape since the 1980s however service learning programs were found in less than 30% of USA K-12 schools and scepticism over its educational merit continues. This is despite more than 70 studies that have found "… positive impacts on participating students' academic, civic, personal, social, ethical, and vocational development" (Furco & Root, 2012, p. 1).

The scepticism referred to above is largely

"70 studies that have found "… positive impacts on participating students' academic, civic, personal, social, ethical, and vocational development."

absent in Australian SDA secondary schools where service is either a highly valued or essential component of Christian education. Referring specifically to ISL, Adventist Schools Australia Director, Dr Daryl Murdoch (personal communication, February 6, 2017) states "Becoming a servant with an attitude of service and a strong sense of social justice is a primary goal of our education system." Although a service ethic can be nurtured domestically, SDA schools see particular value where service intersects with international mission and cross-cultural experience.

Although used interchangeably by some schools, mission trip, STM and ISL may differ in regards to focus. It is argued here that STM tends to emphasise spiritual aspects of service and personal development, often as the primary goal. ISL may emphasise, in a more rigorous way, value on the "learning aspect" of trips. In either case, for many educators these experiences provide an opportunity where students can grow both inter- and intra-personally through experience of altruistic activities and contact with a different culture. In a world where international mobility and integration are increasingly valued and expected, service oriented international travel offers a unique opportunity for students to develop and nurture a cross-cultural appreciation with a sense of global citizenship and responsibility (Barr et al., 2008).

Measuring the long-term impact of STM and ISL is notoriously difficult. However, according to Chang, Chen, Huang and Yuan (2012, p. 230) empirical studies show that participation in ISL "increases learners' intercultural competence, language skills, appreciation of cultural differences, and tolerance for ambiguity." As additionally evident in Figure 1, developed by the Victoria State Government Department of Education and Training, there are numerous benefits associated with overseas learning experiences.

Despite some enduring scepticism about the impact of ISL, teachers who lead students in STM and ISL frequently describe the experiences as transformational for participants. In a rare longitudinal study of 22 college students who participated in an ISL trip to Nicaragua with a strong social justice component, Kiely (2004, p. 1) identified transformational change in at least one of the following six dimensions—political, moral, intellectual, personal, spiritual, and cultural. Importantly, Kiely observed the "… ongoing conflict and struggle …" as students attempted to mobilise a newfound critical awareness and sense of compassion into meaningful action.

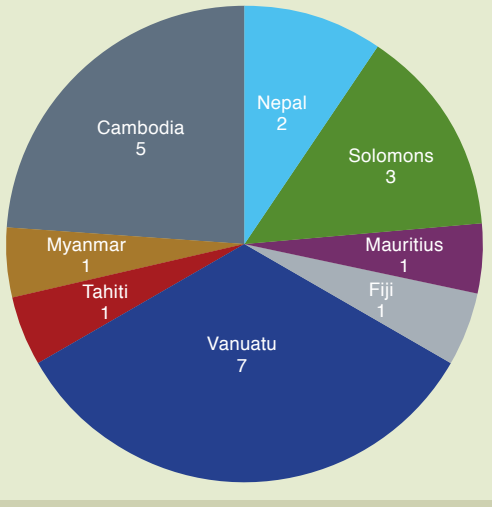
> *"ISL increases learners' intercultural competence, language skills, appreciation of cultural differences, and tolerance for ambiguity."*

Figure 1: Benefits of Student Participation in ISL

Personal and social confidence	Intercultural understanding
• Enhanced sense of self and personal identity Increased independence, maturity, confidence and self-awareness • Enhanced social competence, through confronting challenges beyond their familiar environment and comfort zone • Opportunities to be ambassadors for the school • Increased awareness of future study and career opportunities and broader community participation	• Move beyond stereotypical views and attitudes • Greater interest in global and international issues • Increased proficiency in the use of another language • Motivation to further engage with other cultures through future travel and consideration of employment opportunities overseas • A more global outlook on life, and a heightened sense of engagement with, and increased awareness and appreciation of different cultures • A deeper understanding of their own culture as distinct from others

Source: State of Victoria Department of Education and Training, 2015, p. 6

Figure 2: Australian SDA Senior Secondary School Destinations for 2016 or the year when last offered



Where do Students in Australian SDA secondary schools travel?

SDA schools in Australia are far more likely to send students to Pacific destinations than independent Christian Schools in New South Wales. As can be seen below in Figure 2, more than half of most recent international trips were to Vanuatu (7/21), Solomon Islands (3/21) and Fiji (1/21).

The predominance of SDA trips to Pacific countries is largely explained by strong links between the SDA church in Australia and schools in the Pacific region, low travel costs and the perception that Vanuatu in particular is a safe destination. In some cases principals and teachers in Australian schools have worked in schools in Melanesia and Polynesia. In comparison, independent Christian schools in NSW (see Figure 3) are more likely to visit diverse destinations throughout Asia.

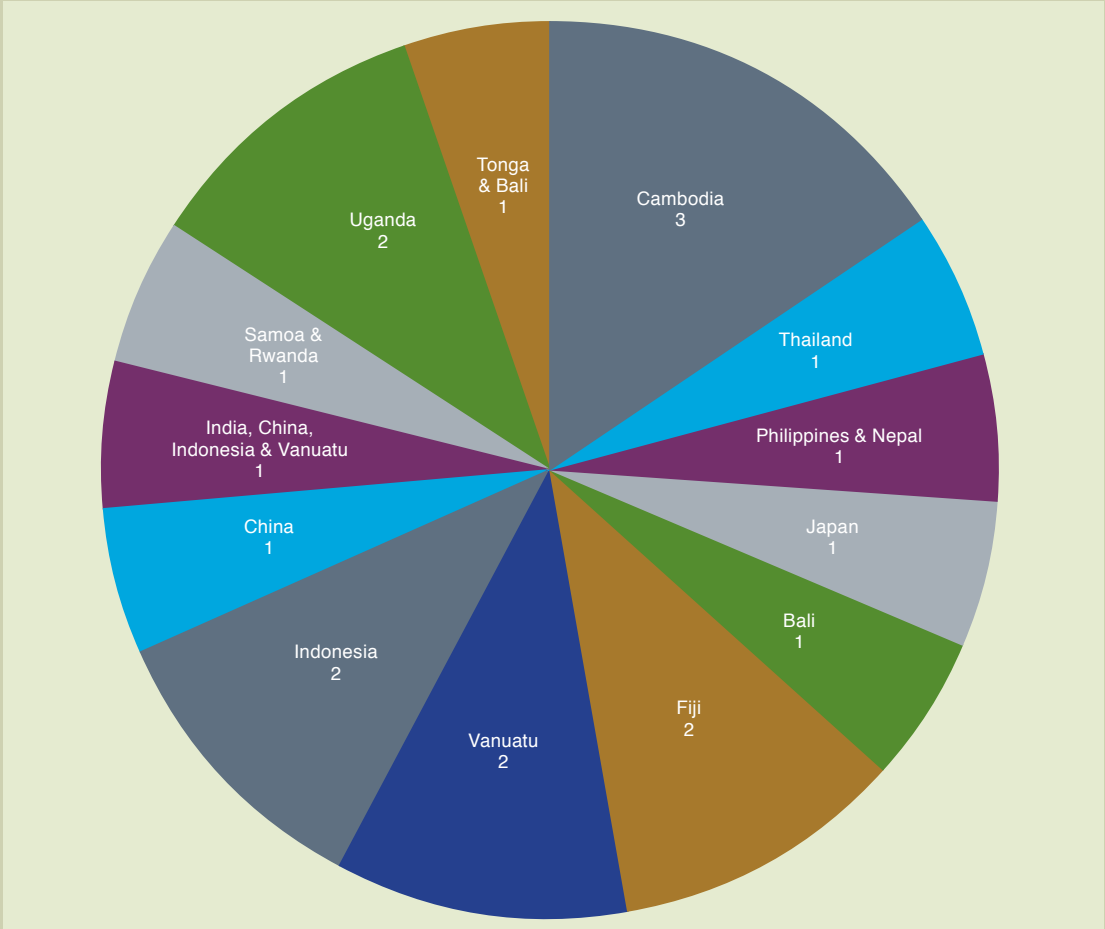
Six key features of effective and safe ISL and STM

1. Maximisation of student learning by reflection

Chinnappan (2013) argues that a limited immersion in a cross-cultural setting may prove inadequate in terms of providing enough stimulus for desired levels of learning to occur within participating students. Whether badged as STM or ISL, a common goal for educators should be to provide an effective framework for global citizenship learning. In brief, this involves promoting reflection on tasks and activities that lead to "a deeper understanding of global and intercultural issues, a broader appreciation of the host country and the discipline, and an enhanced sense of their own responsibilities as citizens, globally and locally" (Bringle, Hatcher & Jones, 2011, p.19). For such

> *"educators should … provide an effective framework for global citizenship learning. … this involves promoting reflection"*

Figure 3: NSW Independent Secondary School Destinations for 2016 or the year when last offered



commentators the task of reflection and debrief is as critical as the quality of activity.

According to Molee, Henry, Sessa, and McKinney-Prupis (2010) reflection is an integral part of the ISL experience, addressing the learning element of the trip. Numerous studies emphasise the importance of reflection in such a context. Findings by Yang, Luk, Webster, Chau and Ma (2016) highlight the need for the intentional guidance of students to facilitate critical reflection on personal values and the consequences of actions while forming reciprocal relationships during their international service learning experience. Supporting this idea, Pagano and Roselle (2009) point out that learning occurs as students participate in projects through association with community members and, perhaps most significantly, reflect upon such interactions. Moreover, research conducted by Urraca, Ledoux and Harris (2010) concludes that preparation for ISL is most effective when emphasising intercultural training and completion of exercises involving deep reflection.

> *culture shock and its associated measures of dis-equilibrium and dissonance may provide … for greater self-awareness and personal development*

Because of hectic travel schedules, time limitations and lack of planning, it is easy for group leaders to neglect deep reflection, adequate immersion within the culture and cultivation of cross-cultural relationships. Like a stone skipping across the surface of a pond, groups of students may skip across the surface of the social groups and cultures they visit, especially when isolated in hotels and engaged in practical tasks without adequate interaction with people. Critical, reflective thinking based on real engagement with social problems adds new value to service experiences, enriches the learning which takes place and potentially develops students' ability to act responsibly in the future (Bringle, Hatcher & Jones, 2011).

Bringle, Hatcher and Jones (2011) suggest a number of elements to consider for well-designed reflection activities. According to their research, reflection activities should intentionally link the service experience to course-based learning objectives, be structured and occur on a regular basis. Moreover, the activities should allow for feedback and assessment as well as include clarification of values. Consequently, reflection will represent an articulation of each student's journey towards intercultural competence (Williams, 2009). Students should be strongly encouraged to journal, blog or document their learnings, feelings, questions and to share these with peers and trip leaders throughout a trip. An obvious challenge is to facilitate this without students and teachers feeling like they are in class!

2. Management of culture shock

The term "culture shock" refers to "a state of bewilderment and distress experienced by an individual who is suddenly exposed to a new, strange, or foreign social and cultural environment" (Random House Inc., 2017, para. 1). Upon encountering an alien environment through ISL or STM, students are challenged to process the information around them and adjust accordingly. However, due to varied cognitive frameworks and predispositions, or prior international and cross-cultural experience, some students may thrive in a foreign setting while others cope poorly. Culture shock can cause stress and anxiety to such a degree that, rather than serving as both initiator and motivator of learning, the event may lead to an individual distancing or isolating themselves from the newly encountered culture. Often associated with feelings of frustration, alienation and helplessness, culture shock may also be seen as a state of 'disequilibrium' or 'dissonance' (Che, Spearman, & Manizade, 2009).

Culture shock is viewed by most trip leaders (especially high school teachers) as a risk that must be minimised or eliminated for the good of participants. However, culture shock and its associated measures of disequilibrium and dissonance may provide opportunity for greater self-awareness and personal development. According to Chang et al. (2012, p. 233), "environment-person interaction theory provides a foundation for transformative learning, in which the disequilibrium or disorienting dilemmas … serve as an important trigger for significant growth." Discomfort and disorientation may therefore be required if transformational learning is to occur.

Trip leaders must promote a balance, aiming to avoid serious trauma, yet ensuring a certain degree of challenge and disequilibrium regarding students' preconceived ideas and perspectives. A degree of well-managed culture shock or disequilibrium in a supportive environment may be preferable to students travelling in a protective 'bubble' of friends and teachers.

Usually, moving from one destination to another over several days is unlikely to trigger enough 'discomfort' and 'questioning' for deep reflection. Very short international trips (less than 10 days), especially with multiple destinations, may not provide enough disequilibrium to truly challenge student's perceptions of themselves and others, or allow for any real analysis of social problems and ethical solutions.

3. Minimisation of risks

In a broader context, "risk management" relates to a continuous process of identifying, analysing, monitoring, responding to, mitigating and assessing risks. Teachers in particular are often well aware of the need to manage risk and ensure that "risk strategies and processes are in place" (State of Victoria Department of Education and Training, 2014, para. 2). Because each destination carries its own unique set of risks, trips are generally safest when there is an effective relationship with a host community or organisation, when trip leaders return to the same destination for several years and when groups are assisted by 'experts' in the local culture. Partnering with a local organisation with high capacity to anticipate, manage risks and provide effective support for adverse events is crucial for the safety of students and staff. Additionally, by returning to the same destination repeatedly, coordinators become increasingly familiar with actual risks and concerns in the particular area, and as a result more capable and equipped to handle adverse events when they occur. Of particular concern are SL or STM trips where partnership organisations have limited capacity to support visiting groups through critical incidents.

A feature of risk management that is often neglected by trip leaders is the reality that ill-planned and ineffective service activities may cause harm to the host community. The following principle is central, "[d]o not do things for people that they can do for themselves" (Corbett & Fikkert, 2009, p. 115). As Ellen G. White (1909, p. 195) points out in *The Ministry of Healing* "[w]e may give to the poor, and harm them, by teaching them to be dependent." Watson (2014, p. 145) adds, "[w]ell-intentioned giving can strangle local initiative, corrupt local churches and make people dependent on foreign support." ISL and STM leaders must therefore ensure that any projects which they engage in, are giving the community a "hand up" rather than a "hand out." Repetitive acts of charitable giving may feel good, and may satiate the need of students to feel they are making a difference, but it may disempower local people and stifle initiative.

4. Promotion of cultural sensitivity

In speaking of ISL, Crabtree (2008, p. 18) claims that the "[o]bjectives of linking international travel, education, and community service include increasing participants' global awareness, building intercultural understanding, and enhancing civic mindedness and skills." The term 'cultural sensitivity' encompasses the traits mentioned above. However, more specifically, in accordance with the findings of Foronda (2008), the following four attributes emerge from the idea of cultural sensitivity: knowledge, consideration, respect and understanding.

Unfortunately, teaching these attributes is a complex task, with a number of pitfalls. Segregation (e.g. students live comfortably in hotels while the beneficiaries live in shacks), lack of cultural preparation (e.g. teachers fail to give students a broad understanding of the host culture prior to trip commencement and ignore local language), and having a partner organisation with negative power dynamics (e.g. the staff feel superior to the villagers) are specific examples of this. Particularly in a globalised and highly interconnected world, promotion of cross-cultural awareness and respect is increasingly relevant and necessary. The aim is that every individual acknowledges the similarities and differences between ethnic groups, without assigning them any particular value like "negative" or "positive" and "better" or "worse" (Dabbah, n.d.), but understands how they impact relationships and processes. This may be difficult to achieve when destinations change frequently and teachers change annually.

ISL and STM facilitators are responsible for ensuring that, instead of amplifying power differentials and prejudicial views, interaction with the host community fosters respect and, ideally, understanding of the 'other.' A critical analysis conducted by Arends "reveals that international service learning interactions occur at a complex nexus of expectations regarding race, gender and privilege, leading to feelings of exploitation, entitlement and stereotyping" (cited in Larsen,

"Repetitive acts of charitable giving may feel good, and may satiate the need of students to feel they are making a difference, but it may disempower local people and stifle initiative"

> *It's hard ... to go and not do something and so lots of times we go, and we do something bad*

2016, p. 109-110). For instance, common negative generalisations include "Africans are primitive", "Muslims are violent" (Paul & Becker, 2015, para. 1), and "Latinos are uneducated" (Ghavami & Peplau, 2012, fig. 3). To this we might add "Pacific Islanders are all happy" and "They're poor—they've got nothing." To avoid reinforcing stereotypes, preparation exercises, in-country activities and opportunities for cross-cultural exchange, must be designed in such a manner as to promote cultural respect, sensitivity and recognition of the agency of apparent 'beneficiaries.' The degree to which a student practices intercultural sensitivity is evident through the effectiveness of their involvement in a foreign culture, by "showing interest, observing cultural differences and displaying the capacity to accommodate this difference through modification of behaviour" (Campbell & Walta, 2015, p. 3).

5. Commitment to impact evaluation

In considering whether compassion is enough, Occhipinti (2014, p. 81) argues that "Serving others is fulfilling for volunteers, but the main goal of service is helping others, not experiencing personal satisfaction." In order to improve practice in ISL and STM, evaluation and assessment is therefore essential. A review of impact on students, staff and beneficiaries is ideal to avoid situations where "It's hard … to go and not do something and so lots of times we go, and we do something bad, something that ends up being negative" (Weichman cited in Occhipinti, 2014, p. 81).

Unfortunately however, impact evaluation and trip assessment is often limited to a short debrief with students and staff at the end of a trip. Murdoch, Director of Adventist Schools Australia (personal communication, February 6, 2017), notes that impact evaluation is a major area where more focus should be given, however also points out that "Staff are time poor and service projects are often run over non-term time or at the end of the school year … ." The reality is that for many teachers and principals, impact evaluation runs the risk of being seen as an unnecessary layer of extra administrative responsibility or another form to fill out in an already laborious process.

Despite the reservations of time-poor trip leaders, qualitative assessment is integral to gaining a deeper and more nuanced understanding of a trip's actual impact on students. Molee et al. (2010, p. 204) points out, "Despite its centrality, [this] is perhaps the most challenging aspect of service-learning to assess … evaluate and deepen learning outcomes." Qualitative approaches possess a variety of benefits in terms of evaluating individuals' subjective experiences, ideas, and feelings, and determining specific areas with room for improvement. This does not necessarily have to be a burden. Teachers, as first steps, are advised to review student journals or interview students in order to gauge whether the trip has been transformational. The power differential between staff and students may inhibit effective feedback, necessitating the use of a neutral, third party. Further, partnering with higher education providers to assess impact is likely to reduce stress for already overcommitted teachers.

A number of quantitative and qualitative tools for the measurement of the impact of ISL on student learning exist. Quantitative tools include the Global Perspective Inventory (GPI) (Merrill, Braskamp, & Braskamp, 2012), the International Volunteer Impacts Survey (IVIS) (Lough, McBride & Sherraden, 2012), the Global Awareness Profile (GAP) (Corbitt, 1998, as cited in Stemler Imada, & Sorkin, 2014), the Attitudinal and Behavioural Openness Scale (ABOS) (Caligiuri, 2000, as cited in Stemler et al., 2014), the Intercultural Development Inventory (IDI) (Hammer, 1998, as cited in Stemler et al., 2014) and the WICS (Stemler et al., 2014). All of the above tests are delivered in a survey format and are primarily designed to measure intercultural competence based on how students score in a number of areas for example: their international contacts, civic activism, open-mindedness, global understanding, media attentiveness, intercultural relations, life plans, financial contributions, and community engagement (Lough et al., 2012). However, for school systems there is merit in developing an evaluation tool that specifically deals with safety, quality of the learning experience and impact.

As part of the evaluation process, the staff should self-reflect, and critically analyse their own behaviour and procedures, and adapt practice as appropriate. According to Murphy (2011, p. 2), "Faculty self-reflection has the potential to improve teaching effectiveness as it supports the development of their pedagogical repertoire." Staff self-reflection can take place informally, as part of post-trip wrap-up processes and use simple tools

such as SWOT (Strengths, Weaknesses, Opportunities) analysis to capture a single page of collaborative feedback that does not identify individuals.

Unfortunately, STM and ISL leaders rarely seek to understand their impact on beneficiaries, presuming that because services were delivered outcomes will be positive. A more challenging discussion is whether project activities actually work in achieving larger goals (Occhipinti, 2014, p. 103). For instance, rather than ask simply if the school playground they built was completed, trip leaders may ask how and what impact it has had on children or the school. Rather than presume that painting a classroom is beneficial, trip leaders might ask what new learning local children gained when foreigners from Australia came to paint their classrooms or whether this was a priority that led to improved learning? Rather than focus on completion of a project, teachers might ask what quality of relationships were formed? Obviously, assessment should not merely cover students and staff, but rather include broader evaluation of the impact on beneficiaries.

6. Promotion of reciprocity and partnership

Although one of the primary aims of ISL is to build cross-cultural relationships, the experience can, at times, reinforce existing preconceptions (Crabtree, 2008). Unless ISL and STM coordinators stay critical and alert, power asymmetries may widen, as participants increasingly view themselves as superior to the "needy" community to which they lend a helping hand (Sharpe & Dear, 2013). Problematically, charitable acts may perpetuate one-way relationships and exchanges between generous donors and grateful recipients (Occhipinti, 2014, p. 82). Further, it may actively create dependency on foreign donors.

Particularly in regards to counteracting a sense of "provider" v. "recipient", schools involved in ISL and STM should find an organisation which emphasises the fact that both parties are beneficiaries of the experience. Mutual respect between the two is essential in effective ISL practice and in promoting intercultural understanding. Programs should, therefore, be equally concerned with the learning and growth occurring in the host community as in the visiting group. Adding to this notion, Jacoby (1996, as cited in Sharpe & Dear, 2013, p. 49) suggests that "an ISL program based on reciprocity should aim to create a learning environment in which those serving and those being served become indistinguishable in principle, if not in practice." Moreover, according to Holland (2002, as cited in Keith, 2005, p. 14), reciprocity involves "respect for different sources of knowledge, different contributions of each participant, a fair exchange of value, and the assurance of benefits to all." ISL and STM leaders who return to the same destination over long periods of time are more likely to develop reciprocity and partnership than those who frequently change destinations. This is also the case for trip leaders who actively use the 'poor' to teach the 'rich.'

Conclusion

ISL and STM have potential to increase "intercultural competence, language skills, appreciation of cultural differences, and tolerance for ambiguity" (Chang et al., 2012, p. 230). Further, through carefully managed culture shock, effective evaluation and a commitment to partnership, such experiences can contribute to the development of global citizenship, including an ethos of compassion and social justice. In a Christian school setting, effective STM and ISL can and does impact student's spiritual and ethical growth.

Reflecting on the prevalence of SDA school engagement with ISL and international STM, Murdoch (personal communication, February 6, 2017) states "We still have much to learn in relation to ISL. Being committed to the needs of others and having the best intentions is a valuable baseline from which to operate; however, there is certainly scope for a much more coordinated approach systemically to addressing the six key factors that enhance effective ISL projects." This includes a more coordinated approach in relation to the preparation of staff and students prior to engagement in ISL projects. Additionally, consideration should be made for construction of a platform where schools can share and access advice and lessons learned including on formation of partnerships to measure impact on students, staff and beneficiaries. Finally, given the lack of research on the impact of ISL conducted by SDA schools, considerable scope exists for exploration of what is widely considered to be an integral part of SDA education in Australia.

> *"aim to create a learning environment in which those serving and those being served become indistinguishable in principle"*

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> *consideration should be made for construction of a platform where schools can share and access advice and lessons learned including on formation of partnerships to measure impact*

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Learning thresholds: A journey in online learning and teaching

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Abstract

Three tertiary business educators transitioned their teaching from a just face-to-face mode of content delivery into online/blended content delivery formats. It was found there were three dominant domains of learning thresholds for these educators, which involved the course, student engagement and the teacher. The course domain considered alternative approaches to teaching and course design. The student domain focussed on student engagement and feedback. The teacher domain addressed teacher identity and interactions. Challenges faced by the educators included adopting a new paradigm of teaching, benchmarking efforts, and adequate resourcing. The positive transformative experience involved the educators gaining increased self-assurance in becoming effective online educators.

Introduction

Online education is growing at a rapid pace, with MOOCs (massive open online courses) now having in excess of three million students (Clarke, 2013). Business education, as a part of this phenomenon, is also facing the issue of having to develop a response, which involves "developing and applying different approaches to blending technology with face-to-face learning" (Clarke, 2013, p. 410).

The experience of including components from the online learning environment into the on-campus face-to-face mode of teaching, outlined in this study, was an interesting and unique journey for those who participated in this research project. This research seeks to capture the reflections of three business education lecturers at a Christian tertiary institution as they encountered learning thresholds on the journey of implementing online/blended teaching alongside their regular face-to-face course delivery mode. The lecturers who participated in this study typically taught 6-8 units of study per year which involved contact with approximately 120 students. While each lecturer taught some of these study units in on-campus mode, some of the units were taught in a blended mode in which many online components and communication tools were used to teach off-campus students. For ease of understanding, the term 'online' is used throughout this paper to describe both purely online and partially online (blended) components in the teaching experience.

The aim of this study was to identify learning thresholds that teaching staff experienced as they learned about online learning and teaching in business education. It is anticipated that the identification of these learning thresholds will inform the content and nature of professional development

"Online education is growing at a rapid pace, with MOOCs … now having in excess of three million students"

programs for future business educators who engage in the processes of online course design and online teaching. Findings from the study are based on journal reflections kept by the lecturers throughout the online unit development process and during their teaching experience, as well as transcripts from focus groups held with these business educators during the teaching semester.

The trends in the delivery of subject content are fast changing. Today educational institutions are dealing with students who have higher expectations, are much more demanding, are more aware of their rights and are quick to switch providers if they are unhappy. The requirements of off-campus students are somewhat different from on-campus students in terms of their learning needs. To suit learners' demands for flexible delivery of courses, most universities and higher education institutions have already moved, or are in the process of moving, the delivery of courses to the online environment.

> *"Learning thresholds are transformative, troublesome, irreversible, integrative, bounded, discursive and reconstitutive, and they typically involve … a state of liminality"*

It is difficult to recognise learning thresholds in the process of online course development and teaching. Some learning thresholds act as 'gateways or portals' (Meyer & Land, 2006) to a higher or new level of understanding and, in turn, this leads to the attainment of more difficult and complex learning thresholds. To assist in the recognition of such threshold concepts, Meyer and Land (2005) have highlighted eight key features of learning thresholds that are typically part of the learning process. Learning thresholds are transformative, troublesome, irreversible, integrative, bounded, discursive and reconstitutive, and they typically involve learners entering a state of liminality which is described by Land, Meyer and Baillie (2010) as "a transformative state in the process of learning in which there is a reformulation of the learner's meaning frame and an accompanying shift in the learner's ontology or subjectivity" (Land, Rattray & Vivian, 2014, p. 199). Transformation occurs when there is a basic, fundamental and structural change in the perception or view of oneself, the environment or others. Cranton and King (2003) note transformation consequently changes the way one sees things to make meaning of the world. The integrative element of a learning threshold follows in a linear fashion in that it combines the prior knowledge and understanding with a learner's newly changed perceptions. When learning of this nature is significant, it can be categorised as being transformative.

Kiley and Wisker (2009) observe that earlier research studies on learning thresholds have been directed towards discipline-specific studies in undergraduate education and are primarily related to discipline-specific fields. Many of these studies focus on the challenge that besets educators who are attempting to define threshold concepts or learning thresholds within particular disciplines. While online teaching may not be a discipline or area of study, the process of identifying learning thresholds of online teachers has some similarities with the way in which threshold concepts are identified in other fields of study (Northcote, Gosselin, Reynaud, Kilgour, & Anderson, 2015). It has also been noted that identifying learning thresholds of online teachers has the potential to assist novice academics (Davies & Mangan, 2008) involved in the preparation of resources and instruction because the process of identifying learning thresholds of such staff can provide direction for professional development. Creating a framework and guidelines are essential for identifying learning thresholds.

Not all learners are equipped to handle online teaching (Bennett, Maton, & Kervin, 2008; Goodyear & Ellis, 2008), and a combination of traditional classroom teaching and online methodologies, referred to as 'blended learning', has proven beneficial to learners (Means, Bakia, & Murphy, 2014). Lambert and Brewer (2007) suggest that this blended learning style can allow elements of traditional face-to-face learning, alongside online teaching, to benefit learners more than either mode of study being offered alone. Studies across a range of teaching contexts (Farrell, Cubit, Bobrowski, & Salmon, 2007; Kelly, Lyng, McGrath, & Cannon, 2009) have identified benefits of blended learning for students as being:

- provision for learning at any location;
- self-paced timing of learning;
- changed nature of peer interactions;
- opportunities for reflection; and
- improved levels of involvement.

A number of considerations have been identified as being critical to the successful delivery of online units of study, particularly where distance students are involved. These critical success factors are varied, with Volery and Lord (2000) identifying technological factors (access and usability), instructor characteristics (teaching style, technical skills) and student characteristics (technological ability) as being important. Cheawjindakarn, Suwannatthachote and Theeraroungchaisri (2012) reviewed the literature of critical success factors in online distance learning in higher education between 2000 and 2012 and, more broadly, identified five factors in need of consideration at the higher education level:

1. institutional management (including framework and scope of the program, operational plans and assessments of cost effectiveness);

2. the learning environment (including course management systems, technical infrastructure, interactive learning opportunities, access and navigation);
3. instructional design (including clear learning objectives, quality content, learning strategies, student motivation, and appropriate assessments);
4. service support (including training for key stakeholders, communication tools, and a help desk for student access); and
5. course evaluation.

Any institution implementing an online learning program would be well advised to give consideration to these areas in order to increase the likelihood they are delivering a quality online learning program. Online learning, in whatever form it takes, is extolled as a critical and worthwhile endeavour (Grandzol & Grandzol, 2006), not least for its additional range of resources and flexibility (Wong, 2012). Students who have experienced online learning reported in one study, "a preference for being able to watch lectures at times that were convenient to their schedule" (Watters & Paul, 2009, p. 55), and felt it was a more effective content delivery system. The use of pre-recorded lectures in particular, was seen to be "an effective alternative to traditional live classroom lectures" (Watters & Paul, 2009, p. 56).

For instructors, there is a range of new multimedia tools and technologies that open new ways of teaching, and this can increase creativity (Morgan, 2015). Freeman and Hancock (2013) found in their study of accounting academics that rather than move to a fully online context, "what is more likely to happen is academics will judiciously incorporate technology-enabled learning into a blended or hybrid learning environment" (p. 90). The work of Means and her colleagues reached similar findings: suggesting that blended learning contexts have much to offer learners (Means, Bakia, & Murphy, 2014; Means, Toyama, Murphy, Bakia, & Jones, 2010).

Efficiency is an overwhelming advantage for the blended environment. A study of accounting students by Watters and Paul (2009) found online delivery to be not only more efficient in delivering content (p. 51), but that student perception of effectiveness was, "in some way correlated with factors that lead to higher student success and performance, such as motivation, maturity, intellectual ability, etc." (p. 54). In contrast, some are critical of such approaches to business education, including seeing it as challenging current teaching roles (Grandzol & Grandzol, 2006) and questioning its quality of learning (Grandzol & Grandzol, 2006; Morgan, 2015).

In contrast to Watters and Paul (2009), Wong (2012) found in her study of accounting students and online learning that they "ranked the delivery of face-to-face lectures as the most effective in assisting their learning … closely followed by face-to-face tutorials" (p. 200). Similarly, Freeman and Hancock (2013) raise the issue that:

> it is highly unlikely, if not impossible at this time, that all accounting students can develop all graduate capabilities completely in purely asynchronous online contexts devoid of expert intervention, especially those threshold learning outcomes requiring substantial intervention and targeted, timely feedback such as teamwork and communication. (p. 90)

Students still wanted the ability to interact with instructors (Watters & Paul, 2009), and Freeman and Hancock (2013) note the "need for accounting academics who can perform the essential roles of intervening with students' learning problems/difficulties and assessing students' judgement-based knowledge " (p. 98). Yet Tanner, Noser, and Totaro (2009) noted from their research that students who had already undertaken an online course were more inclined to take another, suggesting that ignorance of the benefits plays a role in the perceptions of online business education.

"there is some evidence an online accounting degree is not the best preparation for professional accounting qualifications"

Online courses also have large start-up costs, not only in infrastructure, but also in the training of academics responsible for administering the course (Myring, Bott, & Edwards, 2014), and the time it takes these academics to set-up the courses (Tanner et al., 2009; Watters & Paul, 2009). Critics also point out that there is some evidence an online accounting degree is not the best preparation for professional accounting qualifications (see for instance Morgan, 2015; Tabatabaei, Solomon, Strickland, & Metrejean, 2014).

So while some participants embrace online business education, and others are wary of it, a lot depends on how the online course is presented. For example, a mere recording of a tutorial does not provide a rich learning environment for students (Wong, 2012), whereas a good unit structure and an engaging instructor can be very advantageous (Myring et al., 2014) as students are actively engaged with their learning (Wong, 2012). Consequently it is difficult to conclude whether online business education is categorically better than face-to-face teaching (Morgan, 2015) resulting in a lack of consensus on this issue (Tanner et al., 2009). Either way, online business education appears to be here to stay in one form or another, because of other drivers of globalised education.

“evidence was sought to determine … thresholds that challenge business educators … including evidence of when they may have become “stuck”

Methodology

The research study reported here was guided by the pursuit of an answer to the following research question: *What are the learning thresholds that business educators encounter in a higher education context when they learn about online learning and teaching?* Based on the transition from on-campus teaching to facilitating online units of study in a business education context, evidence was sought to determine the learning thresholds that challenge business educators as they proceed in their journey to become efficient and experienced teachers in online teaching environments, including evidence of when they may have become “stuck” (Cousin, 2009; McGowan, 2012; Meyer & Land, 2005) in their professional journeys. From the outcomes of this investigation, a set of research-informed guidelines will be developed to inform the design of future professional learning and staff development activities to ensure that such activities are tailored to the needs of the academic teaching staff who participated in this study. However, the focus of this article is to identify the learning thresholds that business educators in a higher education context encounter, in a professional development sense, when they learn to facilitate learning in an online course.

Using some elements of a mixed methods research approach (Creswell & Plano Clark, 2011) that had been used in previous iterations of this research (Northcote et al., 2015), qualitative data from a group of business education academics teaching in a small Christian higher education institution were gathered using a reflective journal instrument and focus groups. Using a self-study research approach (Lassonde, Galman, & Kosnik, 2009), and using the processes of reflective practice (Schön, 1987), these business educators collaboratively investigated their own and each other’s professional development journeys as they gained experience teaching in online learning contexts. Five reflective journals were submitted by each lecturer over the period of a teaching semester and three focus group interviews were conducted.

The three Business School teaching staff were requested to reflect on their experiences of learning to teach in online contexts across a semester period (Semester 2, 2015). During this period, they regularly recorded personal observations in structured reflective journals at five points during the semester from August through to November, answering reflection-promoting questions such as the following:

> From my point of view as an online teacher, what have been the major concerns or areas of “troublesome knowledge” that have been uppermost in my mind over the past few weeks, about online learning and teaching or online course design?
> What typical questions have I been asking others, or meaning to ask others, over the past few weeks, about online learning and teaching or online course design?
> What understandings have I developed over the past few weeks, about online learning and teaching or online course design?

By drawing on elements of the recently developed learning threshold identification method, reported elsewhere (Northcote et al., 2017), the data from the reflective journals were analysed using the following method:

1. Collation and immersion. Reflective journal comments were collated according to categories provided by the reflective journal question points. The researchers immersed themselves in the data through repeated reading before memoing or coding began.
2. Memoing. Initial insights into the data were recorded to document areas of interest, possible conceptual themes and general observations. Broad themes were noted.
3. Coding. The raw data were constantly compared (Charmaz, 2014) to determine categories of focus. This coding process was guided by a number of *signposts* to indicate the presence of learning thresholds (Northcote et al., 2017) including evidence of transformative ideas or integrative thinking, or references to teacher identity, teacher presence, confidence and/or uncertainty. The signposts were used to assist in the recognition of the learning threshold itself, the development of a learning threshold or the participant’s state of liminality (Meyer & Land, 2006; Osmond & Turner, 2010), typically experienced before developing a learning threshold.
4. Categorisation of coded themes. Broader core categories in the data were formed, as emerging from the coding process, under which specific learning thresholds were identified.
5. Dissemination and publication. Once identified, the learning thresholds, as experienced by the business educators who participated in this study, are currently being shared with other business educators and higher education colleagues for commentary, discussion and debate.

Findings

Three significant domains emerged from the data from which learning thresholds were identified.

Firstly, *the domain of the course* relevant to this study was identified, which was comprised of elements including course design, course structure and pedagogical issues, within the context of business education. Secondly, *the domain of the student* and the learning threshold concepts encountered by business educators emerged from the data analysis process, comprising elements such as student connectedness, student engagement and performance, and student readiness. Lastly, *the domain of the teacher* is considered, consisting of teacher identity, teacher confidence and teacher presence. The findings presented here address the relevant learning thresholds by exploring each of these domains, drawing from these business educators' knowledge shifts and transformational experiences as they developed their units of study into integrated online courses.

Course Domain Learning Thresholds

The course domain learning thresholds identified in this study include:

- Online teaching utilises teaching methodologies that differ from classroom based teaching.
- Online engagement requires a more individualised approach.
- The linking of unit content together is paramount as the opportunity to expand on this is limited.
- The understanding and use of technology impacts the quality of online material.

From the outset, it is important to note that there was significant hesitation from these business educators as to whether the move to an online learning program would be beneficial. The question of "Is it worthwhile?" was raised in light of the move to online delivery taking "a lot more time than we were led to believe." Initially, these instructors were "worried about the time involved to do this" and did not "know how to do this in a time-efficient manner." From a course design perspective, the business educators involved in this study were quick to identify that workload implications were a considerable issue when moving a unit of study to online delivery.

A significant learning threshold encountered by these business educators involved the realisation that online teaching utilises teaching methodologies that differ from classroom-based teaching. Much time was required "thinking about how to convey the information from lectures differently", resulting in a 'liminal state' (Meyer & Land, 2005), as these lecturers oscillated between prior understandings of how they delivered subject content, and their early experiences and shifts in thinking about the delivery of content online. A learning threshold experienced by these business educators was that online engagement required a more individualised approach – a finding that ran counter-intuitive to teacher expectations. As one business educator commented, "My thinking is that wandering around a class room talking to a few students at a time is less time consuming than giving individual attention to online students." There was also a view that, for content heavy units of study, this content would need to be streamlined in order for it to be engaging in an online environment.

These business educators found that this meant they needed to be "thinking about what this might mean in relation to the extent of content I deliver – how I can break it all down to simple components that are short, direct, yet relevant." It was acknowledged that "the effectiveness of the delivery depends a lot on the communication with students and constant interactions." An element of the facilitation of an online unit observed by business educators in this study involved that of "linking everything together, as there is no opportunity to 'wing it' in the class room." This represented a change of thinking, as a higher level of preparation was required to ensure a close alignment between learning activities and student engagement.

Addressing the defined questions of the research study, an area of concern or 'troublesome knowledge' (Perkins, 2006) identified by these business educators, was the understanding and use of technology. A fear of "not knowing what I don't know about it" existed early on in this project. Technical aspects such as recording and uploading class lecture material were also concerns for these staff, as well as the availability and timeliness of IT support. In light of timeframes given to prepare units of study for students to access, these concerns proved genuine, emphasising the need for dedicated IT time and support when delivering these units of study online.

> *"online engagement required a more individualised approach – a finding that ran counter-intuitive to teacher expectations."*

Student Domain Learning Thresholds

The student domain learning thresholds identified in this study include:

- Teachers need to address the issue of how to engage with students in an online environment
- On-campus attendance is impacted when students have access to unit resources online
- There is a need to gauge feedback from students early in the online learning experience
- Not all students are 'ready' to make the transition to online learning.

> *I can control a classroom and cope without a data projector, but when lecture recordings fail and we cannot upload learning material I feel helpless*

Student engagement was a particular area of concern for these beginning online educators. As the teaching period commenced and assessment results were determined, the subject lecturers became aware there were students struggling academically. A new problem emerged: How do we most effectively engage with students in an online unit of study? A largely unforeseen new workload arose regarding the 'email trail' which developed as a result of this, while others considered the possibility of regular 'Skype' sessions that may have needed to take place outside of work hours to maximise availability for student interaction.

A by-product of online teaching was found to be a drop in on-campus attendance, as students now had the ability to access more class related material online. One business educator lamented that class attendance had become inconsistent, and this had impacted on their ability to plan meaningful learning activities for their on-campus classes – something that they found difficult to replicate in an online setting. Of concern also to these educators was the loss of student-to-student interactions that arose as a result of a decreased on-campus attendance.

Staff also found that it was difficult early on to gauge how the units of study were being received by the students online, and also to gain feedback from these students regarding the online learning experience. As one unit lecturer commented, "I have been wondering about how the learning experience has been for students. We are not receiving much feedback in this process and I am wondering whether having this would change my processes a little." Over time this concern lessened, as opportunity to solicit such feedback was provided and unit lecturers made relevant changes where necessary.

Student readiness for online learning was also questioned, as some business educators designed their units of study in a 'flipped classroom' approach. This required students to access unit content online prior to scheduled class times, in an effort to make the in-class time more activity oriented to solidify student learning. Many students struggled in making this transition, needing constant prompting and creating learning gaps in early teaching weeks as the academic performance divide widened between those who had engaged with this content and those who had not.

Teacher Domain Learning Thresholds

The teacher domain learning thresholds identified in this study include:

- Online learning may lessen personal interactions with students.
- Teacher identity is fundamentally impacted by the changing nature of their teaching.
- Dedicated IT support is necessary to assist in the transition to online teaching.
- There is a need to have an understanding of what constitutes 'best practice' in online education.

A learning threshold which emerged as relevant to the teacher involved the realisation that less personal interactions with students would take place. One business educator described it this way: "It seems as though it is now being only [a] one way mode with less interactions." Additionally, there was a sense that online teaching "really is at a distance from the students." These comments represented significant shifts in thinking for these lecturers, having never taught in an online space before.

The business educators involved in this study also found that a fundamental change to their teacher identity took place. Early in this project, one online lecturer stated:

> I've been really challenged by this whole idea of being a sage on a stage [changing] to a guide by a side. I've reflected a lot on that in the last six months or so. I think I'm coming to the point where I realise that I think my role is to facilitate learning in a space. … as compared to just standing up and putting on a good show. It's been challenging for me but quite liberating to [let] go 'actually, I can see that very effective learning could take place'.

For a number of these online educators, classroom teaching was something they had done for many years, so 'reinventing' themselves to work in a new space represented a major reawakening of their teaching identities. This was made even more challenging by interactions with peers who had delivered units of study online, voicing that it was straight forward and simple. As one person stated of these interactions: "People with loads of experience telling me 'It's easy – you'll be fine – it's not that difficult', assuming that I will be able to (do it) … "

A significant impact on teacher confidence involves the support of a dedicated IT department. Early on in this research project, business educators acknowledged feelings of helplessness when such support was not made readily available. Comments such as "I can control a classroom and cope without a data projector, but when lecture recordings fail and we cannot upload learning material I feel helpless" clearly show the link between the importance of IT support for beginning online teachers and the confidence they experience in delivering these units of study online.

Having been tasked with delivering course content online, with a short lead-time, these

business educators felt overwhelmed at the commencement of this project. A burden of expectation was felt by all, with one lecturer describing the situation as having "huge expectations and not having the confidence to deliver." One subject lecturer, when exploring what other large and prestigious institutions were doing in this space enrolled in a massive open online course (MOOC) related to their subject area. The experience left them overwhelmed with the difficulty of the task at hand, stating, "I was expecting a lot more razzle-dazzle and it has me worried – if they can't do any better with all their resources, how am I supposed to make it work?" This desire to benchmark arose from teachers questioning whether what they had prepared was in line with that of similar business courses elsewhere - "What is best practice?"

There were a number of successes experienced by these business educators as the teaching period progressed. Early reflective journal comments captured these: "Things up and running – It is happening!" and "Got my sites up and ready." The experience of delivering content in an online unit, while a significant learning challenge, was found to be a transformative process, with lecturers commenting throughout that they were "taking on board some changes that I will make next time around already, and I consider that a good thing." One business educator was confident enough to reflect on their learning through the online teaching experience by stating "I may not be too bad after all."

Discussion

A number of learning thresholds found in this research study resonated with other literature which previously researched learning thresholds in online teaching (Davies & Mangan, 2008; Northcote et al., 2015). Three domains of online teaching evolved, being the course, student and teacher. The course domain involved the preparation, design, structure, workload and methodology. While student areas included the teacher-student and student-student interactions, connectedness, student readiness, access of resources, engagement, learning and performance. The teacher area included areas of teaching confidence levels, requisite skills, teacher presence and identity.

One of the unique learning thresholds found in the study was that online teaching is perceived as being very different from an on-campus classroom teaching. As described by (Barradell, 2016), it goes "beyond the surface-level engagement in student learning" (p. 264). Meyer and Land (2005) note them as "jewels in the curriculum" (p. 5) in the students' engagement phase and Davies (2008) mentions thresholds as a way of thinking in practice. The differences between online and face-to-face teaching is seen throughout the study.

Key learning thresholds that flowed through the study included recognition that online teaching is less responsive than classroom teaching and that it takes sufficient time to do development work in terms of the course design and structure. There is much adaption, adoption and innovation as aspects in the process. A variety of resources are used to prepare and optimise the teaching of concepts and to convey content to the students. The content needs to be delivered in meaningful chunks and in a right balance for it to be effective within the learning process. These learning thresholds help a novice tertiary teacher to have an understanding of what is involved with online teaching. This is what Meyer and Land (2005) refer to as the "transformed view of the subject matter or landscape" or even "a world view" (p. 4).

Online teaching has a distinctive impact on the learning and teaching components that were identified in the study. Learning thresholds are individualised and are dependent on the availability and accessibility of technology. Online delivery impacts on class attendance and is less responsive than classroom interaction. Online teaching is an ongoing phenomenon (Bright, 2007); there is constant learning of new things and key ideas, and new ways of doing things can be unlocked (Barradell, 2016; Kiley & Wisker, 2009). Online teachers come to a realisation of a new unknown space or field where they feel the need to change how they teach. These ideas help constitute key attributes that help lead the participant to have a "transformed understanding" (Meyer & Land, 2006, p. 6) and a "deep approach to learning" (Davies & Mangan, 2008, p. 714) of the subject.

For professional learning purposes, these findings provide research-based evidence of where to focus the design and provision of professional development programs, events, resources and activities for educators who are learning about teaching online. By tailoring activities to the needs of academic teaching staff, their development as higher education teachers can be supported through the provision of focused and context-relevant professional development. As such, the "process of embedding theory into good practice", as espoused by Macdonald and Poniatowska (2011), can be enacted in a professional development context by utilising the theoretical findings from this study to inform the design of bespoke practical professional development support.

> *"online teaching is perceived as being very different from an on-campus classroom teaching. … it goes beyond the surface-level engagement in student learning"*

Conclusion

This study established three key domains of learning thresholds for tertiary business educators venturing into teaching via online methods. The first domain involved learning thresholds associated with the course, and included the need to use different teaching approaches, to plan sufficient preparation time and to utilise new learning technologies (which require adequate dedicated IT support).

The second domain revolved around the student, more specifically student engagement. The learning thresholds encountered here were the realisation of the additional workload implications for dealing with increased student interactions outside of the classroom, and the drop in on-campus attendance which impacted on in-class activities. Educators also learned to find alternative student feedback mechanisms that are not dependent on face-to-face interactions. The students also encountered learning thresholds in adapting to the different teaching approaches (e.g. the flipped classroom) and the accessibility of additional material outside of the classroom.

> *"identity as classroom teachers was now replaced by that of a facilitator of student learning, irrespective of the location of the student and the means of their engaging with the content."*

The third domain was the teacher. Business educators experienced a learning threshold when acknowledging the reduced level of in-person interactions and the resulting increased distance from students. Teacher identity change was another learning threshold, and in particular the need for them to reinvent themselves, and their identity as classroom teachers was now replaced by that of a facilitator of student learning, irrespective of the location of the student and the means of their engaging with the content.

In reaching these learning thresholds the educators were most challenged by the need to change the paradigm of their teaching, to find exemplars against which to benchmark their efforts, and adequate resourcing (including time allocations for development and delivery, and IT infrastructure and support). However the overwhelming positive result was the transformative experience for the educators, who gained confidence in their ability to adapt. Small successes bred greater levels of confidence that then led to further success and eventually a level of self-assurance in becoming effective educators in the online realm.

The online learning approach is becoming entrenched in tertiary education and this study has added to the expanding body of research on learning thresholds associated with it. The study has identified key learning thresholds for course development, student engagement and teaching. These key learning thresholds, developed by a group of business educators, have the potential to inform the design of professional development programs for future business educators in higher education contexts. This article has specifically focussed on tertiary business educators and further research across other disciplines and settings will continue to assist educators to plan for the resourcing and development of online learning programs.

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> *These key learning thresholds, … have the potential to inform the design of professional development*

TEACH[R]

STEM down the track: Two Christian schools' further experiences

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Abstract

Students' perceptions of what STEM is and how it has been implemented in their schools is reported in this paper. Students were asked in focus groups about what STEM is and how they had seen the progress their two respective schools had made in its implementation. The data showed that students were very familiar with what STEM is and how it was developing in their schools. While younger students enjoyed the fun and the challenge, secondary students could see the potential for the STEM they are doing at school to help in their future employment. Another interesting factor revealed in the study was the alignment of student answers with each of the cognitive levels of Blooms Taxonomy of Educational Objectives.

Introduction

This paper is the second in a series of qualitative case study investigations (Creswell, 2007) that have focused on STEM education. The last edition of this journal (Kilgour, Fitzsimmons, Baywood & Merriman, 2016) reported the first stage of this research and investigated the perceptions of teachers on the introduction of STEM based learning into their schools. As stated, this paper reports on the second phase of the study that tracked the implementation of a STEM based program into two K-12 schools that started their STEM journey at approximately the same time. This phase of the investigation looks into the perceptions of students, in both the primary years and secondary years at the same schools, about their beliefs of what STEM is and where it has taken them and their school.

> *"linkages to authentic pedagogical applications … is being misunderstood or misplaced because "the meaning or significance of STEM is not clear and distinct"*

Background

Who's Listening?

Notwithstanding sparse instances of case study reporting by researchers such as Bissaker (2014), where a scattering of schools such as the Australian Science and Mathematics School in Adelaide, South Australia, have begun to move forward in a strategic and whole school approach, it would seem that generally across the globe the teaching of STEM (Science, Technology, Engineering and Maths) has reached a critical point of educational inertia. It has become increasingly clear that in regard to STEM praxes, linkages to authentic pedagogical applications within classrooms is being misunderstood or misplaced because "the meaning or significance of STEM is not clear and distinct" (Bybee 2013, p. x). Bang and Luft (2013) concur believing that amongst many educators, computer hardware in itself is the steppingstone to 21st century teaching with the tacit "assumption that these devices will automatically bring about revolutionary changes in teaching and learning processes" (p. 118).

While lack of epistemological clarity and stalled ontological momentum is typical of all paradigm

shifts, according to Tytler (2007) and comments by Banks and Barlax (2014) regarding STEM, the teaching of science at the classroom level is simply bogged down in an outdated mode of relevance and connectivity to student's current world view. Tytler's (2007) comments regarding the Australian context is also indicative of another critical point globally in that teachers, and obviously academics, often focus on one of the STEM areas without making specific links to the others (Attard & Northcote, 2011).

For most of the reasons mentioned previously, Mohr-Schroeder, Cavalcanti and Blyman (2015) suggest that STEM has been in stagnation for over three decades. Kumtepe and Kumtepe (2015) have come to the same conclusion, asking the question: "We talk the talk, but why don't we walk the walk?" (p. 1). It is becoming increasingly clear that unless there is a comprehensive stock-take of the current situation, no amount of discussion on the nature of the issues through "constant cycles of academic education speak" (Fitzsimmons & Lanphar, 2012, p. 212) will enable STEM to move out of its current paradigm paralysis.

What Is It We Are Not Hearing?

As intimated in the previous section, even the most cursory review of the research literature related to STEM education reveals a global educational situation that is somewhat depressing, given the importance governments have placed on generating a STEM based foci in schools. "Prowess in STEM education is the new educational 'arms race', and governments are prepared to invest heavily in it" (Banks & Barlax 2014, p. xi). This is a critical issue in itself in that while governments are 'talking' they are failing to back up their rhetoric with sufficient funds for professional development, classroom based research and infrastructure or curricula documents that not only provide insight into how to teach STEM authentically, but also how to generate authentic integration of the STEM disciplines. One could reasonably assume that this is why there are declining numbers of Australian students taking on Maths and Science in the post-compulsory years of senior high school (Masters, 2016). Indeed, in both Masters' (2006) and Tytler's (2007) commissioned reports dealing with STEM, the term 'crisis' was a reoccurring theme.

Such was Tytler's (2007) concern for the issues underpinning STEM education in Australia that he called "for a significant 're-imagining' of science education as opposed to the mere refinement of curriculum and assessment" (2007, p. 15) in Australia. It has been assumed that what was meant by this statement was the need for a 'significant re-imagining of STEM education.' Several researchers such as Banks and Barlax (2014), Chesky and Wolfmeyer (2015) and Bowers (2016) have been calling for both governments and education systems to push the re-set button on STEM in their respective countries. It should be noted that while discussing their respective educational settings they are very clear that the issues they find are global.

Bowers (2016) believes that globally one of the most deleterious points in education is the all pervading ideals of the scientific paradigm in high schools. While not opposed to scientific research in schools, what he does take issue with is the ideal that it is this paradigm alone that leads to authentic understanding of how the world functions. In other words, Bowers (2016) and Marshal (2010) believe that schools must engender critical examination through an array of investigative perspectives. A constant reliance and focus on the scientific method of research "leads to the notion that what we learn through the method is true, correct, objective, and value-free. We now understand the method to be a blind faith in a process that is almost always entirely embedded within subjectivities and political/economic contexts" (Chesky & Wolfmeyer, 2015, p. 24). Bowers (2016) and Chesky and Wolfmeyer (2015) maintain that this has actually severely inhibited an authentic functional application of STEM. In fact, so entrenched is the 'world view' that a raft of researchers and commentators have contended it to be part of a much broader cultural landscape, or international ideological perception. Chesky and Wolfmeyer (2015) further believe that this all pervasive viewpoint has actually lead to social injustices.

Echoing the contentions of Emdin (2012), Chesky and Wolfmeyer, (2015) also believe that not investigating the ideological underpinnings of STEM "is a grave mistake since mathematics and science, the foundational knowledge needed in technology and engineering, are both fields deeply entrenched in historical, cultural, and philosophical perspectives" (p. 14). There is clear evidence to suggest that educational institutions from pre-school to university not only continue this global mindset, but also cause this viewpoint to become even more firmly entrenched. "Unfortunately, there is unlikely to be an in-depth discussion of the nature of traditions and the many ways they are carried forward—even in the thinking of scientists" (Bowers, 2016, p. 25).

Ambrose and Sternber (2016) believe that deeply connected to this issue is the "ongoing narrowing of education at a time when embracing diversity of pedagogical approaches would be more purposeful" (p. 12). Page (2007) and Manning (2009) have been echoing similar sentiments believing that in "essence, the homogenization of education around

"not investigating the ideological under-pinnings of STEM "is a grave mistake since mathematics and science, … are both fields deeply entrenched in historical, cultural, and philosophical perspectives"

the world suppresses and distorts creativity just when the forces of globalization are demanding that young people become more creative" (Ambrose & Sternber, 2016, p. 12).

And so, the question remains: what ideological and axiological aspects should STEM be grounded in? Editorial space does not allow for a full response to this question, but suffice it to say that embedded in the STEM literature are threads of recommendations that could provide for "a value set more sympathetic to critical, social reconstructionist schooling" (Chesky & Wolfmeyer, 2015, p. 15).

> *"students would become inter-disciplinary, creative as well as entre-preneurial and wise"*

The first important thread appears to have arisen at the turn of the century with Leu's (2000) warning that there was scant time available to make the shift from traditional schooling to a STEM focus, and that what was needed to do this was to enable children to be creative thinkers and problem solvers. It is these latter two points that have become revisited facets within the STEM literature but appear to be somewhat subsumed by the mechanical "unthought slavery of numericality itself" (Badiou, 2008, p. 213). In regard to creativity, Battey, Kafal, Nixon and Kao (2007) believe this should be central to STEM as inquiry based learning.

The concept of creativity in itself has tended to fade from educational systems in more recent times, but as Jeffrey and Craft (2004) contend, creativity is not about teaching creatively or the creative arts but about developing an overall mindset whereby they work with their classes through flexible pedagogy and flexible reflexivity. That is, at the classroom level students should be given time and opportunity to solve real problems as cooperative groups before the teacher, or rather facilitator, steps in to offer possible solutions. Sternberg (2006), Marshall (2010) and Jensen (2010) believe that this approach would have a flow on effect whereby students develop great metacognitive processes and thus learn about learning more powerfully, with the potential to "creatively integrate ideas within and between domains. ... developing their own internal authority for learning and a fluid repertoire of learning strategies essential for deep conceptual understanding, creative inquiry, innovative problem resolution, and ethical leadership" (Marshall, 2010, p. 57).

This may necessitate a rethinking of classroom approaches as a key implication is that all lessons, and in fact all lesson programs, should cater and foster 'critical moments' in which important unplanned aspects arise and need an immediacy of clarification or a group think approach to solving an issue. Rinaldi (2005) put forward that these aspects are a key component of authentic learning based on a more open ended approach to STEM curriculum which is clearly evident in the early years of school, and which should then filter into the latter years. This kind of classroom could, and should, also provide students with the opportunity to solve problems and demonstrate developing understanding by integrating from other disciplines or subject areas.

The concept of integration of other disciplines, into STEM subjects, especially the creative arts, have caused some commentators to ask the question: "How Did We Get Here?" (Harris 2016, p. xvii). Just as STEM needs re-visioning, Harris also proposes that "what is clear in considering how to enhance creativity in schools—particularly secondary schools—is that thinking needs to change, more than anything else" (2016, p. xvii). While the concept of creativity and the creative arts have had lower priority in educational practice in recent times, it has also been made clear that it is the creative arts that could form the link between STEM subjects as a modality to show elements of understanding as thought processes, design awareness, aspects of divergent and convergent thinking leading to innovation and to tap into the concept of utilising Gardner's (2011) concepts of multiple intelligences. Battey et al (2007) are of the opinion that rather than being a linkage or bridge building factor, the creative arts should be central to any school based STEM inquiry and collaboration. To this central role, Marshall (2009, p. 49) maintains that students would become interdisciplinary, creative as well as "entrepreneurial and wise."

While acknowledging the limitations of any literature review, it is becoming clear that the previous ideals have not been established through case study research at best. More importantly, much of the recommendations regarding STEM education in general unpacks elements that are not based on actual in-situ research, or at best only reveals academic suggestions or the voice of teachers (Stone-MacDonald, Wendell, Douglass, & Lu Love et al 2016). One has to wonder what results would arise if any voice was given over to students?

Method

According to Creswell (2007), one conducts qualitative research "because we need a complex, detailed understanding of the issue. This detail can only be established by talking directly with people, going to their homes or places of work, and allowing them to tell their stories unencumbered by what we expect to find" (p. 40). The particular branch of qualitative research this study aligns with is a case study approach involving two schools, two cohorts (primary and secondary) in each school, and multiple students in each cohort. A case study, according to Creswell (2007, p. 40) is "where the

researcher is studying an event, a program, an activity, more than one individual".

Two focus groups were held at each school - one each for primary and secondary. The questions were semi-structured (Thomas 2010), with the interviewer acting as a "smart", or a "human as instrument, … one that can locate and strike a target without having been programmed to do so" (Lincoln & Guba 1989, p. 194). In other words, in responding to the interview questions students were permitted to lead the discussion away from the main question at times in order to clarify, amplify or demystify their responses. The key information being sought from the students was: do they know what STEM is, what do they like about STEM, where would they would rank STEM in their subject list, how do they apply STEM, what they did in the STEM symposium in Sydney, how they felt about their school's performance at the STEM symposium, and what advice they would give parents about the benefits of STEM.

In order to place qualitative 'distance between data' and minimize the subjective 'distance between colleagues', once the recordings of the focus groups were transcribed, a reflective triptych was applied to the data. This reflective overlay interrogated the data collectively and individually by the researchers by asking key focus questions such as:

1. What is the core essence in the data?
2. What facets support the core element or essence?
3. Does prior research resonate with this data?

This 'reflective distancing of critical friends' was undertaken several times, and to paraphrase Kelchtermans and Hamilton (2004, p. 789): "the data was read, critiqued, and reflected on; readings and the critical friends both supported and helped reframe ideas within the study."

Findings and discussion

The answers given by students in the focus groups indicated that they had a growing knowledge of what STEM is, how it is being implemented in their schools, and what the possible benefits to them may be. There was a stark, but not unexpected, difference between the answers given by primary students and those of the secondary students. A clear resonance with the educational literature was illustrated by the types of answer given by each cohort. The primary group answered more at Piaget's Concrete Operational Stage of answering what STEM is and how much fun they have with it. The secondary group reflected Piaget's Formal Operational Stage and were more interested in talking about how STEM works, and how it is good for their school. They also saw that it will benefit the students in the long term.

> *"There was a stark … difference between the answers given by primary students and those of the secondary students"*

As the data was reflectively analyzed, it became clearly evident that when taking the primary and secondary student answers together for both schools, each category of Bloom's Taxonomy of Education Objectives (Seaman, 2011) was covered. In fact, the revised taxonomy as proposed by Krathwohl (2002) with its updated categories, and used in this analysis, aligned closely with the comments made by students. Table 1 provides

Table 1: Student comments by Bloom's Revised Taxonomy of Educational Objectives

Blooms revised categories	Accompanying skills	Sample student comments
Remember	State, list, memorise, define, etc.	I learned from the other schools what they were doing
Understand	Explain, recognise. Discuss, describe, classify, etc.	The good thing about the building is that you understand why each part is there and what makes the robot go
Apply	Implement, demonstrate, execute, interpret, etc.	You are actually applying all the skills you have learned in previous years and bringing them into the one arena
Analyse	Question, contrast, compare, relate, experiment, etc.	It is hands on and you get to think through the problem and solve it
Evaluate	Critique, judge, defend, argue, appraise, etc.	We have done robotics and learned about gears and angles. We built it and did challenges and problems
Create	Construct, design, assemble, Formulate, investigate, etc.	I did a lot with mathematics or more specifically Boolean Algebra and also some simple electronics to create calculators

sample student data to illustrate this fit. This coverage indicates that the process and application of STEM lends itself to the desirable outcome of exposing students to the full range of cognitive outcomes and clearly places the emphasis back onto student learning. This was the objective of Bloom as reported by Seaman (2011) and referring to the decade of the 1960s: "Its (the taxonomy) concern regarding students' learning instead of teachers' actions became a focus of other research and evaluation." (p. 29).

Student knowledge of what STEM is

It was clear from the data that students at both primary and secondary level were very clear on what STEM is and what it is trying to achieve in their schools. Common answers indicated that schools' attempted to integrate several learning areas. The older students knew that doing STEM in many cases simulated workplace scenarios and they appreciated the efforts made to prepare them for employment.

> *It is a new way of learning - more hands on and interactive. It helps with new jobs in the future*

> *"it is good because they (students) are more freely available to take their problem even further and not be restricted by … the teacher"*

Student opportunity for self-directed learning

Students agreed that while the presence of a teacher was important for order and organisation, there were advantages in being left alone to learn. One student even made a comment that teachers can restrict learning:

> *I believe it is good because they (students) are more freely available to take their problem even further and not be restricted by what the teacher wants them to do.*

Student knowledge of the full benefits of STEM

Advantages such as enabling independent thought, engaging problem solving techniques, providing more interest and enjoyment were regularly cited by the students. One student was quite passionate about the techniques and learning they were experiencing. One student commented:

> *I think this method should go beyond maths and science and into maybe English – just the process of starting with a plan and then developing on that plan.*

This student made this comment without the knowledge of an innovation STEAM (Science, Technology, Engineering, Arts and Mathematics) and that their school is in the process of following this initiative and are in fact building a dedicated STEAM building on their campus.

Student feelings about where their school is positioned with STEM

Again as expected, primary students were more excited about how their schools were positioned with STEM than the secondary students. The primary students made comments like:

> *I reckon we did pretty well as a small school or for a school that had just started STEM,*

while secondary students were likely to say:

> *I felt we were pretty basic.*

While the secondary students were not as animated about where their school was placed compared to other schools at the STEM symposium in Sydney, they were also very accommodating and philosophical about how they were positioned:

> *What we do is good but we could improve a lot.*

> *Some others were a little more sophisticated but that doesn't mean ours was worse.*

> *Going to Sydney should help us improve.*

The answers the students gave should be an encouragement to the schools involved in this study. A primary student exuberantly declared:

> *It felt pretty amazing to be a student at [name of school].*

Future research directions or recommendations

The initial research at these two schools reported in Kilgour, Fitzsimmons, Baywood and Merriman (2016) included teacher comments that STEM may just turn out to be *one more acronym for teachers to deal with*. As these schools progress their initiatives to be at the forefront of twenty-first century education, more 'acronyms' are surfacing that some would see are taking over from STEM. One school in particular is working towards PBL which is traditionally Problem Based Learning but is now being called Project Based Learning. Simultaneously STEAM is being used more than STEM as Arts is added to the previous acronym and humanities becomes integrated with the sciences. While the cynical may say that their predications of the very fast entrance and exit of STEM is coming true, these schools would say that each new development does not mean the demise of STEM, but rather an enriching addition to STEM. Avenues for further research are numerous as this development continues.

Conclusion

The future of STEM as it is or as it will become is unknown. What is known however is that schools will continue to have external pressures for the improvement of student performance in the science, mathematics and technology areas and that students will need to be focusing more on practical applications that lead to employment. In many ways this objective requires a broadening of the curriculum and of the pedagogical approach of teachers which is 'in the opposite corner' to the fixation in Australia at the moment with NAPLAN testing and the demise of Australian school students compared to the rest of the world in standardised testing, that as a consequence actually narrows classroom practice to the level of 'teaching to the test'.

This study revealed that students actually value the ideas imported by the integration of subject areas, of being able to work independently, and of being involved in activities at school that will help with their future employment.

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> *"this objective requires a broadening of the curriculum and of the pedagogical approach … which is 'in the opposite corner' to the fixation in Australia at the moment with … testing"*

TEACH[R]

A Nexus of Eyes: The praxis of chaplaincy in one faith based educational system through emerging emic perspectives

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Key words: chaplaincy, impact, fulfilment, support, burnout

> *school based chaplaincy in particular, is morphing into new forms within emerging national uncertainties, and cultural diversity*

Introduction: A nexus of war and wellbeing

The overall roles of chaplains over the centuries have always reflected socio-cultural shifts related to evolving concepts of religion and service to the 'common good'. However, these entwined notions have, up until relatively recently, been embedded in conflicts and war, with the development of corresponding cultural tropes of death, dying and suffering. Despite this long held view, the concept of chaplaincy as a practical counterpoint to the dystopian images of war embedded in many cultural mind-sets, especially European and Australasian meta-narratives, is evolving while simultaneously moving into uncharted waters of new forms and new praxes.

This is nowhere more visible than in the current Australian context where leaders in the armed forces are beginning to realise the role of military chaplaincy is one of "spirituality and character training" (Clayton 2010, p. 17). However, while the latter roles are ill-defined they at least are beginning to match the younger millennial generation's overall world view. However, it is not only in the armed forces in Australia that chaplaincy is beginning to be seen as a critical focus of spirituality, wellbeing and character development. Political forces at both the national and state levels are seemingly enmeshed with global religious shifts, which have created a scenario where chaplains appear to be in demand in all quarters of Australian society, albeit in an acknowledged secular society. In particular, there is a federal government push to enable chaplains of any faith to become a part of school cultures.

Perhaps this new perceived need of chaplains also reflects the national view that the Australian secular metanarrative is somewhat deficient. This metanarrative arising out of the Anzac legend is also grounded in a war motif, with the deeply intertwined concepts of 'mateship', masculinity and sacrifice. However, within this cultural context of national questioning there is also a shift towards an acceptance of spirituality (Bouma, 2006), and a simultaneous rejection of organized religion.

Internationally chaplaincy as a whole, and school based chaplaincy in particular, is morphing into new forms within emerging national uncertainties, and cultural diversity. Drawing on their work in Ireland, King and Norman (2009) believe that the role of school chaplains everywhere needs to be carefully realigned and rethought. Commenting on the Australian educational landscape, Bouma (2006) has said much the same, believing that with the rapid increase of denominational schools in Australia, the "role of

school chaplains and religious education teachers in these schools is critical and needs to be taken more seriously by those who appoint them" (p. 208).

This paper seeks in part to address this situation, unpacking the initial 'emic-journey' of a three year multi-case study research agenda that seeks to holistically investigate how key stakeholders in three faith based schools understand the role and practice of school chaplains. In this instance, the stakeholders included administrators, chaplains and students. The multi-case study approach and the stratified sets of respondents were deemed to be the best 'goodness of fit' as Parekh's (2000) axiom clearly states an understanding that one group's place within an organisation needs to be considered not in isolation, but as intersecting forces that act as a "locus of identity."

The following section unpacks the 'loci of influences' in the emic decision making processes related to the key aspects of this particular research journey, ending with an unpacking of the perceived nexus or 'loci of influences' related to school based chaplains' perceived professional identity.

Nexus of Chaplaincy Identity – Inputs, aspects and avenues

Nexus 1: Meaning within the overall research base

As indicated in the previous section, the concept and practice of chaplaincy in Australia has a relatively deep historical foundational history grounded in British clerical ministry in war settings. In more recent times, while serving with the best intentions, certainly their place and role in the British context in the Great War, was initially viewed by those they aimed to serve as the embodiment of "ineptitude and hypocrisy" (Snape & Madigan, 2013, p. i). Certainly, this viewpoint changed to a large degree in the World War I conflict whereby some "found spiritual solace in their gentle admonishment", however "others were less inclined to see the possibility of divine intervention in the bloodshed and horrors of war, and ignored the clerics" (Ham, 2013, p. 520). While chaplaincy evolved into an essential component of ensuing military contexts the precepts of this original religious form and Australian skepticism appears to have created ideological and praxis tendrils of division that still carry over into many current discussions as to what actually constitutes chaplaincy. Such was, and possibly is, the uncertainty and diversity still embedded in this profession that at the turn of the century Vandecreek (2002) called for a differentiation of chaplaincy definitions believing there were professional chaplains, and those who "assisted in one or more functions attached to chaplaincy" (p. 122).

With definitional debate still evolving, in more recent times the notion of chaplaincy has morphed into an interdisciplinary set of practices in many other fields and workplace sites such hospitals, prisons, residential care facilities, airports and schools. Hospital chaplaincy has demonstrated its legitimacy by working effectively with healthcare professionals over a long period of time, with chaplains showing their worth as valuable members of the healthcare professional teams, with clear professional requirements and training. It is this latter point, which appears to be a missing element in many of the chaplaincy roles.

In regard to appropriate training and the roles school based chaplains are asked to perform, interestingly it is Johnstone's (1997, p. 13) early warning that "each school must look at its own special situation and needs, and develop the model of chaplaincy that best meets those needs" that has begun to emerge as perhaps being the most accurate assessment. Johnstone's comment perhaps went unheeded as at that time school based chaplaincy existed only in pockets in some denominational school based sites. Without any apparent negotiation with the field, and the research clearly ambivalent at best regarding the efficacy of religious instruction (Hughes, 2004), in 2006 the Howard-Liberal government introduced their initiative for school chaplaincy. Since then, the number of chaplains in all schools, including Adventist Schools Australia, has increased exponentially. However, the experience of many chaplains seems to have mirrored my own, where there was little, if any, dedicated training, and no explicit role, guidelines, job description, or real understanding of what it is that makes for successful chaplaincy. In order to achieve this an evidence-based research base would provide the starting point in order to deliver a high quality and valuable service.

> *"each school must look at its own special situation and needs, and develop the model of chaplaincy that best meets those needs"*

What research currently exists falls into three main categories: academic research into the role of the school chaplain (Salecich, 2002; Pohlmann, 2010; Caperon, 2015), evaluation of the effectiveness of the role of school chaplains, subsequent to the implementation of the Howard government's National School Chaplaincy Program (Loza & Warren, 2009; Hughes & Sims, 2010), and publications by different denominational school systems (Catholic Schools - O'Malley, 2008; Anglican Schools Australia, 2011).

Salecich's (2002) pioneering research clearly identified the frustrations experienced by chaplains, the tensions that existed between the various stakeholders and the resulting lack of clarity over the chaplain's role. Pohlmann (2010) extended Salecich's work and, using case studies in Queensland schools was able to identify a diversity

of different models:

- a pastoral care model, where the chaplain's role is to minister to staff, students and the wider community
- a peer support model, where the chaplain is seen as role model or friend to the students, building relationships which may give opportunity for meaningful interactions
- an educational model, where the chaplain is primarily involved in teaching religious education and related topics
- a liturgical model, encompassing ceremonial duties – church services, worship programs, Bible studies
- a community development model – an extension and broadening of the pastoral care model where the chaplain reaches out more into the school community.

"school chaplains are in the prevention and rescue business… three key questions remain: Is this really the case? What are students to be rescued from? And how … ?"

The findings of Loza and Warren (2009) and Hughes and Sims (2009) indicated that chaplains had an apparent strong positive effect on the pastoral care for students, staff and families through the development of interpersonal relationships, moral foundations and values (Hughes & Sims, 2009). To these points, the National School Chaplaincy Association (cited in Theilking & MacKenzie, 2011) asserted that "school chaplains are in the prevention and rescue business" (para. 14). However, given the diversity of students in schools at this point in time, three key questions remain: Is this really the case? What are students to be rescued from? And how this rescuing is to be undertaken?

O'Malley's (2008, p. 6) "ideal map of chaplaincy", considered the roles and school structures needed to be effective in schools, identifying the central importance of interaction and negotiation between chaplain and school leadership. Foord (2012) and Lowe (2012) also found this to be the case, coming to the conclusion that chaplains had to also navigate different stakeholder understandings, all of which had differing viewpoints regarding chaplain's roles and responsibilities. This notion of navigation amongst various layers of a school culture is also another common thread which might be described as "being" or "presence" (Monahan & Renehan, 1998, p. 13; Caperon, 2015, p. 56). Many writers in the field, have spoken of the importance of the presence of the chaplain "journeying with" students (Collas, 2006, p. 20; Newitt, 2011, p. 105), describing it as "journey[ing] with people as they ask big questions." Within the Catholic tradition, Greely (2004, cited in Finlay, 2007, p. 73) has described the journeying in a more holistic sense believing it's a relational scaffolding process that commences with "the simple faith of a child to the sophisticated faith of an adult."

This notion of a 'relational chaplaincy presence' has clearly emerged in multiple research findings as two 'conceptual metaphors' (Lakoff & Johnson, 1999). Firstly, what is clearly a "source-path-goal" schema or metaphor (Lakoff & Johnson 1999, p. 40). Pohlmann (2010) has identified five different models of ministry being used by chaplains, with the one commonality being the perceived need of chaplains to 'get to know' students, staff and parents. Newitt (2011, p. 105) sees this chaplaincy path and relationship as "walking alongside, … facilitating a journey of exploration." It is this notion of 'facilitations' that is perhaps the most contentious and unexplored chaplaincy domain. In unpacking this ideal, Hunt (2009) believes that facilitation should be the instigator of both the journey towards meaning, and the energising process for lifelong learning and states:

> The metaphor of journey connotes an ongoing exploration, an unending task, a lifelong quest, of never having arrived, and of ever reaching further towards the unreachable. The metaphor of journey also speaks of the matter of attitude as of aptitude for the journey (Hunt, 2009, p. 646).

The second 'conceptual metaphor' arising in chaplaincy literature is one of 'being as a container.' Caperon (2015) found that the majority of school chaplains considered that their own identity and being were core to their chaplaincy, and described their role as "making Christ present in school". The aim of this 'contained presence' within chaplaincy is "all the time being the one seen as the 'God person', the one whose presence … makes the reality of God and the love of God visibly and actually present in the community" (Caperon, 2015, p. 56). Caperon does not see the chaplain's role in a purely selfish light, but continues the 'container metaphor' in a privilege light, believing the chaplain's role as a "privileged position of holding others' stories … - as the 'God' person" (Caperon, 2015, p. 55).

Nexus 2: Meaning within the research literature related to the 'case'

From the limited research available, it would appear that the Adventist system has been slow to adopt or see the necessity for chaplaincy training and it is regrettable that we, as Christians who espouse the care of the individual, have not put into place a relational system whereby we have focused relational training for the people who are going to guide the children in our schools (Rieger, 2009). Nevertheless, what research there is arising out of the Adventist system suggests that chaplains have

made a difference (Gane, 2012). The Valuegenesis II study (Gane, 2012), which was a follow-up to the Valuegenesis survey of 2000, indicated that there was a significant increase in faith maturity, orientation to religion, improved views of God and Christian commitment with the presence of a school chaplain.

As further research generates clearer understanding of the roles and responsibilities of the Adventist chaplain, it will be possible to help those who work in that field to have a better understanding of the issues they face and how they can enable the students they serve.

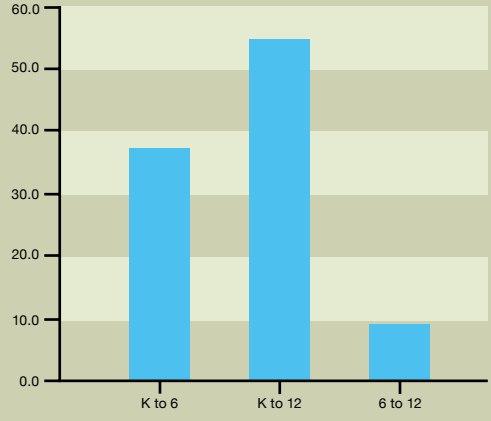
Nexus 3: Meaning within the research design

It should be clearly noted that the previous literature did not drive this project, but it is an emergent and responsive initial reflection on initial embryonic findings. In response to concepts of relationships and conjoint journeying, this study has begun with the employment of an 'Inside-Outside' research design (Bak, 2015). Through the use of both quantitative and qualitative methods, this approach allows for the reflective and pragmatic movement and interplay between both the researchers and the respondents as 'insiders', while also providing reflective and methodological 'outside spaces.' This interplay was facilitated through the use of a bricolage (Denzin & Lincoln, 2011) of data gathering methods that included a quantitative survey adapted from the work of Hughes and Sims (2009) followed by qualitative in-depth interviews, and in "that the potential for enrichment lies" (Bak, 2015, p. 108).

Nexus 4: Sites and respondents

Although very much in the 'emic stages', preliminary data gathering has been carried out with a small sample of school chaplains from one regional area of Adventist Schools Australia (see Figure 1). The chaplains were invited to complete a survey regarding their perceptions of their role and responsibilities that was generated from the work of Hughes and Sims (2009). An ensuing focus group discussion was then held in which these chaplains spoke freely about their roles, experiences and reflections.

Figure 1: Types of ASA schools



This resulted in two lines of emergent findings: firstly, through quantitative analysis of the survey instruments, and secondly through a general coding of their comments from the discussion. These findings will serve to further hone my guiding questions for subsequent level two interviews (Charmaz, 2006).

While the respondents as a "convenience sample" (Creswell, 2013) of n = 11 represent an even spread across ages, eighty-two percent of them were male, and eighteen percent were female. All chaplains in this sample worked in only one school. The survey included chaplains working in K to 6 schools, K to 12 schools, and chaplains who worked solely in high schools in New South Wales. Over half of the participants had worked in school chaplaincy for an average of more than eight years.

> *"Referrals … related to spirituality and 'big picture' issues of life and faith, family relationships, behaviour … academic issues or personal achievement"*

Nexus of Identity arising from within the case: Initial aspects and avenues

Quantitative Perspective: Chaplains' perceptions of overall impact

Chaplains felt that they had a significant impact on their communities through helping students to think about 'big picture' issues of life, spirituality, God, and/or principles of life; contributing to the positive morale of the school community; facilitating social inclusion and building community in the school; impacting student moral values and responsibility; offering support to students with significant problems and providing opportunities for students to talk through issues of concern to them (see Figure 2).

The survey explored issues raised by either students who voluntarily seek out the chaplain, or students referred to the chaplain by staff. Referrals (when students are referred to the chaplain by staff members), which occurred most often, were related to spirituality and 'big picture' issues of life and faith, family relationships, behaviour management, including anger management and academic issues or personal achievement.

Respondents were given twenty emergent issues that were raised by students or staff referrals, and as can be seen in the following figure (Figure 3) these were shown to be occupying a significant amount of their time (scored as happening often or several times in an average two-week period).

> *Chaplains expressed the lowest levels of agreement for … any extra effort on their part was recognised by the school, and … there being appropriate structures to resolve problems in the school*

Figure 2: Chaplains' perception of their impact

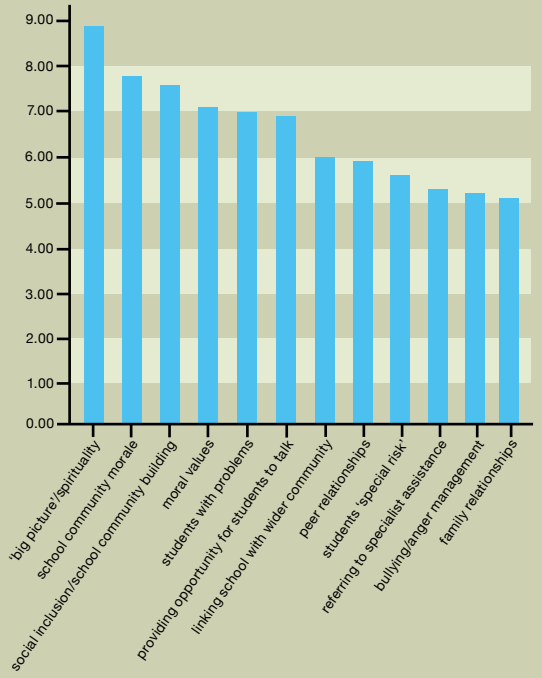
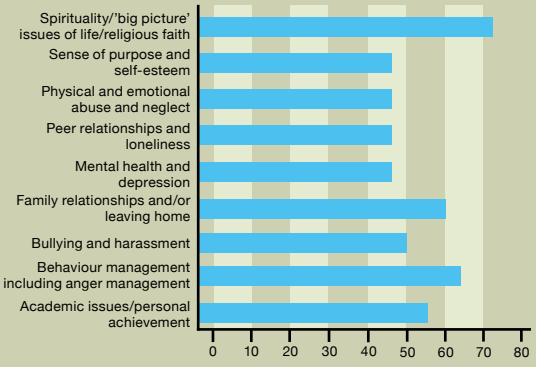
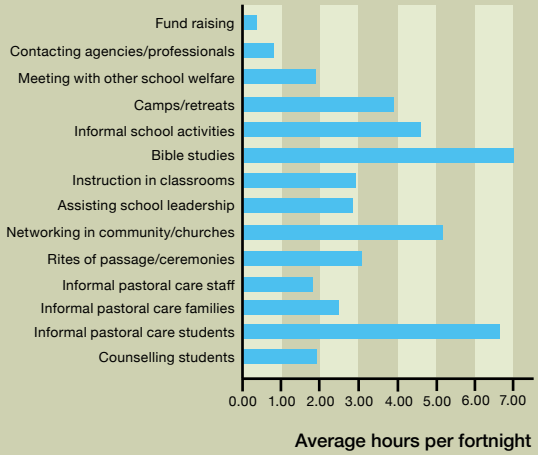


Figure 3: Issues raised by students, or by staff referral



Chaplains were surveyed regarding the way their time was allocated during an average two weeks (see Figure 4). Most of the findings in Figure 4 mirror those of Hughes and Sims (2009), however the hours spent in Bible studies and networking with churches was not included in their survey, which was targeted at State schools. In that context, it could raise the question of whether this was actually part

Figure 4: Chaplain's responsibilities (average hours over two weeks)



of the role of the chaplain. However, probably these results are found in the research being discussed due to the parochial religious school system, where the expectation would be that Bible study is part of their core business. Networking with churches would also be expected, given that the schools are all often closely allied to local churches. As well, it is becoming clear that chaplains spend a large percentage of their time on pastoral care. They spent the majority of their time in engaging in Bible studies, the pastoral care of students, making off-site visits and contacts with parents and care-givers, providing needs-based small group work in areas such as anger management and addressing bullying, as well as leading out in special school events and ceremonies.

Quantitative perspective: Perceptions of underlying challenges

There is moderate to high concurrence (5.5-7.5 on a Likert scale of 1—no agreement to 10—total agreement) with the following statements that assert the local churches support the chaplain's work, their 'professional expertise [is] recognised by the school' and that their 'input in school life [is] taken seriously' (see Figure 5). Chaplains expressed the lowest levels of agreement for the statement claiming that any extra effort on their part was recognised by the school, and only marginally higher for there being 'appropriate structures to resolve problems in the school'.

Further, there was also lower agreement that they had adequately defined job descriptions, with seventy-two percent scoring 5 or less on a Likert scale of 1 to 10; or sufficient 'opportunities for

Figure 5: Chaplains' perceptions

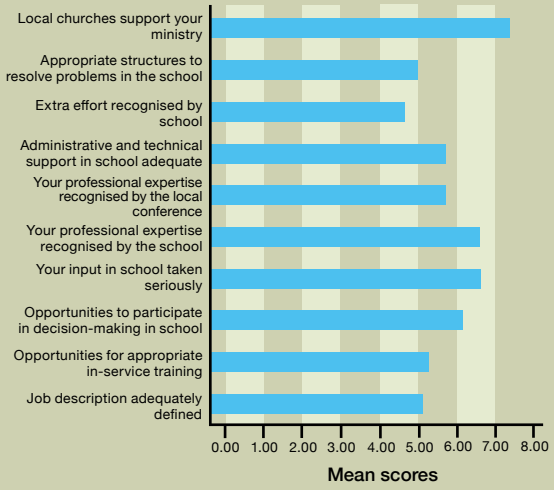
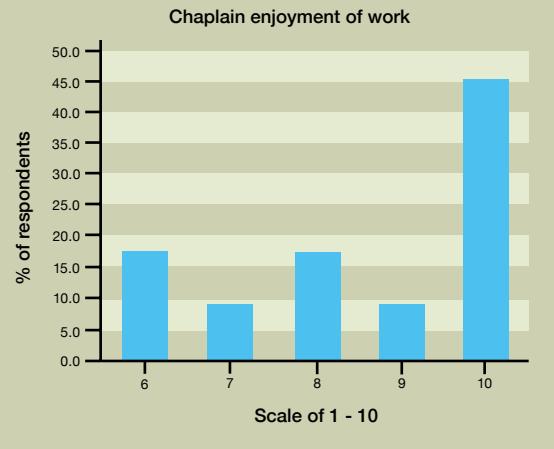


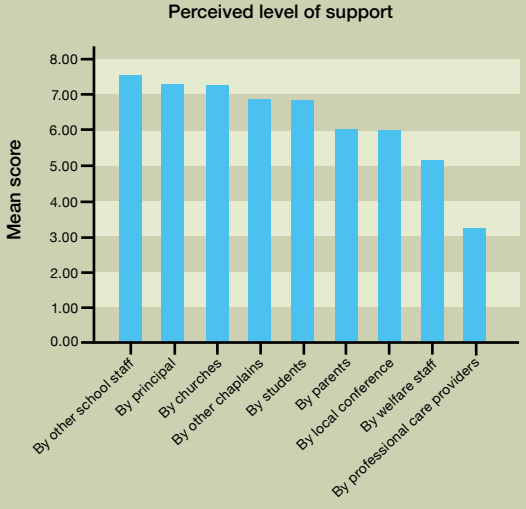
Figure 6: Fulfilment levels



appropriate in-service training'. All these issues with lower agreement scores emerged as challenging concerns within group and individual discussions.

Despite the fact that I entered this study with a presupposition that chaplains were not finding fulfilment or job satisfaction, the results are quite surprisingly positive. When asked to score how much they enjoy their work as a chaplain (see Figure 6), the mean score was 8.5, with fifty percent of respondents rating a 10 for this item, and no one scoring less than 6 on the scale of 1 to 10. These results must been seen in light of the fact that their extra effort is not well-recognised, there are not clearly defined structures for resolving issues, and

Figure 7: Degree to which chaplains feel supported



72% of respondents scored 5 or lower, on the matter of an adequately defined job description.

It is my contention that the significant level of fulfilment and job satisfaction expressed by many chaplains may correlate quite highly with their perceived level of support in their role. Most chaplains indicated that they felt well supported by other school staff, by their principal, by local churches, other chaplains and by students. They also expressed good support by parents and local conferences (see Figure 7).

Qualitative perspective: Chaplains' perceptions of overall impact

The respondents to our survey attended a chaplains' retreat, where informal discussions in the form of a focus group were undertaken. A critical point of discussion centered on what were perceived to be the core functions of chaplaincy.

Given that these were chaplains from a parochial religious school system there was considerable focus on the importance of leading students into a relationship with Jesus Christ, and studying the Bible. However, other core functions were identified as caring for the principal and staff, in addition to students; and building bridges between school and the community. This discussion extended into the role of the chaplain in staff spiritual growth. There was a consensus that everyone in a school has a calling to minister to all members of the school community, to carry out the core spiritual values of the school, which are grounded in the school motto, vision and mission statements, and that the chaplain should journey

"When asked to score how much they enjoy their work … the mean score was 8.5, with fifty percent of respondents rating a 10 for this item, and no one scoring less than 6 on the scale of 1 to 10"

alongside the staff.

This led into discussion of what factors were essential for best practice in school chaplaincy. There was agreement on the fact that the chaplain needed to be a spiritual person who connected on various levels with students and staff. They needed to be individuals that people found easy to talk to. Discussion also gravitated to the advantages and disadvantages of chaplains with educational and theological backgrounds, and the benefits that they bring to the table. Chaplains with an educational background are likely to fit into the school climate more readily with clear understandings of the education 'business', tensions, stress points in the school, the importance of fitting into the school timetable and respecting the school bell (and all that that means), and how to work around teaching staff requirements (?) in the most cooperative manner possible. Chaplains from a theological background bring skills in planning a 'spiritual year', a different set of resources, skills in organising worships, spiritual and ceremonial programs and in conducting Bible studies.

Another key area of concern discussed by the chaplains was the issue of burnout. Whilst not directly questioned about this in the survey, the issue of the sustainability of the roles and responsibilities of the chaplain was acutely in the mind of the researcher, based on personal experience and numerous individual conversations. It was interesting to note that whilst a high level of personal fulfilment had been expressed in the surveys, and the fact that ninety percent of the respondents saw themselves continuing in the field of school chaplaincy in the long term, the focus groups indicated that the issue of burnout is significant. This qualitative investigation revealed this to be a matter of significant concern. In Adventist Schools Australia there is a changing landscape, with many schools beginning to operate campus churches to serve as a spiritual home for students. This has added another layer to the responsibilities of the school chaplain. The expectation is that the chaplain will also be actively involved in these churches, as a bridge between school and church. Given that the churches function outside of the five day working week, chaplains have expressed concern that these new expectations will exacerbate their already demanding workload, and lead to further burnout. Through further discussion I discovered from the focus group that three of the main contributory factors to their burnout were the competing expectations of different stakeholders, lack of adequate job descriptions and a "conflicted" chain of command; each demands exploration.

"the main contributory factors to their burnout were the competing expectations of different stakeholders, lack of adequate job descriptions and a "conflicted" chain of command"

Conclusion

An initial examination of the preliminary quantitative and qualitative data raises a number of issues that deserve commendation, are worthy of further attention, and demand action.

In contrast to my expectations, the data suggests that the majority of school chaplains find fulfilment in their roles. Given the emerging nature of school chaplaincy, their lack of specific training, and the ambiguity of the chaplain's roles and responsibilities, the high level of job satisfaction expressed by the respondents is laudable. A major contributory factor to this would appear to be the degree of support they experience from the principals and staff of their schools, the local churches and the school community as a whole.

An area that apparently demands action is the need for clearly defined job descriptions and an "unconflicted" chain of command. Initial coding of the data supports the findings of Foord (2012) that chaplains feel conflicted about serving "two masters", or more, and all the concomitant, sometimes conflicting expectations. Inevitably this impacts their ability to adequately fulfil their roles, and may contribute to lowered efficiency, and burnout. Up to this time, within Adventist Schools Australia, there has been no consistent national standard for chaplains with regards to chain of command or job description.

Another key matter demanding further attention is the area of chaplain burnout. This requires the identification of causal factors, and then the implementation of strategies to address them.

In the Adventist system, huge strides forward are being made, with chaplaincy being recognised and significant resources being employed to remedy many of the problems that exist. However, whilst progress is being made in some areas, changing landscapes create new challenges to be addressed. Although some administrative regions are experiencing rapid change for the better, a unified approach is yet to be achieved. Thus the story is ongoing.

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> *"the data suggests that the majority of school chaplains find fulfilment in their roles"*

It's short-sighted

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Key words: futures, myopia, outdoors, sunlight, well-being

Increasingly, educators are challenged by perceptions of the future. It is partly due to the rapid pace of change that forces us to realise the future rapidly telescopes, collapsing into today. Futurists amalgamate predictions. Some vision based on scientific methods that usually predict within known error ranges, or make quantitative projections using tools such as trend analysis, or measures of change of both beliefs and opinions with associated and assessed probabilities—developed from social survey analysis. Others analyse qualitative perceptions and expressions gathered either from individuals by interview, or groups using either focus group sessions, questionnaires or surveys.

> *An explosion in … myopia, most alarmingly … for Chinese 10-20% to 80-90% in 60 years and also doubling to 50% of young adults in both Europe and the US*

Shared observation however informs that science, technological innovation and development has rapidly introduced: new products, and processes—affecting life style, industrial production and employment; created new research capabilities (Smith, n.d.)—in molecular biology, medical sciences, extreme land and deep ocean environments, space, and nanotechnologies; increasing cross-disciplinary integration and advances; and an immediacy of communication transformative of politics (Hague, 2016), business (Pirouz, 2012; Corb, Manyika, Chui, de Muller, & Said, 2011), media, entertainment and social interaction.

Education by comparison has been conservative and slow to embrace the opportunities of new technologies. Is education short-sighted then in its approach? Not intentionally, but its ultimate goal of both long and fulfilling lives for students is obfuscated by social pressures derived from changing values.

Community assessment of the impact of technologies and their acceptance as advantageous for utilitarian, emancipative or creative purposes has delayed integration of new technologies into educational practice. Scepticism of the impact on valued capacities—mental calculation, capacity for immediate recall, social skills for personal interaction, extended attention spans—has further inhibited development of pedagogies to replace traditional methods of learning. It's an attempt to be looking long into the future that has maintained a conservatism to retain "what is not broken." The changing needs of the new economy of the future is however impacting curriculum even if still slowly. STEM adoption and implementation is happening but seems reluctant.

This conservatism seems to derive from an overarching goal of optimising success, pervasively defined as a status based on monetary outcomes which have been linked to achievement of higher incomes through pursuit of the more profitable professions, usually requiring higher educational achievement, at least at entry levels. This pursuit of academic achievement has shaped the curriculum offered within schools in ways that are now being found to be disadvantageous. Symptoms include wide spread disengagement with schooling, lower indices of achievement in global comparisons, and ultimately the increasing length of time before gaining employment or the continuing unemployment of graduates, in some professions specifically. Launching increased numbers of students into university degree course has resulted in "big debts and broken dreams" (Thompson, cited in Knott, 2016). Questions about both the nature of work and engagement in work have arisen. Will it be part or full-time, relational rather than materially productive? What will society require to receive a living wage—employment? Yet there are already evident social consequences, but even simpler failings. One example of short-sightedness, from recent research, can illustrate this claim.

An explosion in the number of children developing myopia, most alarmingly across East Asia (for Chinese 10-20% to 80-90% in 60 years), and also doubling to 50% of young adults in both Europe and the US, has prompted broad research into potential causes. "We are going down the path of having a myopia epidemic", says Padmaja Sankaridurg head of the myopia programme at Brien Holden Vision Institute in Sydney, Australia" (cited in Dolgin, 2015, p. 276). It is during the growth period of childhood and adolescence that myopia is diagnosed, and it is due to a slight but abnormal elongation of the eyeball. The defective outcome is an image focussed in front of the retina resulting in the sensation of a blurred image.

Dolgin (2015) shares that causation was first linked (1962) to a genetic origin, due to observing a higher frequency of myopia amongst identical (homozygous – same gene) twins than other (heterozygous) twins, but later (1969) work comparing Inuit grandparents who lived in isolated Alaskan wilderness environments with their children and

grandchildren, indicated a change in the incidence of myopia from about 2% to 50% discrediting genes or gene change (which is slow) as the main mechanism for a rapid increase in occurrence. Identifying exposure to outdoor sunlight as the strongest factor influencing development of myopia (rather than closeness of work or other factors) is unexpected.

Australian research (Morgan, cited in Dolgin, p. 278) "estimates that children need to spend around three hours per day under light levels of at least 10,000 lux [similar to under the shade of a tree] to be protected against myopia" and (Rose, cited in Dolgin, p. 278) asserts that additional outdoor time "has to be mandated through the schools, because getting parents to voluntarily do this is extremely difficult" (para. 23). Support for this assertion derives from interventions in Singapore (Saw, cited in Dolgin, p. 278) which established that even a nine month program involving parents in planned family outdoor activities, with equipment provided and even cash inducements, resulted in no higher outdoor time for their children than for children in an unsupported control group. This is further substantiated by a recent study (Donnelly, 2016) that indicates student fitness gains in UK schools over a year are significantly reduced by inactivity over the six week summer holidays. Research has extended to the construction of glass schools or at least school rooms in China to enable continuation of the research in a built environment adapted to climatic conditions. Though there is continuing discussion of other factors including those influencing progression, Professor Kathryn Rose head of orthoptics at the University of Technology Sydney, stated (cited in Bowden, 2017),

> An eye that's myopic is an eye that's growing too fast, too quickly and what we are actually thinking may be occurring is that when children spend time outdoors they are getting enough release of retinal dopamine to actually regulate the growth of their eye … I think there is a public message here that yes, we can be smart and sun safe, but we also need to be outside. (para. 15, 22)

Further reflection suggests engagement with the outdoors, in both formal and informal activities, can contribute to the development of many other positive personal and group attributes. These include: experiencing exhilaration, mindfulness, and the outcomes of building skill, strength and knowledge; the valuing of new or unique environments to orient an ecological perspective; increased awareness of personal feelings and mental state—anxiety/fear, failure, and isolation as compared to acceptance, composure, and confidence in resilience and the assurance of practiced problem solving. Group benefits include learning how to: work together—cooperation, coordination, accepting different roles, reliability/trust worthiness, and patience; offering mutual respect and support within a group; sharing goal achievement through developing and accepting mutual responsibilities; and achieving a sense of 'tribe', class or group beyond the clichéd 'bestie'.

Renewed education is overcoming some of its short-sightedness, rediscovering the essential benefits of interaction with the outdoors—sunlight, fresh air, water, natural environments, including awe and questions about how it 'comes to be'. Goals state with greater clarity the objective of teaching well-being that includes mental health—acknowledging identity, purpose and place.

Within a transcient, technologically focussed society of potentially chaotic individualism, children need to also be confronted with the comparative stability of imposing, preserved wilderness; the inter-relatedness of surviving eco-systems; calmness in space, … . Limiting the interaction of children with the natural environment has significant physiological, psychological and by implication educational consequences. The developing ascendancy of well-being as a goal for life and particularly students' futures, invites curriculum implementers to ensure a multi-focus approach so as to minimise detrimental impacts not just of socialised technological environments, but also the school environments imposed during learning. It must not be short-sighted.

"Limiting the interaction … with the natural environment has significant physio-logical, psycho-logical and … educational conse-quences."

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Bullying: Personal thoughts?

Stan Walsh
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> *it was all about the bully getting attention and receiving a lot of 'likes' supporting their comments on Facebook*

A couple of years ago we had a case of bullying by one student of another student, in the form of abuse on Facebook. This is nothing new, a recent survey in NZ suggested that 40% of students had been the victims of internet bullying during their time at school. However what was surprising, was that when a teacher asked a friend of the bully what the victim had done to deserve being attacked, the friend gave the teacher a pitying look and replied "nothing, it was all about the bully getting attention and receiving a lot of 'likes' supporting their comments on Facebook."

The sad thing was that later the victim had an attempt at committing suicide, which probably was related to the attention seeking attacks of the bully.

The Bible starts with the original sin of Adam and Eve in response to Satan's promise of if you disregard God and do what you like, "You shall be as God, determining for yourself what is good and evil." Unfortunately Satan missed out mentioning that the consequence of this selfish lifestyle is pain to yourself and others in this life and eternal death in the world to come.

Maybe we are all too nice when we see hurtful and divisive comments on social media, and it is all too easy to hit the like button or ignore the comment altogether.

Often with USA college gun shootings the perpetrator has foreshadowed what he intended to do, using social media as his forum, and unfortunately most of the comments he received in response were egging him on and encouraging him to act, with only a few brave people objecting to his course of action. This makes me think that not only do I need to regularly reflect on my own words and actions in the light of God's directions for my life, but also "I am my brother's keeper."

"There is a way that seems right to people, but that way leads only to death." Proverbs 16:25 ERV

BOOK AND FILM REVIEWS

COHERENCE – The Right Drivers in Action for Schools, Districts and Systems

Fullan, M. & Joanne, Q. (2016). Thousand Oaks, CA: Corwin. 168 pp.
ISBN 9781483364957

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There are certain sets of conditions that create a climate for healthy change and development just as there are conditions that educational leaders can create that are counterproductive to their team. In this book Fullen and Quinn put forward both sets of conditions as they see them.

The 'right drivers' are identified as getting the team focused in the one direction, creating a culture of collaboration where the group is more important than the individual, using all the avenues available to make sure learning is occurring, and then holding the team accountable for the agreed upon direction.

The 'wrong drivers' on the other hand are characterised by individualism – efforts at keeping individuals accountable using extrinsic measures, applying technology as an answer to all issues without it being part of the overall plan, and applying random policies without a team focus.

Coherence then is delivered as the outcome of having a team move together with common goals rather than an external set of drivers that work towards coherence by compliance. The Coherence Framework is put forward as a recipe for fostering change, improvement, innovation and accountability. This framework however is built on intrinsic motivators for the team rather than on external pressures.

The authors then go on to describe a pathway that will re-invent a school or an educational system within the 'Coherence Framework' and using the correct drivers. According to John Hattie who is a household name in education circles in Australia, "The book sparkles with examples of coherence in action; it makes no excuses for employing the wrong levers of change. This is the blueprint for a new vocabulary of education action."

What is achieved in this book is not only research based and highly academic, but is also totally readable. This is made so by the many examples that have been drawn on from workplace practice but also by the multiple diagrams that appeal to the analytical and visual reader.

I picked this book up to read in order to write a routine book review, but found that its logical presentation, interesting writing style, and practical pathways had me totally involved. TEACH

Visible learning for literacy, grades K-12: Implementing the practices that work best to accelerate student learning

Fisher, D., Frey, N., & Hattie, J. (2016). Thousand Oaks, CA: Corwin, 216 pp.
ISBN: 9781506332352

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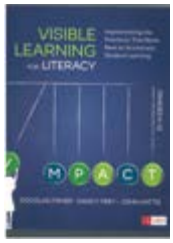

Most of us claim to be trying to do things all the tiThis book is about the significance of coordinating specific teaching strategies, procedures, or routines with the appropriate stage of students' learning. Teaching strategies have been grouped to distinguish which work with surface level learning, which are needed prior to progressing to deep level learning, and which facilitates transfer. Throughout the book the authors present the effect sizes from Visible learning (Hattie, 2009)—exploring the ways in which these mobilize the three levels (surface, deep and transfer) of learning for literacy.

The effect sizes are significant in relation to the associated advancement in children's achievement. The authors assert that effect sizes of d = 1.0 are to be regarded as notable

> *"Coherence then is … having a team move together with common goals rather than an external set of drivers that work towards coherence by compliance"*

Teachers lead and plan for their classes and need to respond and change when there is insufficient impact

while those that are larger are of increased relevance. In each chapter the authors have provided notes in the margin indicating the effect size for the relevant teaching strategy that is being advocated. This supports why the teaching strategy is being highlighted for learning enhancement.

The authors have also provided video and web content in the page margins. These are made easily accessible through QR codes for use on phones or tablets. The videos are short clips involving teachers who are implementing the teaching routines and procedures in their classrooms.

In the first chapter the effect sizes that are imperative, but not restricted to a specific literacy, are outlined. These effect sizes include those for: teacher credibility, teacher-student relationships, teacher expectations, challenge, self-efficacy and learning intentions with success criteria. The following three chapters each outline one of the stages of student learning—surface, deep and transfer literacy learning respectively. Within each of these literacy learning stages the literacy elements needed and developed in this level are explained, with the relevant effect size provided. I have found the book useful in understanding that the development of surface literacy learning is important as the basis for building deep literacy learning and teaching literacy for transfer. The authors reiterate that none of these stages of learning can be excluded and that they build on each other. Remaining at a surface literacy learning level only is not enough and that progression across all levels is essential for exemplary life development and overall learning.

The final chapter highlights the teaching and learning experience of students and the specific role of the teacher. The act of "determining impact, responding when the impact is insufficient, and knowing what does not work", are constant aspects that each and every literacy teacher should be gauging within their classes. Research shows what works and does not work within the classroom, and continuing with current practices that do not work is not good enough, clearly unacceptable for teachers as professionals. Teachers need to clearly state the learning intentions for their students, provide clear success criteria, indicate what quality looks like to their students and lead their students to understand where the student stands in relation to the criteria for success. Teachers lead and plan for their classes and need to respond and change when there is insufficient impact. Responding with relevant interventions is paramount to student learning and builds teacher-student relationships and contributes to quality core instruction. Further to this, it is the teacher's responsibility to monitor student progress and make the necessary adjustments to reach each student where they are with their learning.

This book is about being an effective literacy teacher, 'seeing' your influence and taking appropriate action to improve your teaching for optimum student learning. For an educator this book is a practical guide to literacy strategies that can be implemented in any classroom for optimal student engagement, learning and academic success. I recommend this work to other educators having gained valuable knowledge and potential applications from this book that I am now implementing across my classes. **TEACH**

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