Back to the future.

An investigation of the curriculum model adopted by the Association of Classical and Christian Schools.

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Finally, I acknowledge the true source of my life and work, the Lord Jesus Christ, without whom I can do nothing of value. He has led me, sustained me, guided and inspired me through this project.

Thank you.

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ABSTRACT

Curriculum reforms in the western world have for decades led to concerns being raised over perceived lowering of academic standards. For one group in the USA this has led to the development of a curriculum model which is believed to offer appropriate academic rigour while simultaneously providing students with the life skills needed for a worthwhile contribution to society. This study investigates this model established by the Association of Classical and Christian Schools (ACCS) in the United States of America, in order to evaluate the impact its philosophical stance has on the implementation of policy and procedures throughout the school.

One New Zealand school is among those in several countries around the world which have espoused the ACCS curriculum model. Data was collected from this New Zealand classical school as well as from another New Zealand Christian school which has espoused the state-mandated curriculum model. A mixed-method approach to data collection was undertaken to obtain both a broad overview as well as more specific understandings of each school's aims and objectives.

It was anticipated that there would be significant commonalities between these two schools based on their respective commitments to provide education based on biblical presuppositions. It was also anticipated that if each school was faithful to its declared philosophy, there would be notable differences both in curriculum subject choices and pedagogy. This study sought to identify consistency in the implementation of each school's philosophy in all areas of school life, from governance through to classroom practice.

Results obtained have indicated a high level of consistency in subject choice as well as pedagogy, as might be expected from the respective school's choice of curriculum model. With respect to each school's interpretation of Christian education considerable disjunction has emerged contrasting a formal, traditional approach in one school with a relational expression of faith in the other.

CERTIFICATE

I certify that the work in this thesis entitled Back to the future. An investigation of the curriculum model adopted by the Association of Classical and Christian Schools has not previously been submitted for a degree nor has it been submitted as part requirements for a degree to any other university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been appropriately acknowledged.

In addition, I certify that all information sources and literature used are indicated in the thesis.

The research presented in this thesis was approved by Macquarie University Ethics Review Committee, reference number: HE22Jun2007-DO5305 on June 22nd, 2007.

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Chapter One: Introduction

1.1 Introduction

Educational reform throughout the twentieth century addressed many different issues, both academic and philosophical and many of the educational perspectives which have been influential in western countries through the twentieth century, for example Gardner's (1983) theory of multiple intelligences and de Bono's (1977) work on lateral thinking, have largely been focussed on pedagogy rather than educational philosophy. In contrast, the approaches proposed by Maria Montessori and Rudolph Steiner (Bonnet, 1999) as well as Outcomes Based Education based on the work of Spady (1994) are founded on broader philosophical understandings of the purpose and nature of education.

In contrast to state school systems which have embraced many of the developments mentioned above, some Christian groups such as the Association of Classical and Christian Schools (ACCS) in the United States of America have become alarmed at what they believe is the secularisation of state provided education programs (Bluedorn & Bluedorn, 2001; Littlejohn & Evans, 2006; Wilson, 2003). Indeed Kilpatrick (1993) has proposed that many problems may, in fact, be moral in nature rather than educational.

In response to concerns about both a lack of spirituality and falling academic standards, these Christian groups have implemented a different approach. The philosophical underpinnings of these approaches are mostly expressed through a curriculum model which provides a knowledge-based education accompanied by models of pedagogy considered by many to be 'old-fashioned'.

This thesis focuses on the educational philosophy of ACCS schools as one example of schooling offered by Christian groups dissatisfied with state provided education. The purpose of this thesis is to examine the extent to which the underpinnings of the ACCS philosophy impact on the structure, curriculum and academic life of its schools. Three distinctive aspects will be examined within the New Zealand context, namely the classical approach and trivium curriculum model; education based on biblical presuppositions; and teaching and learning of mathematics in classical and Christian schools.

1.2. The classical approach and trivium curriculum model

The founders of ACCS believed that a curriculum built on the trivium model of grammar, logic and rhetoric offers the best expression of their educational philosophy. Although the association was established in the early 1980s the roots of their educational philosophy lie in ancient Greece. The decision to implement this classical curriculum model came from studying Dorothy Sayer's (1947) speech "The Lost Tools of Learning" in which she advocated returning to a curriculum model grounded in the Bible and with a focus on classical literature and languages.

The major focus of the classical and Christian curriculum is summed up in the title of Douglas Wilson's book *Recovering the lost tools of learning: An approach to distinctively Christian education* (1991). This title highlights three points, namely "classical", "Christian" and "recovery" of something deemed to have been lost. The first two are in a sense the tools by which what has been lost can be recovered. The term "classical" demonstrates an honouring of the legacy of the ancient Greek and Roman world, the choice of the trivium curriculum model, as well as the inclusion of Greek and Latin language study in the curriculum. "Christian" denotes a deep seated belief in the applicability of biblical faith to all aspects of

life, leading to education being based on broad biblical presuppositions. There is a firm belief that all learning and knowledge are ultimately found in true worship of the God of the Bible, and that the trivium structure is the best one on which to build a curriculum (Wilson, 1991).

There is support for such an approach from a range of educators in USA who see the classical perspective as offering an integrated system of learning (Bluedorn & Bluedorn, 2001; Littlejohn & Evans, 2006; Veith & Kern, 2001; Wilson, 2003). By 2009, 214 schools and educational institutions in the USA and groups in several other countries, including New Zealand, had allied themselves to ACCS. One aspect of that integration largely parallels a 'trivium' of knowledge/understanding/wisdom in the Bible (Proverbs 24:3) and a three-stage developmental model of fact/concept/creativity proposed by Beechick (1982).

1.2.1 History and literature of western culture in the curriculum

It is believed by classical educators that the ideas and values which defined the western world have been supplanted by humanistic materialism and individualism (Durden, 1994; Hanson & Heath, 2001). Hanson and Heath (2001) mourn the loss of both content and pedagogical approaches which they see as depriving modern students of any sense of their cultural heritage. Latin and Classical Greek have lost ground to subjects such as the empirical sciences and economics as society has progressively shifted its focus to financial and utilitarian emphases. To redress these inadequacies the study of Classical Greek and Latin language is included in a classical curriculum alongside an in-depth study of western civilisation (Littlejohn & Evans, 2006; Veith & Kern, 2001; Wilson, 2003). Consequently, it is believed that by studying the history and literature of western cultural heritage depth and breadth is restored to education. Such an approach is seen by ACCS to result in biblically faithful education (Wilson, 2003).

1.2.2 Teaching Christianly

Some Christian writers have claimed that many Christian school communities have accepted relativistic humanist perspectives without question or critique rather than developing biblical epistemological approaches to pedagogy (Frogley, 2005; Rushdoony, 1981; Wilson, 1999, 2003). In response to this situation ACCS educators believe that the classical and Christian curriculum model provides a way to establish a mindset based on the transcendental framework of biblical principles and understandings of the world (Rushdoony, 1981). It is believed that the classical and Christian curriculum provides education which honours the heritage of the classical world but places confidence only in the God of the Bible. "…man cannot *truly know* anything unless he understands it in reference to the God who originally conceived it… God is the final and eternal Reality who created all else that exists; all reality is derived from him" (Schlect, 1996, pp. 53, 57, emphasis original).

In the 17th century John Comenius readdressed the idea originally proposed by Augustine to teach "all subjects as a part of the total truth of God, thereby enabling students to see the unity of natural and special revelation" (Gangel, 1978, cited in Gangel & Benson, 1983, p.157). This concept of the unity of all truth in God has continued to be upheld by many Christian educators since that time (Gaebelein, 1968; Newbigin, 1995; Wilson 1999). Several Christian scholars support a Creation-Fall-Redemption worldview framework to describe the full Bible narrative (Greene, 1998; van Brummelen, 2009; Wolters, 2005. All curriculum areas can be defined within that framework as either directly related to the structure of creation or as an investigation into mankind's responses to God and His creation (van Dyk, 1981).

With respect to the classical aspect, supporters of classical education, be they Christian or not, believe it is possible to undertake in-depth study of the history of the western world without

taking on the worldview of the cultures under investigation (Hanson & Heath, 2001; Wilson, 2003). For Christian educators there is the consideration that Christianity was birthed in the early days of the Roman Empire, so a sound knowledge of the Roman and Greek world and the impact of those cultures on the development of Christianity is necessary to interpret Christianity well (Gangel & Benson, 1983).

1.2.3 Teaching and learning of mathematics in classical and Christian schools

Mathematics poses a particular challenge for education based on biblical presuppositions (Thompson, 2003) so differences in mathematics pedagogy between ACCS schools and other schools, both Christian and state will be explored in this study. The approach which sees a behaviourist focus in junior classrooms, a reliance on individual work from text books across all age groups and modes of assessment which are predominantly summative has been challenged by other mathematicians e.g. Hill (1994) and Nickel (1990).

Recently both New Zealand and Australia have introduced special numeracy projects in the hope of raising the standard of mathematics learning in school children. Pedagogy in such programs is decidedly different from the classical approach, with a special emphasis on group work developing knowledge acquisition alongside strategy development (de Lange, 1995; Higgins, 2002; Irwin & Niederer, 2002; Thomas & Ward, 2002).

Because the schools in this study are all Christian, another aspect of investigation is included, suggested by recent research (Thompson, 2003) into teachers' individual understanding of biblical perspectives in the subject. Most Christian teachers freely acknowledge that mathematics is part of God's revealed truth to the world (Nance, 1996; Nickel, 1990; van

Brummelen, 2002) but many seem to struggle to actualise that belief in their classroom teaching. This aspect becomes a special focus of this study.

1. 3 Research questions

The fact that the classical and Christian curriculum is different from other curriculum models, both Christian and secular, has been discussed above. This study aims to investigate those differences in curriculum format and content with accompanying pedagogy, in order to evaluate the impact of the philosophical underpinnings throughout the school system.

This study is based on previous research and writings such as those of Goheen (2004), Rushdoony (1981) and Thompson (2003) on the impact of worldview and educational philosophy on curriculum and pedagogy, with a special focus on the classical and Christian model of teaching and learning of mathematics, comparing and contrasting it with other models.

An ACCS foundation school in the USA, a member school in New Zealand and a third school in this study all have classes which cater for children from five year olds through to 17 or 18 year olds. All three are also co-educational at all year levels, providing a certain level of similarity, though the relative sizes of the three schools differ considerably. The non-classical school was selected as a counter illustration of policies and procedures to those in the classical Christian approach. This third school enjoys a considerable reputation in New Zealand for its strong Christian stance and its high standards of academic achievement. Particular difference arises in recognition that the school follows the state-mandated curriculum model which is inconsistent with the curriculum philosophy of ACCS.

There will be an examination of the rationale behind the establishment of the classical and Christian schools, the particular features of their educational philosophy, and their understanding of teaching Christianly. A similar examination of these issues will be applied to the New Zealand non-classical Christian school which has chosen the state curriculum model as a framework for their approach to Christian education.

The research will seek answers to the following questions:

- What impact does a school's philosophical stance have on policy, procedures, perceptions and practice?

- What are the significant features of pedagogy in mathematics classrooms which reflect a school's educational philosophy?

1.4 Structure of the thesis

Overview

The remainder of the thesis is structured as follows: Chapters Two and Three comprise the literature review; Chapter Four addresses the research design and methodology, while Chapters Five to Eight address aspects of the case studies. Within each of these chapters, there is a particular focus on one aspect: Chapter Two – curriculum reform; Chapter Three – classical and Christian education; Chapter Five – Impact of the schools' philosophy on policy and governance; Chapter Six – perceptions of classroom teachers; Chapter Seven – the teaching of mathematics and Chapter Eight – Classroom observations. Each chapter also integrates preliminary discussion and reference to the previously reviewed literature. Chapter Nine comprises the overall synthesis of findings.

The literature review begins in Chapter Two with a consideration of the nature of curriculum looking particularly at the outcomes-based model rejected by ACCS. This is followed by an investigation of curriculum reform in New Zealand, with brief reference to the USA, in order to establish the context in which this ACCS curriculum model has arisen. There is discussion on public responses to the reforms, which have led to considerable debate over the No Child Left Behind (NCLB) program in USA and to the establishment of the National Certificate of Educational Achievement (NCEA) in New Zealand.

Chapter Three mentions some alternative curriculum models with features in common with ACCS schools which have been established in the USA in protest against perceived inadequacies in the state system. Following an outline of the features of ACCS schools there is discussion on the philosophical approach of Christian schools in general.   Christian education will be discussed, while investigating the role of intellectual engagement and curriculum structure within Christian schools. There is discussion on what classical education means, referring back to the classical Greek foundations, then investigating the trivium model and how it determines both curriculum content and pedagogy for classical schools. The focus on mathematics teaching and learning is directed towards an understanding of teaching the subject Christianly, since this has been noted as an area of challenge for many Christian teachers.

Chapter Four describes the research design and methodology behind the study. Justification is presented for the case study format and levels of data collected. Ethical issues are discussed along with a description of the sample schools and sections of instrumentation used for data collection.

In Chapter Five the question of the impact each school's philosophical underpinnings have on policy and governance is addressed.   Data were collected from school documentation and interviews with governance and management personnel. Philosophical reasons behind the establishment of each school are discussed first, followed by an investigation of the respective mission statements, the structure and role of governance bodies and personnel involved. The educational philosophy of each school is investigated and curriculum goals, student and staff selection, pedagogy and graduate profiles discussed with similarities and differences between the classical schools and the school using the state curriculum model noted.

Chapter Six examines the perceptions of classroom teachers in the schools involved in this study with respect to the issues addressed in Chapter Five as well as probing more deeply into issues related to classroom teaching. There is discussion of academic, physical, social and spiritual attributes desirable in graduates.   Each school's curriculum model and associated issues of pedagogy and assessment are also addressed.   The data discussed in this chapter were derived from a questionnaire and from interviews with classroom teachers.

Chapter Seven discusses the teaching and learning of mathematics in response to the research question "What are the significant features of pedagogy in mathematics classrooms which reflect a school's educational philosophy?" Because one respondent offered considerable comment on the role of history as a major feature of the ACCS curriculum a short subsection deals with that subject.   Data for this chapter were derived from the questionnaire responses and interviews.

Data discussed in Chapter Eight are the results of classroom observations in each school. The implementation of beliefs and perceptions addressed in the previous three chapters

is discussed from observations in both New Zealand schools, in a range of year level classes and over a range of subjects. Evidence was sought of biblical perspectives and features distinctive to the classical curriculum model in subject choice, pedagogy and assessment procedures.

Chapter Nine concludes the thesis with an integration of the research findings, highlighting similarities and differences between the impact each school's philosophical stance has throughout the school. Possible topics for future research are suggested.

Chapter Two: Curriculum Reform

2.1 Introduction

As presented in Chapter One, this study investigates a curriculum model developed in the USA which claims to offer a solution to the concerns addressed in curriculum reforms there and in other western countries. Much of the debate around issues of concern is led by the media, where commentators frequently present their perspectives with the use of sensational language. For instance, Durden (1994, p. 2) wrote that "postmodernist, deconstructed ideology" has replaced absolutism with relativity, giving perception the place of authority over truth, replacing the challenge for excellence with a demand for equality.

Hames' (2002, p. 13) criticism that New Zealand schools are characterised by "…the four i's – illiteracy, innumeracy, ignorance, and ill-discipline…" is echoed by Donnelly's (2004) criticism of the watering down of academic subjects in many Australian schools. Theil (2006) claims that Europe's schools are not keeping pace with the demands of society, leaving their school graduates ill prepared for any kind of training or tertiary endeavours. In Canada it is claimed that four out of ten youngsters are virtually culturally illiterate (Wente, 2006). Although these opinions may well be held by a proportion of each country's population, they must be acknowledged as position pieces rather than the results of valid research.

Concerns have not been limited to perceived academic shortfalls. Issues relating to values and behaviour patterns deemed to be the result of certain philosophical approaches to curriculum have long led to expressions of concern from Christian groups and others for whom traditional values are important. Over 50 years ago changes in society's values

unsettled Sayers (1949) who noted the growth of an attitude of mockery and sneering among people towards others who might have interests or ability in intellectual pursuits greater than their own. Her commentary on life in the UK in the post-war years included the observation that as society attempted to define life in financial and utilitarian terms, the moral fibre of society was being stripped and cast into derision. It had been out of those concerns that she spoke of the classical curriculum model which is the focus of this study as offering a valid way to help redeem education and restore what was seen to have been lost in children's learning. More recently, that classical model has been adopted by ACCS as the way forward.

Before addressing curriculum reform in New Zealand and the USA, the following sections discuss the nature of curriculum, Outcomes Based Education (OBE) and assessment policies as a reflection of curriculum philosophy.

2.2 The nature of curriculum reform

Governmental authorities worldwide are aware of the influence schooling has on the preparation of children for worthwhile participation in their communities (New Zealand Ministry of Education, 2007) and most countries aim to achieve equity of opportunity and availability of sound education for all sectors of society. This is accomplished through the curriculum.

Some see curriculum as the formal written content of what is to be learned, while others see a much broader definition encompassing "the totality of the experiences which the pupil has as a result of the provision made" (Kelly, 1999, cited in Bruniges, 2005, p. 3). Regardless of the definition of 'curriculum', traditional values and political structures have significant influence in their development and operationalisation (Rotberg, 2005), resulting in an alignment

between values widely held by society and those embedded in a curriculum.   The pillars on which any realistic reform is built are curriculum, pedagogy and assessment (Luke, 1999, cited in Bruniges, 2005).

Five key trends in curriculum reform were identifiable when Bruniges and Rotberg were writing, although there have been some changes in New Zealand and Australia since that time.   Rotberg (2005, p. 612) identified the following trends:

1. strengthening educational equity

2. reducing central control of education

3. holding teachers accountable for student performance

4. increasing the flexibility of learning environments

5. increasing access to education

Australia has shown signs of developing educational policy more directed towards centralised control over national curriculum and testing (Harrison, 2004) and during 2009 the New Zealand government published National Standards in mathematics and literacy for implementation in 2010 (New Zealand Ministry of Education, 2009, 2009a).

<u>Major reforms</u> were undertaken in New Zealand during the early 1990s which led to the New Zealand Ministry of Education (1993, p. 9) declaring that the model of education outlined in their documentation "enables school leavers to be more adaptable for employment, better prepared to cope with constant change, and better placed to play a full part in the society in which they live."   More recently the Ministry of Education (2007, p. 4) has declared

> *The New Zealand Curriculum* is a clear statement of what we deem important in education.
> It takes as its starting point a vision of our young people as lifelong learners who are confident
> and creative, connected, and actively involved. It includes a clear set of principles on which
> to base curriculum decision making. It sets out values that are to be encouraged, modelled and
> explored.

It is clear from these statements that preparation for purposeful and productive adult life is at the core of the Ministry's vision for education in New Zealand.

Similar situations no doubt exist in other Western countries, but in line with the focus of this study emphasis will be given to the New Zealand situation with brief mention of reform in the USA. The following sections first discuss OBE and classroom assessment practices which align with that approach, some of which are in sharp contrast with the philosophy behind the curriculum model at the centre of this study.

2.3 Outcomes Based Education

Since the 1980s, curriculum reform in the Western world has centred around a major shift from education focused on knowledge acquisition to outcomes based approaches, which focus more on the child him/herself, and the processes of learning (Spady, 1994). This approach places a new emphasis on the child's potential to achieve in accordance with clearly defined standards, rather than relying on traditional methods of evaluating the learning of content knowledge in a subject. Killen (2005, p. 46) argues that for success in such an approach it is vital to "align the systemic structure and the classroom practice with the theory". This shift from the traditional approach to one focussed on outcomes and processes was a motivating factor in the adoption of the classical curriculum model by ACCS (Wilson, 2003).

The establishment of learning objectives and assessment outcomes was developed much more rigorously by Spady (1994) whose "transformational" approach demanded active involvement of schooling with community groups in order for learning to genuinely reflect the complexities of real life. By contrast, other approaches to OBE are labelled "traditional" if they focus on subject-specific outcomes and "transitional" when they also include some cross-

curricular outcomes. In both New South Wales, Australia and in New Zealand this attention

to the future life role of learners has led to the inclusion of Key Competencies in the

curriculum documents (Killen, 2005; New Zealand Ministry of Education, 2007).

Spady (1994) articulated four basic principles of OBE, namely clarity of focus on outcomes to

be successfully achieved; designing curriculum backwards from the goals set, identifying

necessary steps to achieve such goals; the setting of consistent, high expectations of

performance; and the provision by teachers of expanded learning time to ensure all learners

succeed.

 Curriculum design based on predetermined goals which then drive all planning and

assessment procedures illustrates a shift from the focus on the acquisition of knowledge only

to a combined focus on knowledge, competencies, values and principles as illustrated in *The

New Zealand Curriculum* (2007). This inclusion of values and principles has created

difficulties for some Christian groups such as ACCS, who believe that values education is the

responsibility of the family, not the school (Wilson, 1996). In fact it is largely religious

groups who have struggled with the values of OBE and who have retained more traditional

approaches to curriculum and pedagogy. Chapter Three gives a brief outline of several

groups in the USA who have retained these traditional approaches because of their opposition

to current curriculum reforms.

The charge has been laid that the New Zealand curriculum has been developed without

appropriate rigorous research despite international findings on OBE raising some serious

concerns about its efficacy (Smithers, 1997). Some critics such as Bentley (2007), who is the

principal of a prominent New Zealand school, believe that the focus on process rather than

curriculum content prevents the development of deep conceptual understanding in well

established disciplines. Supporters of OBE would argue that close adherence to the principles of clearly defined outcomes and the setting of high expectations does not preclude deep learning (Spady, 1994).

Whatever the curriculum model involved, governmental ambitions for raising the standards of achievement in schools will inevitably be expressed through both curriculum format and assessment policies designed to ensure accountability. Forlin and Forlin (2002, p. 62) describe the learning outcomes of the OBE approach as "…to inform curriculum planning; and as a framework for assessment" making the focus on formative assessment consistent with OBE principles. By contrast those who have espoused the classical curriculum model have retained a formal, summative approach to assessment in line with the more traditional focus of schooling in that model (Wilson, 1991).

2.4 Assessment policies as a reflection of curriculum philosophy

Changes in governmental educational philosophy in New Zealand have led to a greater emphasis on formative assessment procedures rather than a reliance on summative testing. One criticism of the current education environment highlights a perceived focus on ensuring all children are seen to succeed (Acharya, 2003). This belief that all are capable of achieving at some level is seen to project the message that a student's self esteem is more important that his/her ability to achieve academically, an important perspective for the classical approach (Wilson, 1996).

Accountability to authorities brings challenges in designing assessment systems that simultaneously provide the evidence required while also providing rich, supportive learning experiences. Smith (2005) advises the careful designing of tasks to avoid the promotion of

facile standards of dubious intellectual value. A balance between monitoring learners'

performance while providing useful data for authorities (Matters, 2005) can be achieved in a

variety of ways, through a wide range of different assessment techniques, but Black and

Wiliam (1998) point out that evidence suggests that formative assessment procedures are

extremely valuable for learners.

Assessment approaches current at the end of the twentieth century are depicted as

mechanistic, with the classroom described as a black box into which external inputs are fed in

the hope of worthwhile cognitive outputs emerging. However they, and an increasing number

of educators, are arguing that real learning progress happens only with ongoing, constructive

formative assessment.

> The main plank of our argument is that standards are raised only by changes which are put
>
> into direct effect by teachers and pupils in classrooms. There is a body of firm evidence that
>
> formative assessment is an essential feature of classroom work and that development of it
>
> can raise standards. We know of no other way of raising standards for which such a strong
>
> prima facie case can be made on the basis of evidence of such large learning gains.
>
> (Black & Wiliam, 1998, p. 14)

An emphasis on formative assessment rather than relying heavily on summative examinations

has meant a paradigm shift for both teachers and administrators. For some teachers the

formative model may well mean significant changes in expectations of classroom learning

habits and procedures, leading to a more interactive classroom environment (Griffin & Nix,

1991; Shepard, 2000).

Formative assessment practices have been the main focus of assessment reform but Holmes-

Smith (2005) advises that summative assessment often contains valuable diagnostic

information which must not be overlooked. While not dismissing the work of the British

Assessment Reform Group reported by Black and Wiliam (1998) he strongly advises that well designed summative testing be valued for its potential to enhance classroom teaching and learning. OBE does not negate the use of summative tests or homework, provided they are purposeful and clearly linked to learning goals, ensuring validity (Bruniges, 2005; Faire & Yates, 1994; Griffin & Nix, 1991; Smith, 2005). Bruniges (2005) has proposed a framework for building quality assessment tasks, which highlights fairness, equity, cognitive and affective expectations, validity, authenticity, credibility and accessibility. Both formative and summative tasks can be devised to meet those requirements.

Although formative assessment approaches may appear to be totally centred on the learner, rich learning and authentic assessment also depend heavily on the quality of teaching involved. A teacher's beliefs about learning in general, and about individual children's potential to learn are extremely powerful influences on children's learning (Ahmedova, 2004; Black & Wiliam, 1998; Hattie, 2003, cited in Bruniges, 2005). Hattie (2005) suggests refocusing attention away from collecting summative data to the interpretation of the intricacies of the teaching and learning process as the most effective way to genuinely enhance learning and enrich teaching. He believes that setting clear learning intentions and success criteria helps focus the data to be as much about the teacher as about the learner's progress.

Assessment in New Zealand schools is largely formative although a certain level of balance between formative and summative approaches has been achieved with the National Certificate of Educational Achievement (NCEA) for senior secondary students including both formative and summative elements.

This general discussion on curriculum reform, OBE and school assessment practices will now focus primarily on New Zealand and briefly on the USA as this study is based around a curriculum model begun by ACCS in the USA and investigated in a New Zealand member school. An overview of curriculum reform in New Zealand will highlight the contrast between the state mandated curriculum and the knowledge based model as each is demonstrated in the New Zealand schools in this study. Both schools are committed to providing quality Christian education as they understand it. The classical school is faithful to ACCS philosophy, retaining the classical curriculum model as its expression of Christian education. By contrast, in the non-classical school, changes from a relatively prescriptive national curriculum to one which allows a considerable element of freedom in interpretation means that the state curriculum model is acceptable as a framework around which Christian values and principles are built.

2.5 Curriculum reform in New Zealand

This section will outline curriculum reform specific to New Zealand. Key Competencies and assessment procedures introduced to align with the OBE approach of the national curriculum are discussed along with concepts of knowledge and public reaction to the reforms, since these all have relevance to the curriculum model being investigated.

During the twentieth century, changes in New Zealand society led inevitably to changes in the education system, more specifically to curriculum reviews in the 1940s and 1980s. Each was aimed at meeting society's demands for "more equitable learning and assessment" (New Zealand Ministry of Education, 1993, p. 27). By the early 1990s a major review undertaken by the New Zealand Ministry of Education at the behest of the government resulted in the

publication of *The New Zealand curriculum framework* (1993) and a series of seven individual subject curriculum documents.

School curriculum in New Zealand was fragmentary and piecemeal before this extensive review was undertaken, with a wide range of documents covering an equally wide range of topics and year groups. By the mid 1980s there was general disquiet that traditional approaches to education in New Zealand did not seem to be preparing young people for the changing world in which they were living. A more equitable curriculum was sought which would help Maori and Polynesian students, as well as girls, all of whom were considered to be marginalized by the existing system (Ellis, 1995). Accordingly, curriculum reviews were planned to address these concerns at all levels of schooling in the country.

A considerable increase in centralisation of education took place following a change of government in 1990 when direction and development of the national curriculum came under ministerial control (Harrison, 2004; Peters, 1995). Reforms were designed to ensure "that [the government's] investment in education would produce the learning and achievement needed by New Zealand, and that its funding would not be wasted" (Smith, 1991, p. 35). The policies were aimed at preparing New Zealand's young people to take their place as well educated, skilled and adaptable workers in the world.

New curriculum documents were prepared following the publication of Smith's report. These documents all presented an OBE approach to curriculum, with clearly defined Learning Outcomes and Assessment Objectives. By 1993 the *New Zealand curriculum framework* (NZCF) was published, to be followed by the remaining documents over the course of the next decade. The structure of this framework was an attempt to integrate nine foundational

principles with what were perceived to be the eight essential skills across seven essential learning areas.[1]

The claim of the documentation was that the principles listed below

…affirm and reflect New Zealand's identity. The New Zealand Curriculum:

1. establishes direction for learning and assessment in New Zealand schools

2. fosters achievement and success for all students. At each level, it clearly defines the achievement objectives against which students' progress can be measured

3. provides for flexibility, enabling schools and teachers to design programs which are appropriate to the learning needs of their students

4. ensures that learning progresses coherently throughout schooling

5. encourages students to become independent and life-long learners

6. provides all students with equal educational opportunities

7. recognises the significance of the Treaty of Waitangi

8. reflects the multicultural nature of New Zealand society

9. relates learning to the wider world.

(New Zealand Ministry of Education, 1993, p. 6, 7).

Further discussion of these aspects follows in 2.5.1.

Teaching principles and outcomes with general descriptors of teaching content for the primary, intermediate and secondary school curriculum were spread across eight broadly defined levels, in support of the belief that individual learners develop at differing rates of progress, and in support of the philosophy that all children can succeed given the opportunity to do so. Smith's report (1991, p. 12) had claimed that "New Zealanders are not receiving the education they need" so attention was to be focused especially on raising levels of numeracy and literacy along with particular skills in languages and technology.

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[1] Essential Skills: Communication skills, numeracy skills, Information skills, Problem-solving skills, Self-management and competitive skills, social and co-operation skills, Physical skills, Work social sciences, The Arts, Health and wellbeing (Ministry of Education, 1993, p.17). Essential Learning Areas: Language and languages, Mathematics, Science, Technology, Social sciences, The arts, Health and wellbeing (Ministry of Education, 1993, p.17)

An aspect of the 1991 review document which has not been implemented was the Parents as First Teachers initiative which acknowledged the responsibility and privilege parents have as their children's first teachers (Smith, 1991). This issue of parental responsibility in education, which is a major platform of Christian education, is a vital part of the philosophical stance of the schools in this study. With the reforms of the 1990s a great deal of money was initially invested in this project, but its development appears to have been swallowed up by subsequent developments in early childhood education. A change of government in the mid 1990s brought a change in priorities with a new emphasis on early childhood education and the development of a curriculum *Te whariki* (1996) specific to that sector.

By July 2006 consultation began on drafting a single curriculum document to replace the existing documents. The New Zealand Council for Educational Research (NZCER) had been commissioned to research the concept of school-based curriculum development (Bolstad, 2004) as this approach provides room for the involvement of many community leaders, from a diverse range of fields, as well as family groups and other interested parties to contribute to curriculum construction. This aligns well with Spady's (1994) concept of a transformational approach to OBE. Although in one respect this appears to widen the gap between the classical approach and that of the national curriculum, yet the opportunity for parental and community input is more closely aligned to the ACCS view of parental educational responsibilities.

2.5.1 Essential Skills and Key Competencies

As mentioned in the previous section, recent curriculum development has led to the reconceptualisation of essential skills. It is reasonable to expect that a government curriculum document would define those skills considered essential for the preparation of youngsters for

a productive working life, be it further study, a trade or a profession. When *The New Zealand curriculum* (2007) was published the Key Competencies, defined as Thinking, Using language, symbol and texts, Relating to others, Managing self, and Participating and contributing were presented as "the key to learning in every learning area" (New Zealand Ministry of Education, 2007, pp. 12, 13).

This is a clear shift from a curriculum focus on knowledge acquisition and summative testing to a much more general focus on capabilities seen to be of value and processes of learning. The knowledge base is described as being useful only as a medium in which the competencies can be experienced. "The key competencies are important generic capabilities needed by all young people, and the learning areas provide a structure and suggest contexts in which these competencies can be developed…" (New Zealand Ministry of Education, 2007, p. 7). The implication seems to be that knowledge should only be a tool by which the more important competencies are learned.

In contrast, classical educators argue that a sound education can only be built on a foundation of extensive factual knowledge. Veith & Kern (2001, p. 13) describe the trivium model as a "universal paradigm for learning" which focuses on the acquisition of basic knowledge (grammar), then builds the ability to reason (logic) and the ability to clearly communicate ideas (rhetoric). Education not built on the integration of theory and practice implicit in this framework is believed to defraud learners and leave them ill-equipped for life. An extreme expression of the consequences of educational philosophy which is not well grounded in this way came from Lewis (1971, p. 26) who wrote

> In a sort of ghastly simplicity we remove the organ and demand the function. We make men without chests and expect of them virtue and enterprise. We laugh at honour and are shocked to find traitors in our midst. We castrate and bid the geldings be fruitful.

A movement developing in OECD countries to define key competencies as "…those [capabilities] needed by everyone across a variety of different life contexts to meet important demands and challenges" (Brewerton, 2004, p. 5) is supported by Hattie (2005) who believes that these ideas actually reach more closely towards what students need than any other recent curriculum reform. This perspective is strongly opposed by supporters of classical education (Bluedorn & Bluedorn, 2001; Littlejohn & Evans, 2006; Veith & Kern, 2001; Wilson, 2003).

The New Zealand curriculum (2007) defines the five Key Competencies alongside eight Values and the eight Learning Areas, all underpinned by eight Principles. [2] These could all be seen as a genuine attempt to address non-academic aspects of learning (New Zealand Ministry of Education, 2007). It is doubtful that Christian educators would have any argument with the worth of addressing such values and principles in youngsters, while holding the primary responsibility themselves. Benninga, Berkowitz, Kuehn and Smith (2006) even claim that high quality character education programs have been proven to enhance academic achievement, although their findings were based on special pre-packaged programs not widely available.

Values education is an important emphasis in curriculum building in the acknowledgement that no education is value-free or neutral, an issue which Christian educators have addressed for many years (van Brummelen, 2002). T.S. Eliot (1950, cited in Green, 2002, p. 62) claimed that "education as a subject cannot be discussed in a void… we must derive our theory of education from our philosophy of life." For him the problem is effectively a religious problem. This sentiment is also expressed by Wilson (1991, p. 59) who claims that

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[2] Values: Excellence; Innovation, inquiry and curiosity; Diversity; Equity; Community and participation; Ecological sustainability; Integrity; Respect. Learning Areas: English; The arts; Health and Physical education; Learning languages; Mathematics and statistics; Science; Social sciences; Technology. Principles: High expectations; Treaty of Waitangi; Cultural diversity; Inclusion; Learning to learn; Community engagement; Coherence; Future focus.

"education is a completely religious endeavour" because suppositions about the world, the nature of mankind, and the nature of God are unavoidable.

The New Zealand curriculum (2007) by its very nature offers freedom for the inclusion of a wide range of religious or values-based programs. It is this freedom which has given rise to the non-classical school in this study being at ease expressing Christian education through the national curriculum. Whatever the focus of a curriculum might be, the testing of factual knowledge creates few difficulties, although there may be challenges in the development of appropriate assessment procedures for other emphases. Certainly the testing of knowledge itself creates few difficulties, but other aspects of a classical curriculum require a variety of evaluation techniques.

2.5.2 Development of assessment systems in New Zealand schools

For many years the New Zealand educational authorities have had a broad approach to school assessment, with diagnostic, formative and summative assessments all having a place in the school system. The government policy document *Assessment. Policy to practice* (1994) describes the main purposes of assessment in schools as being to improve teaching and learning programs, and to report progress both ongoing and summative. This aligns well with the advice of Black and Wiliam (1998) discussed in section 2.4.

It was intended that classroom assessment and evaluation be based on the achievement objectives defined in the curriculum documents with schools given the freedom to devise their own systems of recording assessment data. School-based assessments allow for accountability within that school community, but national monitoring is needed for both

national and international comparison. Eppel (1998) reported limited support for externally referenced testing of this nature.

National testing at age ten has been consistently demanded by some political groups in New Zealand who believe that the wise use of national assessment in primary schools should be a major component in improving the educational performance of New Zealand's children (Smithers, 1998). Failure to implement such a policy is seen by Harrison (2004) as a sign of a poor educational system, since it neglects the opportunity to focus reform efforts on identifiable areas of need.

While standardised testing has not been given the status it has in the USA, it has not been abandoned all together. Examples still widely used in New Zealand are the Progressive Achievement tests (PAT) in language skills and mathematics, often used to determine class membership at the beginning of a school year; Assessment Tools for Teaching and Learning (ASΠLE) which is a relatively new electronic resource for numeracy and literacy testing; and the Supplementary Test of Reading (STAR) (Joyce, 2006).

On a national level, the Assessment Resource Bank provides exemplars in English, Mathematics and Science for curriculum levels two to five. The National Educational Monitoring Project (NEMP) tests children's progress at years four and eight in all curriculum areas. From the start of the 2010 school year National Standards have been introduced as a means of determining the achievement of educational goals (New Zealand Ministry of Education, 2009, 2009a).

Behind the development of assessment and evaluation programs is an emphasis on formative assessment as opposed to summative methods. In fact there is a clear directive from the

Ministry of Education (2006, p. 31) that schools "should take care to avoid excessive high-stakes assessment in years 11 to 13. The flexibility of the qualifications system allows schools to keep assessment to levels that are manageable and reasonable for both students and teachers."

The philosophical shift from a curriculum based on acquiring knowledge to one focussed on outcomes saw the introduction of Unit Standards into the secondary school curriculum in the 1990s. This innovation meant considerable fragmentation of each main subject into a large number of standards, each of which was to be assessed separately. Wilson's (1991) concern over the fragmentation of learning he perceived education in the USA was echoed in the New Zealand media by Dalziel (2001, p. A11) who described the Unit Standards system as demonstrating "learning bite philosophy". Not only are teachers disadvantaged in the excessive assessment which is required, but maybe more importantly, students are deprived of any sense of coherence within subjects, or integration across subjects (Elley, Hall & Marsh, 2005; Shamy & Oates, 2005). Aspects which have been challenged include

> validity (the fragmentation of learning encouraged by NCEA), reliability (the variability
> in students' results as a consequence of purist application of standards based assessment
> espoused by NZQA), and manageability (the increase in the amount of assessment needed
> to cover all the standards in a subject)

> (Elley et al., 2005, p. 8)

Critics of this standards based approach such as Lloyd Yero (2001/2002) point out that standards are appropriate for such areas as vocational training courses, where discrete skills can and often must be assessed independently of others. However, such a model of learning is believed to jeopardise valid evaluation of achievement by threatening deep and purposeful learning. Coherence between curriculum, teaching and assessment is not served well by the fragmentary approach of a standards-based system (Faire & Yates, 1994; Smith, 2005).

Despite the expression of these concerns from several quarters, the format of Unit Standards has remained virtually unchanged as reforms have continued. Unit Standards were initially to be applied only to vocational training courses but they were soon adopted for all school subjects. Pressure from teachers and the public led to an apparent slowing down of transition to this approach, but it soon reappeared in the form of the National Certificate of Educational Achievement (NCEA).

NCEA replaced well-established summative norm-referenced public examinations in the senior secondary school. Achievement standards at each level are partly assessed internally and partly tested in a summative examination. Unlike the traditional record of a global percentage or grade, a range of qualitative grades is obtainable; 'not achieved', 'achieved', 'merit' or 'excellence'. Although this qualitative system of achievement reporting is similar to the allocation of grades, its introduction to replace the existing system of percentages is one of several issues leading to claims that the introduction of NCEA has been the object of more public debate and concern than any other educational reform in New Zealand's history (Elley et al., 2005). Hammonds (2002, p. 1) describes NCEA as a "monument to the rationalist thinking of the efficiency movement of the 90s" which is bound to fail eventually under the weight of its excessive assessment and moderation demands.

The reporting system is believed to demotivate both high and low achieving students who choose to opt out of courses perceived to be difficult. Nixon (2006) reported this as especially affecting students from low socio-economic areas, Pasifika and especially Maori students who were reported to have the lowest expectations for their own achievements. Some schools have chosen to offer Cambridge International Examinations or the International Baccalaureate in preference to NCEA, frequently citing a perceived lack of intellectual rigour in NCEA as their justification (Nixon, 2006a).

Strong teaching and learning relationships provide a different focus for assessment from that of the schedules outlined above. This aspect is particularly relevant to this study as the development of teacher/learner relationships is at the core of the non-classical school's interpretation of Christian education. Relationships, in fact, are believed by Hunt (2005) to be the very core of lasting educational reform and achievement. He believes that once students have left school, it is the relationships with individual teachers they remember. Mention has been made earlier of Hattie's (2005) research on the influence teachers have on their pupils' learning.

The implicit challenge to the Ministry of Education is to find ways to reignite enthusiasm in teachers who in turn will ignite a deep joy of learning in their pupils. It is believed that inspirational teachers, rather than crowded curricula, are necessary for genuine depth and breadth of education – doing fewer things well. This sentiment is also expressed by Lloyd Yero (2001/2002) in her critique of the No Child Left Behind (NCLB) program in the USA. Both these commentators support the contention that the most meaningful change in education can only happen when teachers are enthusiastically engaged in their work.

2.5.3 The role of knowledge in shaping curriculum

Regardless of the curriculum model or the assessment regime used, the recent proliferation of information communication technologies (ICT) allows individuals to access vast amounts of information formerly unattainable to the majority of people. Despite the differences in views on the meaning and status of knowledge, few would disagree that the idea of academic achievement in school has changed from the capacity to remember and reproduce volumes of facts to something much closer to the ability to access and use information.

Such changes also raise the question of determining what kinds of knowledge are appropriate for inclusion in a school curriculum. Prior to the reforms of the 1990s, curriculum was largely designed as a way to transmit factual knowledge which was deemed to be worth learning. In contrast to that perspective, Castells (2000, cited in Gilbert, 2003) believes knowledge to be a dynamic, fluid energy rather than a static entity. Gilbert's own (2003) definition of knowledge as innovation rather than the acquiring of existing information expresses a similar concept.

More recent approaches to defining knowledge have emphasized the power of curriculum to shape society (New Zealand Ministry of Education, 1993), which clearly raises questions of social engineering built around concepts of the kind of citizen or community the country is perceived to need. Gilbert's (2005, p. 25) description of a knowledge society as one where knowledge is seen "in economic terms, as the primary source of all future economic growth" supports this perspective. Bolstad (2006) suggests that a combination of both the unchanging and the fluid perspectives would be close to the ideal. Quality education must also include concepts of wisdom, critical thinking and discernment, since the vast abundance of available knowledge leaves open wide choices for curriculum developers, with potentially profound social consequences (Hargreaves, 2002, cited in Bruniges, 2005).

A Christian perspective on scholarship is related more to epistemology and the source of confidence in what is known rather than offering a definition of knowledge. Newbigin (1995, pp. 96, 97) argues "In order to be informed, we have to make acts of trust in the traditions we have inherited and in the evidence of our senses…it is the gospel accepted in faith which enables us to experience reality in a new way and to find that all reality does indeed reflect the glory of God."

While not rejecting confidence in the rational mind, this approach places ultimate confidence in biblical truth. There is a perspective of life which acknowledges that the world was created by God, marred by the sinful rebellion of mankind, but redeemed through the life, death and resurrection of Jesus Christ. From this biblical worldview perspective, knowledge is learning about ways in which God makes Himself known through creation and about developing a biblical understanding of the meaning of humanness. Curriculum subjects can be seen as providing the context for such knowledge (van Dyk, 1981). This issue is addressed in section 3.5.

2.5.4 Public reaction to curriculum reforms

Concern expressed over the implementation of curriculum reforms in New Zealand has been focused on the philosophical perspectives evidenced in the new direction as discussed above in section 2.5.2. Despite any disquiet expressed by educators or the general public after the early reforms, the outcomes based approach has been retained and extended in more recent reforms.

Before the publication of *The New Zealand Curriculum* (2007), a draft was released for public consultation. Although the media reported on its perceived value, emphasizing the new opportunities for curriculum development within schools and communities, educators such as Lee and Hill (2006) challenged several aspects, including what they believed was a reductionist approach. They also expressed concern over what they saw as economic determinism in statements such as the need for students to be "equipped to participate fully in New Zealand society and contribute to the growth of its economy" (New Zealand Ministry of Education, 2006, p. 8). Lee and Hill (2006, p. 19) further challenged the focus on relevance which they claim precludes the opportunity for stimulation and fascination in both teaching

and learning to "the detriment of historical, philosophical, and other broad orientations to education."

Despite these challenges to the philosophy behind reforms in New Zealand, as the following sections will show, the reforms have much in common with those of the USA. Authorities in both countries seek to establish a comprehensive and balanced curriculum with a special focus on attaining standards of excellence in literacy and numeracy (New Zealand Ministry of Education, 1993; US Department of Education, 2004).

2.6 Curriculum reform in the USA

Since the curriculum model under investigation in this study originated in the USA it is also appropriate to include a brief discussion of curriculum reform in that country. Although there are certain similarities between the schooling systems in New Zealand and the USA, there are also fundamental differences. For instance, in the USA there are very few prescriptive requirements regarding curriculum content as compared with New Zealand, and the system of assessment has enormous power over schools, staff and students.

Educational history in the 19th and 20th centuries in the USA is rich with reform movements, all claiming to be the solution to perceived challenges facing both schools in particular and society in general. According to Perkinson (1914, cited in Hunt 2005, p. 84) there seem to be two underlying assumptions behind all school reform: "First, that all social problems are solvable: second, that the schools are the panacea for all social problems."   To some extent Wilson's (1996) assertion that the effects of American society's rejection of Christian principles can be redressed through the development of a classical and Christian approach to education is an application of this claim.

The most recent reform introduced through the NCLB law (2001) has caused concern since its inception, with a number of states apparently failing to meet the mandated requirements. As in New Zealand, media commentators have fuelled the debate. The punitive nature of some aspects of the law has led to a growing fixation with failure at the expense of recognising success and progress. This is believed by Fine (2009) to be having a profoundly negative effect on both teachers and learners.

2.7 Discussion of curriculum reform in the USA and New Zealand

This chapter has discussed curriculum reform in general terms, before turning more specifically to reform in both New Zealand and the USA. Issues of curriculum, pedagogy and assessment related to these reforms will be examined throughout this study. Recent curriculum developments in these two countries, including public reactions to the changes and perceived effects on teaching and learning have been presented as a context for the curriculum model at the centre of this study. Chapter Three begins with mention of five alternative schooling models which have arisen in the USA in protest against curriculum reforms undertaken in recent decades, each of which has several features in common with the classical and Christian curriculum model. Because it is claimed (Wilson, 2003) that this model integrates both classical and Christian perspectives, there will be extended discussion on the classical approach to curriculum as well as Christian perspectives of education. The final section addresses the issue of teaching mathematics in Christian schools.

Chapter Three: Christian Educational Approaches.

3.1 Introduction

As a result of the reforms discussed in Chapter Two, several Christian and secular groups have established alternative curriculum models through which to express their particular perspective of education.   Many Christian groups have sought ways to establish education for their children which remains faithful to the values and principles of their faith. Since the curriculum model at the centre of this study is called "classical *and* Christian" it is worth noting that in the USA certain groups have espoused a classical curriculum model. These include The Paideia School Project; the Charter Schools Program; the Knowledge is Power Program (KIPP); and Parents Raising Educational Standards in Schools (PRESS).

Although each has its own special character, these groups have many distinctive features in common, which include a desire for academic rigour; focus on children from marginalized groups; focus on well established literature; traditional methods of pedagogy; and parental involvement (Hicks, 1999; Veith & Kern, 2001).   Most of these are also features of the ACCS approach which will be presented in the section which follows.

This chapter will first discuss the establishment of ACCS as an illustration of both classical and Christian approaches, along with a brief discussion of the liberal arts and trivium model to illustrate the historical relationship between classical and Christian approaches to education.   This will be followed by a short section on thinking Christianly which leads into a fuller discussion of Christian education models and associated curriculum and pedagogy. There is particular emphasis on teaching mathematics as it appears to be one curriculum area which creates challenges for Christian teachers.

3.2   The Association of Classical and Christian Schools

Although the development of ACCS is relatively recent there is a long history behind both the classical and the Christian perspectives of their philosophical approach. The classical aspects have their roots in ancient Greece while the Christian perspectives have developed over the centuries of the Christian era. Education has been a feature of Christian communities from the earliest stages of the Christian church (Gangel & Benson, 1983).

In that tradition, schooling is seen by ACCS as a part, albeit a crucial part, of a holistic preparation for service in the Kingdom of God (Wilson, 1991, 1996). It is believed that it is possible to build an education system which reflects the holiness of God, a system where Jesus Christ is honoured as Lord and the Bible's authority is central to every aspect of education (Lockerbie, 2005). Teaching and learning built around the command to parents that they should "…bring [children] up in the training and instruction of the Lord" (Ephesians 6:4) is what ACCS believes provides the richest preparation for a life of service to the whole community.

Despite the fact that rational humanism had its roots in ancient Greek culture where philosophers replaced mythology and superstition with rational thought as the foundation of acceptable knowledge, recognition is given to the origins of Christianity being in a culture strongly influenced by Greek thought forms. Wilson (1999, p. 133) writes of the educational value in studying Greek and Roman culture and language:

> *Education cannot be successfully detached from our cultural river and turned into a private pond.* If any such attempt is made, the result will be a *poor* cultural education, not a culturally neutral education. (emphasis in original)

The ACCS understanding of enculturation requires the teaching of Classical Greek and Roman language and culture as a way to ground learners' understanding of their world in the

western cultural heritage. Intensive study of western history and high quality western

literature are seen as vital elements in this intertwining of classical and Christian perspectives.

3.3 The Liberal Arts and the trivium curriculum framework

 For ACCS schools, the curriculum model of choice, which in itself provides an element of

synchronising of the two approaches, is based on the trivium, defined as the first three of the

seven Liberal Arts, namely Grammar, Logic/Dialectic and Rhetoric. Although this approach

is seen largely as a heritage from the Middle Ages, its roots lie in ancient Greece. Gangel and

Benson (1983, p. 96) describe the development of the trivium thus:

> In…Greece the liberal arts curriculum was on two levels. The basic disciplines were grammar,
> gymnastics, and music, and, on occasion, drawing. The advanced level courses were logic, dialectics,
> geometry, rhetoric, arithmetic, astronomy, and musical harmony. These were the usual components of
> the standard curriculum and were widely known as the enkuklios paideia.

> Romans scholars then fashioned their own liberal arts curriculum…they chose nine areas of study
> for the cultured Roman: logic, rhetoric, grammar, arithmetic, geometry, music, astronomy, medicine
> and architecture. During the dispersive era of the Roman Empire, Martianus Capella persuaded the
> educators to eliminate architecture and medicine.

> The remaining seven liberal arts became known as the trivium (grammar, logic, and rhetoric) and the
> quadrivium (arithmetic, geometry, music, and astronomy).

The trivium as originally defined in terms of curriculum structure and content was designed

for the education of adults. As such there was no need to consider a range of appropriate

teaching methods to suit different developmental stages. However, the use of the trivium in

the 21st century as a model of school curriculum has led to the use of the terms grammar,

logic and rhetoric as broad designations of developmental stages and appropriate pedagogies

for the age groups thus defined.

From the beginning of the Christian era education has largely been the domain of the church. For medieval scholars who were striving to balance the claims of faith derived from revelation and knowledge acquired by human reason, the *artes liberales*, including both the trivium and the quadrivium as defined above, were believed to give man both knowledge of the divine and the means to express that knowledge (Moriarty, 1989). The arts were also believed to contribute to the promotion of human values (cultum humanitatis) providing instruction in the understanding of humanity and an appreciation of the beauty of creation (Klibansky, 1961).

However, during the second millennium, the Reformation led to changes in the influence of the church on education, with Calvin and Luther both concerned with establishment of schools for common people. Calvin was conscious of the need for sound education so people could be obedient to the biblical injunction for believers to be able to reasonably justify their faith (Kienel, 1998; Thompson, 2003). Elements of the liberal arts such as dialectic and rhetoric were retained as being of value in this respect.

From that period onwards it was the focus on the value of Greek and Latin language and literature which was emphasised, rather than the liberal arts structure itself. Rothblatt, (1976, p. 41) believes that from the 18th to the 20th century such study offered an valuable integration of most other curriculum areas and that there was enormous value for learners because

> ...the eighteenth century was ... heir to virtually all of the writings of classical
>
> antiquity that had become so central to the culture and thought of western civilisation.

Some current classicists believe that reforms which have led to changes in curriculum content, with classical studies being replaced by a greater emphasis on sciences and technological studies are detrimental to sound education. Hanson and Heath (2001, pp. 82, 83) write of

"…absolutes, standards, memorisation and tradition values…" no longer having a place in the university campus, so students are being deprived of a "… sense of ... history…" through curriculum reform. It is claimed that the ideas and values that shaped and defined the western world have been overtaken by materialism.

> The loss of Greek wisdom even as its material legacy is sweeping the planet is a tragic
>
> development - a story of corruption filled with irony. The Greeks gave us the tools to
>
> improve our material world, but also the courage and insight to monitor and critique that
>
> often scary dynamism; we have embraced the former but ignored the latter. Classics, the
>
> repository of both Greek traditions, opted for the first and ignored the second, and so
>
> became materialistic and careerist but no longer Hellenic.

(Hanson & Heath, 2001, p. xxiv)

The literature of ancient Rome and Greece is believed by classicists to provide both rich comment on and critique of the concepts of freedom, citizenship, constitutional government, separation of church and state, and a range of other ideas valued by western society. An interesting comparison can be drawn between the legacies of other cultures such as Persia or Egypt and those of Greece - namely great temples and pyramids which excluded the common people, as opposed to the gymnasia, theatres, markets and other public gathering places of Greek democracy (Hanson & Heath, 2001).   This general comparison does not deny the existence of great temples such as the Parthenon in Athens.

The trivium as a description of curriculum content is still valid, with certain subjects such as logic and rhetoric unique to the modern classical approach and others such as the history of western civilisation and western literature given a greater emphasis than is the case in other curriculum models. In-depth study of the great literary works of western society is an approach parallel to that found in the Paideia schools (National Paideia Centre, 2002; Wilson, 1991). It is believed that by studying Greek and Latin children can develop an understanding of the cultural foundations of the western world which is valued as honouring the authority

and wisdom of the past (Curtler, 2001). The inclusion of these languages, while not unique to this curriculum model, is not common elsewhere.

Advocates of the classical approach believe that it is the only educational approach which provides true intellectual enrichment and discipline as the basis for living a genuinely free life (Wilson, 2003). Despite its antiquity, modern scholars such as Sister Miriam Joseph (2002) are rediscovering the intrinsic value of the trivium format in providing more than an academic face to learning. It is believed that the study of the seven Liberal Arts goes beyond the intellect into the very spirit of the learner, freeing him/her to engage in a liberating, rational search for truth.

For the classicist, what is seen as a trend to turn education into a narrowly utilitarian marketable commodity is considered a serious menace to true learning in its opposition to the worldview of the liberal arts tradition which pursues truth, goodness and beauty (Hicks, 1999; Littlejohn & Evans, 2006). In this respect classical education can be described more as "not a specific set of subjects but a habit of thought, a frame of mind" (Lears, 2003, p. 24).

Current confidence in the trivium is rooted in the education system described by Plato in *The Republic,* where he defined the education of the young as intellectual, cultural and moral preparation for a life as well-balanced citizens (Halliwell, 1995), a goal very similar to that of ACCS. Such a system of education was aimed at developing the educated mind to be dialectical, dynamic and willing to see contrasts and potential contradictions in every sphere of life (Ulich, 1945). Veith and Kern (2001, p. 13) also see its value in being

> a universal paradigm for learning [which] accounts for the entire range of what education
> is supposed to do: The learner must acquire information, grasp it intellectually, and use
> it purposefully. To master any subject is to learn its language. The trivium integrates the
> theoretical and the practical, tying together facts, arguments, and real-world applications.

In order to implement this goal of preparing children for a life of freedom there are aspects of curriculum structure, and the subsequent choice of pedagogy and curriculum content which characterise the classical curriculum model. As well as defining the trivium with respect to curriculum content, the choice of subjects to some extent predetermines pedagogy, with logic and rhetoric, for example requiring approaches different from those in other subjects.

A much deeper study of the development of educational theory over these centuries is not appropriate in this review, but there is no doubt that as the centuries unfolded, significant changes developed as scholars increasingly replaced faith in a creator God for faith in autonomous human reasoning (Newbigin, 1995). It is largely this dichotomy between scholarship and faith which ACCS seeks to address in its curriculum. While unashamedly using the works of Aristotle and others in translation, they constantly evaluate the worldview expressed by these authors alongside the writings of Scripture (Wilson, 1996).

As mentioned above, use of the terms grammar, logic and rhetoric to define broad developmental stages also implies curriculum and pedagogical issues associated with those groupings. Accordingly, the next two sections address those issues.

3.3.1 Curriculum appropriate to age groups defined in a classical curriculum

A feature of the current classical approach to curriculum is a focus on the learning of considerable content knowledge at all age levels (Hart, 2006; Littlejohn & Evans, 2006; Wilson, 2003). As has already been mentioned, not all schools which adopt a classical curriculum are Christian, but for those which are, Bible study is foundational. When Sayers (1947, p.7) was expounding her belief in the need for education to return to its classical roots, she claimed "theology [is] the mistress-science without which the whole educational structure

will necessarily lack its final synthesis." Bible study is an integral part of the classical and Christian curriculum through all year groups.

A solid basis of content knowledge is believed to be vital in the development of sound, constantly growing learning (Hicks, 1999; Littlejohn & Evans, 2006; Veith & Kern, 2001; Wilson, 2003). In primary classes, although actual material will vary between schools, the general trend is towards the subjects used in traditional schooling of the 20th century. Subjects are identified but integrated where possible.

For example, language is linked with literature and fine arts, mathematics with natural science, and history with geography and cultural studies (Bluedorn & Bluedorn, 2001; Hart, 2006). The study of both Latin and other inflected languages, such as German or Russian is believed to enhance the learner's understanding of the structure of language (Hart, 2006; Wilson 2003). Latin is preferred as much for its structure as for its extensive influence on western languages and culture.

As children progress into the pre-teen and early teenage years, knowledge acquisition continues with an increasing focus on history, literature and formal teaching of the laws of logic. All other school subjects continue to be taught, but with increasing emphasis on depth of understanding and reasoning rather than focussing on the simple transmission of knowledge.

Subjects taught in senior secondary classes will vary, but the emphasis is on preparation for specialisation. Primary among the subjects will be rhetoric itself as the major focus of study for this age group. Most frequently it is taught in ACCS schools through the use of Aristotle's works in translation. The student continues to learn new content but he/she now is

expected to have developed refined thinking skills, and is likely to be pursuing a particular area of interest or expertise. It is believed that by this age students will have sufficient tools of learning to be able to effectively branch into areas of specialisation.

3.3.2 Pedagogy appropriate to age groups defined in a classical curriculum

As mentioned above in section 3.3, the three divisions of the trivium, grammar, logic and rhetoric are not restricted by ACCS to the description of curriculum content.   They are used more loosely as a holistic description of their understanding of the learning needs and capacities of different age groups (ACCS, 2004; 2004b; 2004c; Hart, 2006; Littlejohn & Evans, 2006).

Because classical educators believe that young children <u>in primary age (grammar) classes</u> take pleasure in memorizing, repetition and chanting, there is an equal emphasis in these classes on pedagogy which supports that belief. There is a considerable reliance on individual written work, rote memorisation and the use of text books, particularly in mathematics classes as a means by which repetition and review of learning can be formally structured (Bluedorn & Bluedorn, 2001; Wilson 2003).

Initial learning is in the form of associations, including the stimulus-response learning outlined by behaviourists such as Skinner and Thorndike but with the intention of leading learners towards self-directed creativity (Beechick, 1982; Berk, 2004). Whatever method of memorisation is used by an individual learner, be it association, imagery or rote memorisation, it is believed that motivation to remember is the critical factor in achievement at this stage: "…a heart for learning and the discipline to undergird it are necessary for all learning" (Beechick, 1982, p. 136). Pedagogy for these classes is designed to prepare

children for the development of thinking skills, and the ability to specialise in subjects of choice. It is believed that with a firm foundation of knowledge acquired in these years young minds will become nimble and truly educated.

In the pre-teen (logic) classes it is believed that children begin to develop the ability to think abstractly, with the emergence of accompanying reasoning skills (Beechick, 1982; Wilson, 2003). During the years designated by ACCS as 'logic', roughly equivalent to the intermediate school and junior secondary school years in New Zealand and junior high in the USA, the learner begins to put new knowledge into existing schemata as relationships between previously isolated pockets of knowledge start to develop. Pedagogy is adjusted to focus on the development of an increasing depth of understanding through the use of enquiry and research techniques. To optimize the emerging tendency towards questioning and argument the introduction of formal logic is recommended as a means of developing the skills of formal debate and critical thinking (Wilson 2003).

In the senior secondary (rhetoric) classes changes in pedagogy are associated with learning the art of rhetoric, as it is believed that learners now have the thinking skills and mental discipline for successful specialisation in their area of interest.   Synthesis of knowledge and skills from a range of separate disciplines can now be harnessed as students seek to apply principles, values and goals for life (Bluedorn & Bluedorn, 2001; Hart, 2006; Littlejohn & Evans, 2006). Creativity, which is encouraged by the building of biblical discipline providing the context in which moral, spiritual and emotional development can flourish, is illustrated by originality, fresh perspectives and changes in perception (Wilson 2003).

While it can be claimed that the methods used as described above are those evident in most classrooms of non-classical schools, and indeed in secular schools, ACCS educators would

argue, that in the USA at least, the reality is quite different. A contrast certainly exists between the behaviourist style of primary age classes and the more informal, child-centred approach in junior primary classes in New Zealand.

Since the ACCS curriculum model is both classical and Christian, discussion is now focussed on Christian approaches to education. There is a brief overview of educational endeavours in the early Christian era followed by discussion of a biblical understanding of knowing and different perspectives on the meaning of teaching Christianly. The chapter ends with discussion on teaching mathematics Christianly, as research indicates that many Christian teachers find difficulty making connections between their faith and this subject (Lundberg, 2005; Thompson, 2003).

3.4 The development of education based on biblical presuppositions

The history of classical education and that of education based on biblical presuppositions have been closely inter-connected for many centuries. An in-depth study of Christian education would investigate the legacy of the Hebrew Scriptures, the impact of Greek philosophy on Christian thought, the works of the Church Fathers in the early Christian era and the impact of the Reformation, the Enlightenment and humanism. The brief overview which follows addresses the philosophical underpinnings of Christian thought which have strongly influenced the development of educational endeavours through the centuries.

3.4.1 Educational endeavours in the early Christian era

Despite the fact that Christianity developed in a world that was politically Roman and culturally Hellenistic, the majority of early Christians were in fact Jewish by birth, raised in

Judaism. Although Greek cultural influences were strong, nevertheless Hebrew educational influence was powerful in the early church, but at the same time there was a breaking away from the legalism of Judaism to obedience to Jesus' command to "Go and make disciples of all nations…" (Matthew 28: 19). As Gangel and Benson (1983) point out, the goals of education focussed on providing basic instruction in Christian doctrine to converts of all ages. This was intended to provide the means of evaluating secular culture in order to take advantage of its sound aspects, while rejecting that which was considered unacceptable.

A schooling system for children was not developed because the educational training of children was considered to be the responsibility of families, but a need arose for adult converts to be instructed in doctrine. Hence the catechumenal schools became the first formal educational structure of the early church. Gangel and Benson (1983, p. 90) believe that at this point "intellectual respectability was established" with the development of a wide ranging curriculum taught by skilled and experienced academics.

However, when confronted with the study of logic, rhetoric and philosophy an anti-intellectual attitude developed in some people as a kind of defence mechanism against what they considered inappropriate for Christians to study. This created a serious challenge for many uneducated converts from underprivileged groups in society in discerning between God-honouring intellectual endeavour and absorption of the world's wisdom.

Confusion between the need for childlike faith and childish thinking may well have been responsible for many dismissing intellectual engagement all together. Both Old and New Testaments urge appropriate use of the intellect, recognising the gift of a mind with which to think and the ability to use that mind as an adult, not childishly (Stott, 1999, cited in Lambert, 2004).

> Do not be like the horse or the mule, which have no understanding, but must be controlled
> by bit and bridle.   (Psalm 32:9)

> Brothers stop thinking like children. In regard to evil be infants, but in your thinking be
> adults.   (1 Corinthians 14:20)

The struggle for balance between educational practices considered pagan and those acceptable to the developing church continued unabated for centuries although the church continued to hold the respect for learning and tradition that had been a hallmark of Judaism. During the early centuries of the Christian era several prominent scholars stood in opposition to one another over the place of reason and intellectual endeavour in Christian teaching. Irenaeus (c.140AD – c. 200 AD) disputed any compatibility between the Gospel and human ideas of any age, as did Tertullian (c.160 AD - c. 220 AD).

By contrast, Justin Martyr (c.100 AD -165 AD) espoused an inclusive kind of philosophy which welcomed any system of thought congruent with biblical revelation which he considered to be paramount. Both Origen (c.185AD - 254 AD) and his contemporary Clement (c150 AD - 215 AD) saw value in secular learning, but acknowledged that it could never be substituted for divine truth (Gangel & Benson, 1983). Clement also believed that the biblical, holistic approach to life meant that there was harmony between faith and reason, and that each enriches the other. He saw faith as the crux of education, but that learners must engage their mind in careful and critical thought in order to grow beyond mere learning of facts to wisdom which Clement believed was the goal of education (Anderson, 1993/1994).

St Augustine of Hippo (354 AD – 430 AD) articulated a clear vision of educational theory and practice, teaching that responsible faith included appropriate use of reasoning skills (Reed & Provost, 1993). Augustine believed that the basic skills of literacy and numeracy, along with other intellectual pursuits such as logic and rhetoric and the learning of practical skills,

all fitted around the centrality of studying the Bible. Thus his ideas about the seven liberal arts strongly influenced Christian scholars in later centuries (Thompson, 2003). His belief that truth can not be divided into God's truth and the world's truth has continued to be a foundational value for Christian educators (Gaebelein, 1968; van Brummelen, 2009).

The conflict over the relationship between faith and rational thought continued over the centuries with certain groups wholeheartedly involving themselves in a wide range of intellectual endeavours, and others dissociating themselves completely. Roman Catholic models of scholarship have consistently retained an emphasis on the complementarity of the sacred and secular areas of life, believing that there is no disharmony between faith and reason if each is in appropriate balance (Jacobsen & Jacobsen, 2004).

During the period of the late tenth century to the end of the 12th century Aristotelian logic began to dominate Roman Catholic philosophy (Southon, 1953). Augustine's influence waned in the face of a shift in Catholic academic circles towards Aristotle's educational philosophy (Kienel, 1998). Debates centring on the acceptance of a truth attained by human reasoning as against that derived from divine revelation again rose to the fore.

3.5 Thinking Christianly

The foundation of human thinking is believed by Newbigin (1991, cited in Craig & Gould, 2007) to have moved over the centuries from confidence in God to confidence in the rational mind. The impact of logical positivism has led to a general acceptance that only those claims which can be empirically verified are acceptable as truth (Goheen, 2004; Moreland & Craig, 2003). Christian scholars assert that only by establishing rational thought in God as its source

can a person learn to think biblically and so have true understanding of the objective world (Craig & Gould, 2007).

In Christian circles there is still evidence of some debate over the relationship between rational thinking and faith, which manifests often as the compartmentalisation of academic work and faith issues. For Christian schools such dualism can lead to a misunderstanding of what it means to teach Christianly (Frogley, 2005; Goheen, 2004a), with Bible readings or devotions added as an extra dimension of school life rather than being integrated throughout. Clarity of understanding in this respect comes from the articulation of a well defined worldview perspective which offers a biblically sound explanation of life and reality (Naugle, 2002). One worldview perspective which is helpful as a summary of the full Bible story, and which offers a framework for thinking Christianly is the Creation-Fall-Redemption model as discussed by several Christian educationalists, e.g. Greene (1998), van Brummelen (2009) and Wolters (2005).

Creation defines not only the creating activity of God, but His continuous sustaining of a coherent, interrelated created order. The Bible teaches that God ordained structures and norms for all aspects of life, but mankind's rebellion (*the Fall*) as depicted in Genesis Chapter Three led to these structures developing in directions different from the original plan. *Redemption* was achieved through the life, death and resurrection of Jesus Christ for the restoration of all creation.

From the earliest centuries, for scholars such as St Augustine, epistemology was based on the absolute certainty of God's existence, and the fact that He communicates with creation, so knowledge is founded on faith, not vice versa (McNeill, 2003; Newbigin, 1995). Obedience to the command to love God with the whole being, inclusive of the mind, is not presented as

an option for Christians and certainly not directed only at those "…paid to have a mind –

academics… All Christians are called to be obedient, persistent celebrating disciples with

EVERY faculty they possess" (Ireland, 2004, p. 57, emphasis in original).

Biblical understanding of the world includes knowledge developed through the use of human

reasoning, but declares a way of knowing not solely dependent on the evidence of empirically

proven facts. There is a way of knowing which is built on the love of God who made Himself

known to mankind in the person of Jesus Christ and through His good creation.

Gorman (2001, p. 25) believes "This is a holistic integration of truth into our Spirit-

transformed spirits." It is believed necessary that all knowing, not simply rational thought, be

shaped by relationship with God and His Word. The believer's goal is to recognise that God

is Truth and live in the reality of that truth as it was designed and declared by God (Goheen,

2004), because man within himself is not the one who gives meaning to creation, but rather

unfolds and even shapes meaning as revealed by the Creator (Roper, 1981).

Blamires' (1963, p. 44) definition of thinking Christianly as the ability to "… accept all things

with the mind as related, directly or indirectly to man's eternal destiny as the redeemed and

chosen child of God" relates most clearly to the meaning of humanity made in the image of

God (imago dei).   It also implies relating one's understanding of reality to a worldview

perspective much as that described above.   Biblical thinking and knowing asserts that the

sovereignty of God over all things is foundational:

> Every line of true knowledge must find its completeness as it converges on God, just as every
>
> beam of daylight leads the eye to the sun. If religion is excluded from our study, every process
>
> of thought will be arrested before it reaches its proper goal. The structure of thought must
>
> remain a truncated cone, with its proper apex lacking.
>
> (Dabney, cited in Wilson, 1999, p. 132)

Aspects such as the concept of knowledge converging on God, as expressed by Dabney, are helpful for teachers in relating biblical thinking to their teaching practice. Teaching Christianly is to promote such understanding in children, teaching them in such a way that their studies of creation, in whatever form they take, inspire growing awe, love, praise and service to God (Greene, 1998; Newbigin, 1995). The following section addresses this issue more fully.

3.6 Teaching Christianly

There is no single model of Christian schooling nor a single definable pedagogy which bears the label 'teaching Christianly'. Smith, (2001, cited in van Brummelen, 2009, p. 34) has suggested six ways in which curriculum subjects can be taught Christianly, none of which is exclusive of any other. These are:

- teaching the Bible as content
- modelling biblical qualities
- applying biblical principles
- using the biblical metanarrative
- using biblically based learning methods
- using biblically informed metaphors

Of these six different approaches, modelling biblical qualities relates directly to the person of the teacher, while applying biblical principles can reflect something of the teacher's person as well as the pedagogical approach used. The other four approaches can be seen to refer to both curriculum structure and pedagogical strategies in some way or other. A brief discussion of each approach follows.

The teacher who <u>models biblical qualities</u> is providing evidence of his/her own faith and commitment to the development of a vibrant faith in the students. This is very likely to be an expectation within a Christian school, whether openly expressed or not. When the encouragement of such an approach is strictly mandated, rather than prayerfully encouraged, there is a risk of reducing the richness of the Bible "to a number of personal moral injunctions" (van Brummelen, 2009, p.31). The expectation that Christian teachers <u>apply biblical principles</u> offers similar challenges especially with respect to literal application of principles taken out of context. However, in general terms it is reasonable to expect Christian teachers to demonstrate respect, exercise judgement and mercy, and focus on truth, beauty and goodness in their work. It might well be expected that such approaches be in evidence in every school claiming to be Christian, whether or not the expectations are documented as policy.

<u>Teaching the Bible as content is</u> favoured by ACCS schools and others as providing vitally foundational knowledge for their children. Most Christian schools will have some form of Bible teaching program built into their curriculum. In some instances this might be demonstrated by the use of Bible passages to illustrate an academic issue, or the proof-text approach of using the Bible to justify certain studies.

There is a wide range of <u>teaching methods</u> evidenced throughout the Bible, including direct instruction, narrative, enquiry and discussion to name a few. Greene (1998) and van Brummelen (2009) suggest that there is value for the Christian teacher in using such a range of teaching strategies as much for their inclusion in the scriptures as for their inherent value for the learners.

The concept of metaphors describing or defining the teaching learning process is very powerful as an expression of a school's vision and purpose. A foundational biblical metaphor for Christian schools is that the child is an image-bearer of God, in contrast to other metaphors such as the behaviourist organism to be conditioned or the child's mind being an empty slate which needs to be written on. Despite the ACCS focus on largely behavioural style pedagogy in primary classes, it would contradict their declared philosophy to claim that the behaviourist metaphor drove that pedagogy. Teaching can also be seen for example, as an art or a service, so discernment is needed for Christian school to be clear as to the metaphor behind their choice of curriculum model and driving pedagogical decisions.

There is a certain similarity between the approach of dealing with the Bible as content to be taught and using the biblical metanarrative as a curriculum framework. Curriculum built on such a biblical worldview framework can help children grow in their knowledge of God and their understanding of humanness, thus helping them begin to construct their own faith framework for life. Some theologians and Christian educators describe the Bible story in terms of a drama with certain acts, but the simplest and most comprehensive description is the Creation-Fall-Redemption model discussed in section 3.5. Each school in this study declares that their curriculum is firmly grounded on the Bible, but no clarity is given as to any particular metanarrative framework (see section 5.2 below).

In his research in Australian Christian schools, Thompson (2003, p.130) identified that 58% of respondents believed that their concept of teaching Christianly aligned with the Creation-Fall-Redemption model. Other models identified were defined as "Christ-centred" and "Knowing and Serving God". The reasonably widespread acceptance of the Creation-Fall-Redemption worldview perspective among teachers and scholars along with the clarity it

offers for the rationale behind curriculum and pedagogical decisions, makes it a suitable one on which to construct the following discussion.

Education built on this model seeks to develop in each child a deepening sense of who God is alongside a growing sense of joy in creation and responsibility to learn how to live for the advancement of His kingdom on earth. Goheen (2004a, p. 16) points out that responsible Christian education includes the understanding of the Gospel, this biblical story of redemption, as "restorative, that is it restores the creation".

The restorative role of education is to release people to live in God's *shalom*, a place of delight, justice and fulfilment. "Christian education is education for shalom" (Wolterstorff, 2002, p. 79). Centring educational purposes on the redirecting, restorative and comprehensive nature of the Gospel requires a commitment to understanding the world in order to help transform it. Wuthnow (1993, cited in Jacobsen & Jacobsen, 2004, p. 46) describes this approach as 'living the questions' of life, acknowledging that life is a journey filled with challenges and unanswered, even unanswerable, questions. It has also been described as not simply teaching youngsters to earn a living, but "how to live" (Jones, 2008, cited in Deuink & Carruthers, 2008). Wilson (1999, p. 131) describes biblically based Christian education as a lifestyle, a view of the world, "a framework of assumptions about reality, all of which are in submission to Christ".

3.6.1 School-wide factors which help define teaching Christianly

Before addressing aspects of teaching Christianly as they apply to individual teachers, it is worth noting that there are certain school-wide issues to address.   In considering the establishment of a Christian school, Preston and Norsworthy (2006) advise clear expectations

be laid out for membership of governance boards and their roles, along with carefully framed mission and vision statements.   Challenges arise for Christian schools in developing policy and curriculum which align with declared educational philosophy and in establishing systems which encourage the demonstration of biblical thinking in pedagogical practices.

Choice of curriculum model and content can define a school.   In the case of the ACCS schools, the classical model with its unique subjects and pedagogical approach has been selected as their expression of Christian education (Wilson, 2003). For other schools the inclusion of special Bible study classes allows for the expression of faith, while others such as the integrated schools in New Zealand, adopt the state-mandated curriculum and build their expression of special character through the way that curriculum is delivered.

A biblical approach to curriculum will be built around the creation in its fullness, not offering new and different material from that in other schools, but offering a different hermeneutical approach.   Van Dyk (1981, pp. 103, 107) proposed identifying academic subjects as either "structural" or "directional fields of investigation".   The structural fields are those subjects which describe and define the basic structures of creation, such as mathematics and the natural sciences. The directional fields, for example history, social sciences and the arts, focus on mankind's responses to the structures. This delineation aligns closely with Wolters' (2005, p. 87) use of the terms 'structure' and 'direction' in explaining the Creation-Fall-Redemption framework.

3.6.2 Bible study in a Christian school

In many ways a Christian school curriculum will differ little from that in any other school, except for the inclusion of Bible study, or at least times of prayer and devotion. It is

important to ensure that Bible classes focus on the actual text rather than it becoming a source of discussions of peripheral issues. There is criticism from some scholars such as Goheen (2004a) who challenges the integrity of belief structures in some Christian schools where the underlying philosophy is in fact largely humanistic, with study of the Bible not a central feature of their curriculum, but rather an add-on.

"Within a curriculum, students must be taught that the Bible is about God...that the overarching purpose of the Bible is to reveal Christ..." (Thompson, 2003, p. 15). This perspective minimises the risk of the Bible becoming a useful textbook, or a source of isolated verses to "Christianise" other studies. Such dualistic fragmentation and separation between 'spiritual' areas of school life and 'secular' studies is to be avoided (van Dyk, 1981; Zylstra, 2002). Equally to be avoided is an over-emphasis on Christian values and doctrinal issues to the detriment of appropriate study of academic subjects. Other approaches discussed in 3.6 above which illustrate ways to present curriculum material, specific teaching techniques and classroom relationships will be discussed more fully in section 3.6.3.

3.6.3 Factors which help define teaching Christianly for the individual teacher

The complexities of teaching prevent a simplistic description of discrete and clearly definable techniques for teaching Christianly, but there are at least four identifiable aspects, namely, the teacher's personal faith; relationships within the school community; the delivery of curriculum content; and pedagogy.   Although all four are very closely interwoven and interdependent, the following discussion will address the first two together and the latter two together.

For the individual teacher, teaching Christianly starts with <u>personal faith in God.</u> Whether or not the teacher's position is in a Christian school, evidence of faith will be seen in his/her character and actions as well as in the demonstration of a sound grasp of subject material to inspire learners to develop a biblical understanding of the world as the creation of God. This teacher is to understand his/her vocation as personal service in the Kingdom of God with the responsibility to call students into that same service and understanding (Greene, 1998).

A teacher's modelling of the Christian life will be evident in personal integrity and in a consistent expression of Christian love through <u>relationships</u> with colleagues and students. Given the primacy of God's law of love (Mark 12:30, 31) it could be argued that the establishment of caring relationships is a non-negotiable aspect of teaching Christianly. However, it is to be noted that this approach is in no way exclusive to Christian schools, and indeed is a feature of many secular schools.

A Christian teacher's interactions with both colleagues and students are to be respectful and honouring of each individual as a child of God. While biblical love is expressed through patience, sympathy and support, the Christian teacher is also to expect co-operation and appropriate obedience from children. Every aspect of interaction is to model a Christian lifestyle, mentoring children to make life choices which honour God, while optimising learning opportunities for all students.

Recognition will be given to different learning styles and dispositions with the aim of causing learning and releasing the potential of each learner. Assessments will be fair, encouraging and designed to enhance learning. Overall the teacher will aim to create an emotionally safe environment where God is honoured and learners are free to grow. Once more it is fair to say

that many secular classrooms have similar goals, although they would not have God as their central focus.

Teaching Christianly through relationships of care and trust is also evidenced in the <u>delivery of curriculum content</u> and in each teacher's <u>pedagogy</u>.   When considering the Creation-Fall-Redemption framework and van Dyk's (1981) classification of subjects, teachers will present curriculum material in ways which present a biblical key to the meaning of reality. The focus of presentation will be towards developing an understanding of God's original intent for creation, understanding of how mankind has used these areas, and what the Bible teaches of God's restorative purposes.   Wolterstorff (2002) believes that the faithful Christian teacher does not aim to add to or correct secular perspectives, but rather to offer alternative, biblical perspectives in each subject area.

For instance a Biblical approach to mathematics rejects the assertion that it is a human endeavour as some claim (New Zealand Ministry of Education, 1992), but does aim to promote an understanding of a responsible use of mathematical knowledge in all areas of life. In examining the physical, chemical and biological aspects of creation through the study of the natural sciences, children can be taught that truth is much more than empirically proven facts obtained by the scientific method. Both these 'structural' areas of study can focus on developing appropriate knowledge and skill which provide the means by which children can truthfully and realistically investigate issues relevant to their lives (Greene, 1998; van Brummelen, 2009).

With the 'directional' areas of study the focus will shift towards the distortion of God's structures and the way in which the Gospel restores and redeems (Goheen, 2004a).   An appreciation of beauty and goodness accompanied by a truthful investigation of the less

pleasant aspects of human history will feature in the teaching of these subjects. Both Greene (1998) and Van Brummelen (2009) suggest that the integration of subjects into broad themes helps by providing opportunities, for example, to rejoice in the beauty of the visual and dramatic arts, to discuss justice and responsibility in a project on the environment, or to promote ethical approaches to economics.

Whether curriculum content is taught in this way or as discrete units of investigation, the teaching and learning of academic content will still be a significant feature of lessons. Gaebelein (1968, p. 22, 23) offers the following explanation of teaching academic subjects Christianly:

> …we do indeed give primacy to that spiritual truth revealed in the Bible and incarnate in Christ. That does not mean, however, that those aspects of truth discoverable by man in the realm of mathematics, chemistry, or geography, are any whit less God's truth than the truth as it is in Christ. The difference is clearly a question of subject matter… Whereupon we must conclude that Christian education has a holy obligation to stand for and honour truth wherever it is found.

Teaching academic subjects biblically involves the recognition that all subjects derive ultimately from the created world, so are laden with meaning "because they are all part of God's way of giving Himself to us, of making Himself known to us" (Greene, 1998, p. 45). Thus children can be led to know God through an understanding of His creation. Teaching Christianly involves having a lively personal relationship with God as well as an excellent grasp of subject material in order to inspire learners, and help them develop a biblical understanding of the world.   It means developing each child's God-given gifts for the benefit of God's Kingdom (Greene, 1998; Vanderhoek, 2006). Thus the aim of curriculum is to help children grow a sound mastery of human knowledge within a worldview perspective such as the Creation-Fall-Redemption framework.

This study seeks to investigate the impact each school's philosophical underpinnings have on structures and systems throughout the school. Since each school's mission is to offer Christian education, it is expected that the schools' structures and systems will provide evidence of teaching Christianly, as discussed above. One curriculum subject that has been shown to be problematic in this respect is mathematics. The next section therefore discusses the teaching of mathematics in ACCS schools and differences in approach between that used at ACCs and other schools. A discussion of teaching mathematics Christianly is included.

3.7 Teaching mathematics in ACCS schools

Mathematics is one area of scholarship where research indicates that many Christians struggle to find connections (Lundberg, 2005) and many Christian teachers have difficulty understanding how it can be taught Christianly (Thompson, 2003). Acceptance of van Dyk's (1981) suggestion of mathematics as a structural area of investigation as discussed in section 3.6.1 can be helpful.

This section begins with a discussion of approaches to the teaching and learning of mathematics in primary classes of ACCS schools as several aspects of that approach are somewhat different from that in other Christian schools as well as being significantly different from government numeracy initiatives in New Zealand. This will be followed by a discussion on the value of algorithms in developing mathematical understanding, and a brief discussion of mathematics teaching in the other age groups of the school. There will also be discussion on biblical approaches to mathematics and developments in mathematics learning in New Zealand. All these aspects provide a context for the research undertaken.

3.7.1 Teaching mathematics in primary classes in ACCS schools

Mathematics teaching and learning in the classical curriculum has been described by Nance (1996, p. 71) as teaching "the grammar of math first: the facts gained inductively through observations of nature." This reference to observations of nature can be seen to equate to discussion in sections 3.5 and 3.6 referring all learning to creation.

Pedagogy employed in teaching 'the grammar of math' centres on rote learning, drills and repetition. It is this approach which has led critics such as Hill (1994) and Nickel (2004) to express concerns that there is a real risk of learners focussing on skill and knowledge acquisition to the detriment of developing the ability to think mathematically. Interestingly this approach seems to be in contradiction to advice presented in the ACCS foundational teaching text. John Milton Gregory's *The Seven Laws of Teaching* (2004, p. 16) originally written in 1886 and published unabridged in 2004, exhorts teachers "…not to be content with a dry daily drill, which keeps his pupils at work as in a treadmill". Yet in mathematics lessons in primary classes at ACCS schools the repetition and review approach is reinforced by the use of Saxon Math textbooks.

The structure of these mathematics texts focuses on introducing minimal new material each day, with maximum time spent on review (Hill, 1994). Saxon Publishers (2002, p. 1) claim that " *Saxon Math's* unique approach to math instruction ensures that students not only gain but also retain essential math skill."

By contrast, Nickel (2004) believes that constant revision does little more than provide a technique to find the answer to mathematics problems without the need to develop any depth of understanding. Concern over the incremental approach of minimal new material and maximum review is described as "…mechanical, automated, pragmatic learning…which fits the mechanised world view of modern science" (Nickel, 2004, p. 3).

Although this approach has proved helpful to some extent in the development of basic skills for most children, it also inhibits "the learner's intuitive construction of ideas and examination of misconceptions" (Neyland, 1995, p. 36). Without necessarily dismissing the need for practice or memorisation all together, many mathematics educators believe the focus must be on conceptual understanding to ensure that any revision or practice is purposeful and constructive. "Understanding is rock. Memory is sand. Build on rock" (Burger & Starbird, 2000, p. 462).

3.7.2 The place of algorithms in developing mathematical understanding.

Debate continues over the value of mathematics pedagogy which focuses on basic knowledge and skills acquisition. Akin (2001) contends that any hope of developing real depth of facility or even joy in the art of a subject is vitally dependent on the establishment of a deeply embedded foundation, possible only as a result of constant practice and memorisation. Although he acknowledges the challenges of deep thinking, he also supports the attitude that algorithms and routines are vital resources which children must be able to access almost automatically.

The sheer efficiency of algorithms is an aspect some mathematicians believe should not to be overlooked, because when algorithms are coupled with understanding they acquire enormous

power releasing learners to draw on cognitive resources necessary for deeper thinking (Akin, 2001; Raimi, 2002; Wu, 1999). There is a development in the learning of mathematics from the fundamental skills to more sophisticated ones which is only possible if those basics have been deeply imbedded in a student's thinking. Yet, deep thinking and problem solving skills must not be neglected by aiming only at the refined development of basic skills (Kulm, 1991).

The perceived dichotomy between skill acquisition and understanding of concepts is summarised by Wu (1999, p. 1).

> This bogus dichotomy would seem to arise from a common misconception of mathematics…
> that the demand for precision and fluency in the execution of basic skills in school mathematics
> runs counter to the acquisition of conceptual understanding. The truth is that in mathematics,
> skills and understanding are completely intertwined. In most cases, the precision and fluency
> in the execution of the skills are the requisite vehicles to convey the conceptual understanding.
> There is not "conceptual understanding" and "problem-solving skill" on one hand and "basic
> skills" on the other. Nor can one acquire the former without the latter.

Among those who disagree with this belief is Holton (2002, p. 23) who declared categorically that the philosophical underpinnings of the New Zealand mathematics curriculum are in clear opposition to such an approach:

> Right at the start we need to say that we do not see mathematics as a set of algorithms that
> have to be learned by heart nor teaching as a process of transmitting knowledge.

It is perceived that the formality of an algorithmic approach prevents children from enjoying mathematics or learning genuine life skills, so the emphasis must be on processes and problem solving.

3.7.3 Teaching mathematics beyond primary age classes in ACCS schools

The belief that a solid foundation of basic mathematical knowledge and skills is essential for the development of sophisticated mathematical thinking as proposed by Akin (2001), Raimi (2002) and Wu (1999) is echoed by Nance (1996, p. 71) who advises that after teaching 'the grammar of math':

> Then teach the logic of math: the ordered relationships of facts to each other, the abstract
> principles and their applications. Students should be given the opportunity to discuss and
> debate mathematical concepts… Finish with the rhetoric of math. Let the students
> themselves relate mathematical principles to other areas and to the "real world".
>
> (quotation marks as in original)

Differences in pedagogical approaches throughout the trivium discussed in section 3.3.2 above are evident in mathematics classes. In line with Nance's (1996) descriptor above, it is recommended that teachers of mathematics use a problem solving approach in the older classes, with thought-provoking questions in order to challenge students to discover truth through their research and writing. Again there is an element of alignment in this directive with the suggestion in section 3.6.3 that children be led to responsible employment of mathematical knowledge.

High school classes in American ACCS schools use texts produced by the University of Chicago School Mathematics Project (Usiskin, 2005), which have eliminated unnecessary repetition and review in favour of real life application, problem solving, and the use of technology (Nance, 1996). Although textbooks still play a large role in lessons, those chosen provide a 'real world' problem solving focus. Instead of contrived word problems they use real data, emphasising process as well as content in the hope of encouraging both teachers and learners to think mathematically. That approach is much more aligned to that of Hill (1994) and Nickel (2004) who challenged the lack of such direction with regard to the junior mathematics classes in ACCS schools.

Christian educators other than those involved with ACCS schools also affirm the need to establish context for the development of deep learning. Van Brummelen (2002) believes that it is through hands-on experiences relevant to everyday situations that children first learn about God's created order. He also describes the development of a sound understanding of space and number and their interrelatedness as an important goal of learning mathematics. The implication with regard to a program of learning that does not leave room for such an approach is that it somehow defrauds the learner.

3.7.4 Teaching mathematics Christianly

In a study of eight Christian schools in Australia where Thompson (2003) sought to identify the influence of various books of the Bible on teachers' pedagogy and curriculum understanding, he found that the respondents all claimed mathematics to be the most troublesome to teach Christianly. Despite clearly articulated rationales and evidence of biblically based curricular intentions he found that such documentation did not in itself make the teaching of mathematics biblical. Many teachers expressed their difficulties in finding ways to get beyond the attributes of God such as order and pattern, to the application of those attributes to curriculum specifics.

Regardless of whether these teachers held to the Creation-Fall-Redemption worldview framework or some other model, none was reported as able to clearly or comfortably articulate a biblical approach to teaching mathematics. At times the proof-text approach of looking for verses or Bible stories to illustrate a mathematical concept was seen as adequate. Graham (2003) advised that this approach be avoided, suggesting the Bible rather be seen to provide a framework for academic studies. Ideally, teaching mathematics will lead learners to

a deep understanding of God and His creation, in line with van Dyk's (1981) description of the subject as a structural field.

Despite the challenges to mathematics pedagogy as discussed above, ACCS educators believe that the study of mathematics is "… a recognition of the invisible attributes of God which He reveals in and through creation, for His own glory and for the purpose of fulfilling His mandate of dominion and worldwide evangelism and discipleship" (Nance, 1996, p. 70). Poythress (cited in Nance, 1996, p. 65) believes seeing mathematics from a biblical perspective is an issue of foundations, exploring the very nature of God's rule over the earth, and thus exploring the nature of God Himself: "…only on the basis of obediently hearing the Word of God can we find a proper foundation for mathematics. It is God who sustains mathematics not *vice versa*" (original emphasis).

Both these perspectives to some extent reflect the beliefs of Greene (1998) and Wolters (2005) discussed in section 3.6, that academic subjects reveal something of God Himself. The understanding offered by Poythress (cited in Nance, 1996) is closer to van Dyk's (1981) understanding of mathematics as a more fundamental structural field of study. It is expected that some indication of biblical understandings of mathematics as well as in all other subjects will be evident in the schools involved in this study. A brief discussion of mathematics education in New Zealand is relevant at this point, since this study was undertaken in two New Zealand Christian schools, one of which is a member school of ACCS. Furthermore, recent development in government numeracy initiatives have led to pedagogical approaches in considerably different from those used in ACCS schools.

3.8 Developments in mathematics teaching and learning in New Zealand

The following overview of mathematics education in New Zealand schools is aimed at establishing a context for comparison between ACCS approaches to teaching the subject and those of schools using the New Zealand national curriculum.

Originally the education system was little more than a copy of England's traditional approach to curriculum, and transmission-style teaching methods prevailed until the middle of the 20th century. Concern over issues such as the provision of 'full maths' programs for some children and vocationally oriented programs for others, gender and equity issues and serious concern over the growing number of young people showing genuine dislike for the subject (Ellis, 1995), eventually led to the recognition that major reform was required.

Reforms proposed by the New Math program from the USA in the mid 20th century were accepted by leading mathematics educators in New Zealand. Over succeeding years various groups and individuals through the country focussed their attention on different approaches such as mastery learning, regional mathematics programs, problem solving, co-operative learning, 'back to basics' and mathematics as inquiry, much as was happening in other countries (Fitzgerald & Bouck, 1993).

A constructivist approach to mathematics was presented in the first full mathematics curriculum document *Mathematics in the New Zealand curriculum* (1992) which declared mathematics to be "a human endeavour" (New Zealand Ministry of Education, 1992, p. 7). The value of this approach was declared to be the provision of a way for learners to "… develop the ability to think mathematically" rather than rely on memory recall alone (New Zealand Ministry of Education, 1992, p. 11).

Because of continuing concerns over both the level of mathematics achievement in New Zealand schools and the standard of some teachers' personal content knowledge (Higgins, Parsons & Hyland, 2003), a nation-wide pilot numeracy project was launched in 2000 based on the Count Me in Too project from New South Wales, Australia. The Numeracy Development Projects (NDP) were launched nation-wide, beginning with the Early Numeracy Project (ENP) (Thomas & Ward, 2002). Since then the project has developed through the Advanced Numeracy Project (ANP) for Years Four to Six (Higgins, 2002), to the Numeracy Exploratory Study (NES) for Years Seven to Ten (Irwin & Niederer, 2002) and the Secondary Numeracy Project (SNP) introduced in 2005 (Holton, 2008).

The foundation of this project is a framework of global stages of numeracy development describing the knowledge children need and the mental strategies necessary to solve problems, with the two aspects of knowledge and strategy seen to be interdependent. Progress is measured through a series of diagnostic interviews during which the learners are given problems to solve then asked to explain their reasoning orally (Young-Loveridge, 2008).

The content and format of the project as well as the resources and teacher support provided have all had measurable benefits for both teachers and learners at all levels (Higgins, 2002; Irwin & Niederer, 2002; Thomas & Ward, 2002). Further reviews undertaken soon after the introduction of the SNP were equally encouraging (Harvey & Higgins, 2006). However, despite the evidence of success there is still some concern that progress is not as great as was expected. Furthermore the achievement gap between New Zealand European children and their Maori and Pacific Island peers is still at an unacceptable level (Tagg & Thomas, 2008).

The philosophy driving the NDP is very different from that directing mathematics teaching and learning in a classical curriculum model. In primary classes the classical approach which emphasises rote memorisation, individual bookwork and formal assessments contrasts considerably with the NDP approach of investigation, oral work and mental strategy development. Assessment in NDP involves children explaining strategies used to resolve a given problem rather than completing formal written knowledge tests as in ACCS classes.

In older classes the contrast is less clearly defined, but the classical approach maintains an emphasis on individual written work from textbooks and formal assessment procedures. There are no prescribed textbooks for the NDP, although New Zealand publishers have produced some textbooks aligned with the NDP stages.

These developments in mathematics education in New Zealand schools offer a clear contrast with ACCS approaches to pedagogy in primary school classes and in the extensive use of mathematics textbooks in all age groups. This research project will discuss the implications of those differences while investigating teachers' understanding of teaching mathematics Christianly.

3.9 Summary of literature reviewed

The literature review in Chapters Two and Three has focussed on curriculum reform in the New Zealand, and to a lesser extent in the USA, since the curriculum model being investigated was developed as a protest against what was perceived to be serious shortcomings in state schooling in the USA. Throughout the 20th century and into the early years of the 21st century a range of educational philosophies have emerged, each offering what is believed to be the solution to concerns expressed about educational standards. Yet,

despite the potential of these approaches and the promises they carried, there remains deep concern among some groups that youngsters are still not receiving the level of education they need and deserve.

This review has examined the philosophy behind Outcomes Based Education, its pedagogy and assessment procedures in the light of differences between OBE and the classical and Christian curriculum model investigated in this study. One group of those who oppose current curriculum models, the Association of Classical and Christian Schools has adopted a curriculum model based around the trivium, which is seen as a framework for curriculum subject choices and related pedagogy. The nature of this model has raised many issues leading to an overview of both Christian and classical education.

Christian scholars' understanding of human thinking was discussed, particularly as it relates to teaching and learning. There followed considerable discussion around the meaning of teaching Christianly for the school community, the individual teacher and for the presentation of curriculum. Teaching and learning mathematics is a specific focus because of the difficulties some teachers have connecting their faith with the subject, and classical pedagogy in junior classrooms highlights the issues surrounding a meaning for teaching the curriculum Christianly. The following chapter outlines the methodologies used to address these issues.

Chapter 4. Research Design and Methodology

4.1 Introduction

The major focus of this study is on the impact a school's educational philosophy has on policy, procedures, perceptions and classroom practice.   The particular focus is on the classical and Christian system of education founded in the USA with the context a New Zealand classical school. Another New Zealand Christian school which has chosen to express its understanding of Christian education by using the state mandated curriculum is included to investigate the issues in a different setting.

Rather than undertaking a broad sweep survey of over 200 different schools associated with ACCS, a snap-shot approach was decided on, allowing deep analysis of the impact a school's philosophy has on its implementation throughout the learning community.

There are similarities between the three schools in this study besides their Christian foundations, namely that each has classes for children from five to 18 years of age and all three are co-educational. The two classical schools which are closely related to the Reformed denomination have approximately the same number of students. The non-classical school has no denominational allegiance and its student and staff numbers are considerably greater than those in the classical schools. The considerable difference in size between the non-classical school and the two classical schools must be acknowledged when weighing data relating to the respective schools.

4.2 Sample schools

For privacy reasons fictitious names have been used for the three schools in this study: the Classical and Christian school in the USA – Koinonia Christian School (KCS); the New Zealand Classical and Christian school - Ekklesia Christian School (ECS); the New Zealand Christian school using the state curriculum model - Agape Christian School (ACS). Table 4.1 below illustrates the relative populations of the three schools.

Table 4.1 Comparison of populations in the sample schools

Name of School	No of board members	No of senior management staff	No of full time teaching staff	No of part time teaching staff	No of students
ECS	5	1	5	2	approx 200
ACS	12	5	49	16	approx 1100
KCS	8	2	19	7	approx 240

<u>Koinonia Christian School (KCS)</u> based in a small city in rural North West USA is a foundation school for the Association of Classical and Christian Schools (ACCS). It was founded in the 1980s by a small group of concerned parents who were members of the Reformed church community in that city concerned about what they believed was the trivialising of educational standards. Wilson (1991, pp. 14, 91) cites a 1983 report from the National Commission on Excellence in Education saying that at that time "one out of every seven 17-year-olds in the United States is functionally illiterate." He describes the power of the fast-food mentality in youngsters as giving them "a mind full of McThoughts".

Wilson and others in his community became convinced that the classical approach was the only way to construct a curriculum which would redress the deficiencies they identified and offer their children a rich education. Added to this is the firm belief that Reformed theology provides the soundest basis on which to educate the young.

> The classical school movement emphasizes the integration of all subject matter with the Scriptures at the centre…Because classical Christian schools insist on educating with a full-orbed biblical worldview, and because the Reformed emphasise the same thing (for theological reasons), cooperation between the two becomes essential.
>
> (Wilson, 1999, p. 73)

KCS is governed by a small Board of Directors, with a teaching principal in each of the primary and secondary departments, and twenty six other staff. In the primary department there are six full time and six part time teachers, while in the secondary all but the principal are full time in the classroom. Observations in the American school were not possible, but verbal consent was given in 2004 for the completion of the questionnaire when it became available.

Accordingly in September 2007, contact was renewed with the management of KCS to request that teaching staff be invited to fulfil that commitment. Consent forms were sent electronically. However, despite the principal's approval in general, there was no response from any staff member at this school. Data relating to KCS has been collected from documentation collected during the researcher's 2004 visit to the school and from publications by educators associated with ACCS and is largely limited to issues around policy and governance. As a result it has been possible to develop only a brief snapshot of the ACCS story where a much fuller picture could have been compiled with data from the USA as well as New Zealand.

The New Zealand classical and Christian school, Ekklesia Christian School (ECS) is situated in a working class area of a large New Zealand city. ECS is a private school administered by the Reformed community in that city, under the title of their Association (Christian Schools Association ** District – CSA**D). Although members of two congregations are involved,

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the numbers still represent a very small proportion of the city's population. Pupils are largely from member families of this denomination, or at least from those who are sympathetic towards its doctrines. "Our schools are open to students from families where at least one parent is a confessing Bible-believing Christian" (CSA**D, 2008, p. 7).

The school's website declares the philosophy to be covenantal support in assisting parents to fulfil their own responsibilities towards the upbringing of their children as directed in the Bible. The school promises to

> … support Christian parents in fulfilling the obligations of Ephesians 6:4. An essential
> aspect is that the parents themselves are active and regular worshippers in a fellowship where there
> is spiritual oversight of the family by the leadership of the fellowship.

(CSA**D, 2008, p. 4)

The cited verse, Ephesians 6:4, states "Fathers…bring up [your children] in the training and instruction of the Lord." Through this covenant arrangement the ECS community declares its intent to offer schooling which provides a classical and biblical world and life view.

Until mid-2008 there were two separate schools, one housing the primary department of two classrooms for the New Entrant to Year Six classes, the other housing the Years Seven to 13 classes. In effect the two worked as one, although physically situated in different suburbs. The somewhat exclusive nature of the church communities has led to little if any growth in recent years, which has in turn led to the merging of the two schools on to one site. Its current population consists of six full time staff and a student population of approximately 200.

By contrast, Agape Christian School (ACS), the school using the state mandated curriculum, is situated in a prosperous seaside district, on the outer northern edge of a different large New Zealand city. Based on the vision of a prominent Christian artist, the school was established in 1986 by a small team of people dedicated to the establishment of a Christian school in the

district. Their vision is stated clearly in the school's mission statement "to be a Christian community of learning that nurtures young people towards their full potential as servant leaders in the kingdom of God" (ACS, 2007, p. 1). This is reinforced by their school motto "Servant Leaders", expressing the belief that such people are of godly character, and willingly live out their beliefs.

ACS is a private school integrated into the state system and administered by an independent Board of Proprietors representing a wide range of denominational interests. The integration system which was introduced in New Zealand during the 1970s, allows private schools to receive some state funding while retaining their special character. As an integrated school, ACS retains ownership of all property and facilities, maintains its special character, but because state funding is provided for salaries and operations the school is obliged to comply with government requirements as regards the delivery of curriculum.

The intent of ACS is to offer Christian education to children of families who want an inter-denominational approach in preference to a specific doctrinal stance. The school site is very large, housing classes from New Entrants (five years old) through to Year 13 (17 and/or 18 years old). There has been continuous growth in pupil numbers and many smaller Christian schools have allied themselves with ACS for professional and political support.

4.3 Justification of design

Collecting data over a brief period of time was justified as the philosophical underpinnings of the schools in this study are deeply embedded in their respective communities, precluding the possibility of any significant change over time. Two methodologies seemed potentially appropriate for this study, the survey and the case study, each of which has value in seeking

to determine attitudes or evaluate perceptions (Wellington, 2000) but large scale descriptive surveys frequently involve the collection of largely quantitative data from questions which can be superficial in nature (Lodico, Spaulding & Voegtle, 2006). This study was designed to probe deeply into a single school system, so without any intention to generalize from the findings (Wellington, 2000) a survey was not considered suitable.

Examination of one classical and Christian school in New Zealand would imply that a case study approach be adopted as a means of investigating the complex interactions of human relationships and systems (Cohen, Manion & Morrison, 2000) as well as an in-depth analysis of the influence of the belief structure in educational practices within the school. A single school case study could have been considered had the project been aimed solely at investigating the school community for its own sake. Because case studies focus on small groups (Lodico et al., 2006) the advantages are obvious, but since they also are generally centred on a single subject or setting (Bogdan & Biklen, 1998), any comparison with another setting becomes a challenge (Stake, 1995). The three schools in the sample have several features in common, for instance their desire to offer Christian education, and their student demographics. Despite other features of difference, these similarities align with a parallel-sample design defined by Wiersma & Jurs (2009), allowing for continuous weighing up of data throughout the study.

Since educational research involves complex human interactions necessitating multiple approaches (Bridges, 2007), a mixed mode of both quantitative and qualitative approaches is appropriate for the investigation of perceptions and evidence of the impact of each school's philosophy on daily teaching and learning procedures. The on-site nature of case studies allows the researcher to observe activities and interactions, enriching interpretation of findings and if necessary revising meanings (Burns, 2000; Stake, 1995). This allows for a

deeper insight into the aims and objectives of the institution(s) being studied (Pring, 2000). As Suter (2006) points out, a case study is more concerned with telling a story than generalizing any findings, so its more narrative nature implies the collection of largely qualitative data. Such data is normally collected over a sustained period of time as patterns and trends are sought (Cresswell, 2003), but it was considered that for this study on-site visits would be relatively restricted allowing for interviews and a range of classroom observations which would recognise the complexities of school life while minimising intrusion (Brause, 1991).

In summary, this study is a mixed methodology with both quantitative and qualitative approaches employing a parallel-sample design.

4.4 Sources of data

Since the objective of this study was to investigate policy, teacher perceptions and classroom practice, no single method of data collection was exclusively appropriate, but data collection instruments could be described with respect to their "fitness for purpose" (Cohen et al., 2000, p. 146). School documentation was read, a questionnaire prepared for teaching and management staff, interviews arranged with a selection of staff and a range of classroom observations undertaken. This was considered appropriate for the development of a reasonably broad overview of the situation being studied, giving an element of representativeness (Wellington, 2000).

Conducting the different methods within a short time-frame provides an element of the constant comparative method (Bogdan & Biklen, 1998). The variety of data collection methods were all aimed at eliciting evidence of the impact of each school's philosophical

underpinnings throughout the school, at different times, with different age groups, and with different teachers. To that extent there was constancy and some elements of triangulation present.

There is also a certain integration of findings which might be more difficult in a longer study (Cresswell, 2003). Non-participant classroom observations were of the kind described by Cohen et al. (2000) as the most appropriate for this type of study, with the observer completely detached from classroom activity. The multiple levels of data collected formed a strong degree of triangulation limiting any risk of bias in the observations and during interviews.

4.4.1 School documentation

The relative stability and objectivity of documents such as a school's prospectus as compared with more subjective data from interviews, questionnaire responses and observations grounds the research in the context of the investigation (Merriam, 1998). A school's prospectus offers a clear statement of vision and mission along with educational and social goals for students. Accordingly an investigation of the prospectus for each school in this study was undertaken as an initial source of information to provide clear statements of philosophy and policy. The accessibility of such material can be considered the closest in time and place to the phenomenon being studied (Merriam, 1998).

Although in contrast to the opinions of Cohen et al. (2000) and Merriam (1998) that this material can be considered a primary source of data, Wellington (2000, p. 108) defines documentation as a "secondary data source". However in this study the declared statements

of faith, vision, mission and goals were considered to be valuable scaffolding on which to build and against which to compare more subjective data (Cohen et al., 2000).

No prospectus was available from the USA classical school, but the *Summer Teacher Training Manual* (ACCS, 2004c) did provide some useful data. The two New Zealand schools each publish a prospectus, the classical school electronically and hard copy, but the non-classical school has only published electronically. These documents were investigated to elicit a clear picture of the historical and philosophical reasons for the schools' establishment along with curricular, social and spiritual goals for each institution. Evidence was sought for the influence of each school's belief system on governance structures, the appointment of senior management and teaching staff, curriculum choices, pedagogy and assessment practices.

4.4.2 Questionnaire

Certain challenges exist in the preparation and administration of a questionnaire (Cohen et al., 2000) but it was considered potentially useful as a means of probing a range of administrative details, seeking clarification of the graduate profile, the curriculum model used, subject choices, pedagogical styles and assessment procedures.   A separate section was devoted to details of the teaching and learning of mathematics. However, questionnaires carry the risk of bias, in the framing of questions, in responses given and in the interpretation of those responses by both respondent and researcher (Pring, 2000). Consequently, the questionnaire prepared for this study included a combination of scaled, open and closed questions along with the opportunity for fuller expression of response to minimize potential bias (Verma & Mallick, 1999). Details are in section 4.6.1.

4.4.3 Interviews

Despite the time consuming nature of interviews there are definite advantages in the face to face interaction between interviewer and interviewee (Wellington, 2000). When seen as a human interaction an interview can be described as "intersubjective" (Laing, 1967, cited in Cohen et al., 2000, p. 267), being neither fully objective, nor fully subjective, but with an interchange of ideas and opinions at a deeper level than is possible in a written questionnaire. Semi-structured interviews were arranged using the 'interview guide approach' first defined by Patton (1980, cited in Cohen et al., 2000, p.271) which allows flexibility within a relatively conversational format.

Interviews with members of respective Boards of Trustees and senior management staff offered a deeper level of understanding regarding the implementation of both philosophy and policies than was possible in the questionnaire. Interviews with classroom teachers focussed more on the curriculum, pedagogy and assessment. It was believed that all these interviews would strengthen data provided in the questionnaire by being more personal and directive (Suter, 2006). Details are in section 4.6.2.

4.4.4 Classroom observations

In order to triangulate the data obtained from the questionnaire and interviews a final level of data was collected through classroom observations providing an *in situ* opportunity to gather data beyond that based on perceptions and opinions (Cohen et al., 2000). Although observational data is rarely totally objective (Scott, 2000), this level of observation allows for some degree of objective evaluation of the classroom teaching and learning activities.

A wide range of class levels and subject lessons were observed in both New Zealand schools. Most lessons ranged in time from 30 minutes in some primary classes to an hour in a Year 13 class. Forms were developed for detailed field notes to record significant features of lesson content and pedagogy as advised by Jindal-Snape and Topping (2010) and Mertler (2009). Demographic details recorded included the gender of the teacher, the time of day and the subject being taught. Evidence was sought of biblical perspectives in each lesson.

These observations were aimed at determining the extent to which the philosophy declared in the documentation and policies of each school was actualised in their classrooms. Evidence of consistency between the perceptions of senior management staff and classroom teachers as to the impact their school's philosophical stance has on classroom practice and actual practice was sought. Details are in section 4.6.3.

These sources all provided both quantitative and qualitative data. Quantitative data was largely limited to demographic information and frequencies from the questionnaire and classroom observations. Such a mixture of quantitative and qualitative data was expected to provide a deep and coherent picture of the settings in this study, with all data converging to give a richness of understanding (Suter, 2006). Furthermore, cross-validation is strengthened through addressing the same research question from different perspectives (Brewer & Hunter, 1989).

4.5 Ethical Issues

Before beginning any data collection, application was made in June 2007 to the Macquarie University Ethics Review Committee for approval of the project. Approval was granted for

this research on 2 August 2007: reference number HE22Jun2007-DO5305. A copy of the approval notification is in Appendix V.

Because research which involves humans has the potential for considerable difficulties due to the complexity of both personal and educational factors involved, it was necessary to weigh up the balance between the respondent teachers' rights to personal and professional privacy with the potentially widespread benefits for the schools involved (Cohen et al., 2000).

The governance body of each New Zealand school was approached seeking approval for their staff to be involved in the study and outlining details of its purpose as well as potential benefits for them and other schools. Once that approval was given, arrangements were made to visit the schools and introduce the study.

During initial visits the researcher was invited to give an explanation of the project, then offer the letter of invitation to teachers to participate. In both schools a full description of the study was given along with details of the expectations for any participant. Teachers were given the opportunity to complete a questionnaire, allow non-participant observation of a lesson, or be available for interview.

At ACS, the non-classical school, the 50 staff present when the project was presented to them, were given invitations to participate by completing the questionnaire, allowing classroom observations or both. Paper versions of the questionnaire were requested by 10 teachers, with another 10 offering their classrooms for observation. At ECS, the classical school, all six full-time staff and one of the part-time teachers were given a paper copy of the questionnaire with one being completed and returned, and four completed electronically. All full-time teachers and one part-time teacher offered their classrooms for observation.

From ACS, there were only seven questionnaires completed electronically and two on hard copy, representing a very small proportion of the full staff. This situation presents some compromise to the validity of inferences drawn from the questionnaire data, although it was expected that interview and classroom observation data would either confirm or contradict those results.

At ECS, the classical school, all six full-time staff and one of the part-time teachers were given a paper copy of the questionnaire with one being completed and returned, and four completed electronically. All full-time teachers and one part-time teacher offered their classrooms for observation. The high proportion of the staff thus represented promised potentially more consistent results than those from ACS.

Consequently results from the ECS staff promised potentially more consistent results than those from ACS, but the fact that ECS is a very small school restricted more general interpretation of data than might have been expected in a larger school. While the number of responses was disappointing, those received provided a basis for closer and more detailed questions during the interviews.

Consent forms for teachers, students and for the parents of children who would be in the classes to be observed were prepared and distributed. Copies are included in Appendix I. It was made clear that the freedom to withdraw from the process at any stage would be available. Explanation included explicit statements that observations are exactly that, free of any element of judgment or evaluation, even though the whole study implies an evaluation of the classical approach to curriculum. Every effort was made to avoid the possibility of any respondent being identifiable in the written report.

4.5.1 Pilot study

During semester 1, 2007 a pilot study was undertaken with the proposed questionnaire given to a group of four colleagues from a school associated with the researcher's institution. This school was selected because it is closely associated with a Reformed Church community, but to a lesser extent than the classical school involved in the study. This school largely depends on the state curriculum model as does ACS, the non-classical school in the study. The group of four staff consisted of two administrative staff and two full time classroom teachers.

Two main issues arose from this pilot study. One was that the time required to complete the questionnaire had originally been badly underestimated. As a consequence, letters of invitation to sample schools were changed to indicate a more realistic time frame. The second issue was that the first section of the questionnaire had originally been designed to be answered only by administration staff, but this was changed so all respondents had the opportunity to comment.

4.6 Instrumentation

4.6.1. Questionnaire

The questionnaire was designed to probe the perceptions of a range of school personnel as to their understanding of the impact of their school's philosophy on policies and processes in their area of involvement. It was available electronically using Survey Console™ software and on paper, giving respondents a choice of format.

The cover page described the purpose of the study, identifying the researcher and seeking background information from respondents, which included gender, age, experience and qualifications. The main body of the questionnaire had seven major sections, each with a number of subsections as presented in Table 4.2. Responses required Likert scales, Yes/No choices, completion of tables and brief comments. Some responses were combinations of these formats. A sample of questions from each section is provided below, with the full questionnaire in Appendix II.

Table 4.2 Structure of the Questionnaire

Section	Subsection	Number of items
Administrative issues (15 items)	1.Type of school	4
	2.Philosophical stance of school	1
	3.Defining characteristics of school	1
	4.Staff appointments	2
	5.Impact of philosophy	7
The graduate profile (6 items)	1.Student qualifications	2
	2.Student goals & attributes	3
	3.Records of graduates	1
The curriculum model (3 items)	1.Basis of curriculum model	1
	2.Spiritual growth	1
	3.Link to graduate profile	1
Curriculum subject choices (14 items)	1.Government influence	1
	2.Influence of philosophy	1
	3. Subjects choices	10
	4.Christian Studies	2
Teaching methods (4 items)	1.Formal teaching policy	1
	2.Age appropriate methods	3
Assessment (13 items)	1.Policy & philosophy	2
	2.External examinations	1
	3.Assessment tasks	10
Mathematics / chosen subject (29 items)	1.Importance	1
	2.Pedagogy	7
	3.Topics	10
	4.Assessment tasks	7
	5.Teaching methods	4

Administrative Issues

This section comprised five subsections probing the type of school and the respondent's understanding of both its philosophical stance and what he/she saw as the defining distinctive feature of the school, e.g.

What do you understand is the philosophical stance of your school?

Respondents were asked to identify the academic qualifications and personal qualities required of potential staff, and their perceptions of the impact of the school's philosophy on teacher appointments, student enrolment selection, the structure of governance and management roles, and relationships between management and staff, between staff and students, between the school and families, e.g.

How much impact do you believe the philosophy of your school has on each of the following?

1. Teacher appointment

| *Very great* | *great* | *some* | *a little* | *none* |

Graduate profile

A clear description of a school's graduate profile was considered to be a good indicator of a school's goals and perceived outcomes. As all schools involved in this study are Christian schools it was deemed appropriate to focus some questions on the perceived spiritual, social and physical attributes expected to develop in students as well as their academic goals. Consequently, this section first asked about the highest academic qualification available, whether those goals aligned with the state externally examined qualifications and whether or not every student was encouraged to meet those goals, e.g.

> *(ii) Is this a:*
>
> > *nation-wide qualification*
> >
> > *particular to your school   (Please circle one)*
>
> *Other (please explain)*
>
> *(iii) Is it expected that all students aim to successfully complete this qualification?*
>
> *Yes / No (Please circle one)*

Then respondents were then asked to list the four most important academic, physical, social and spiritual attributes they might expect to see in a graduate, and describe how the acquisition of these qualities was evaluated.   The final part of this section enquired as to the keeping of alumni records including any formal documentation of the destination of graduates.

The curriculum model

The third section focussed on the school's curriculum model, with the first question probing the educational philosophy of the model. The other two questions asked teachers' perceptions of the way the curriculum model encourages spiritual growth and development of the attributes outlined in the graduate profile, e.g.

> *(iii) To what extent do you believe the curriculum model in your school encourages students to meet the graduate profile?*
>
> *Very greatly   greatly   somewhat   a little   not*
> > *at all*
>
> *Briefly explain how you think this actually happens*

Curriculum subject choices

The fourth section investigated the curriculum model more deeply by looking into subject choices for various age groups. The initial questions were around the issue of subject choices in general, whether or not they were state mandated. This led to asking about subjects unique to the particular school and reasons for their selection. Further questions were focused on students' selection of subjects, whose decision it was that subjects were compulsory, and whether or not the school had a Christian Studies program, e.g.

(ix) Does your school have a separate subject for Christian studies?   Yes/No
Please describe the curriculum briefly
(x) To what extent is this Christian studies curriculum embedded in other areas?
(Please circle one)
fully embedded   totally stand alone   a blend of embedded and stand alone

Pedagogy

Section five was brief, seeking responses as to whether or not the school had a formal policy regarding teaching methods, and in particular whether there was variation in pedagogy dependent on the age group of classes. This aspect is of particular importance with regard to the classical curriculum model. One question was

(ii) Do teaching methods differ noticeably across different age levels or grade levels? Yes/No
Please explain briefly with respect to the following broad age groupings:
4 - 10 years old_____
11- 15 years old_____
16 – 18 year old _____

Assessment

As in the previous section, the question was asked as to a formal policy for assessment;

(i) Does your school have a formal assessment policy?   Yes/No

The questions which followed probed perceptions of the influence of the school's assessment

philosophy and asked respondents to identify which from a selection of assessment tasks they

used frequently.

(ii)To what extent is the assessment policy in your school determined by your

school's philosophy?

Totally   a great deal   somewhat   a little   not at all

Explain briefly_____

Mathematics or Chosen Subject

Although the final section addressed the teaching of mathematics specifically as it is a special

area of interest in this study, the option was given for secondary teachers to answer with

respect to their chosen subject. The initial questions related to the perceived importance of

mathematics or the chosen subject, and the respondent's understanding of whether or not

teaching the subject Christianly would be different from other approaches, e.g.

(ii) How differently do you believe a Christian school should teach [mathematics]

from the way it may be taught elsewhere?

Totally   a great deal   somewhat   a little

no differently at all

Recent research by Thompson (2003) indicate that teachers find it difficult to conceive a

Christian approach to teaching mathematics, so a question was included offering a range of

options to describe that approach. This was followed by tables for respondents to indicate age groups for which certain pedagogical approaches were appropriate or not, e.g.

(iv) The following is a list of different aspects related to learning [mathematics]. Please indicate at what age you consider it is appropriate to introduce them into lessons					
Aspect	*Basic facts*	*Problem solving*	*[mathematical] thinking*	*Understanding of concepts*	*Application of knowledge*
Age for introduction					

A similar table immediately followed asking for the age group at which the named aspects might be considered less appropriate. This question and the final question which asked teachers to indicate the teaching methods they most frequently used were intended as indicators of any mathematics pedagogy perceived to reflect the school's belief structure.

Despite the availability of both electronic and paper versions, there were finally only eleven fully completed questionnaires. Results from the Survey Console™ summary sheet listed that 40 had started, but only 11 were actually completed, with the other 29 listed as 'Drop Outs'. It may well be that the length of the questionnaire was a factor in the decision of those 29 to withdraw. The software did not provide any partial data from the incomplete responses.

Four of the respondents were from the New Zealand classical school, ECS, leaving seven from the New Zealand non-classical school ACS. That equates to a high proportion of the full time staff at ECS compared to seven from a considerably larger full time staff at ACS. Mention has already been made in section 4.5 of the potential differences in consistency expected from the varied levels of response. It has also been mentioned that although a reasonably clear picture of an ACCS school is expected to emerge from the ECS results, they will not be sufficient to qualify as being representative of these schools in general.

Nonetheless it is expected that a foundation will be provided on which to built further data through interviews with school personnel.

4.6.2 Interviews

Deeper understandings of perceptions of school personnel on the issues addressed in the questionnaire were probed through a number of interviews. The initial round of interviews involved key informants: namely, members of the Boards of Trustees and senior management of each of the New Zealand schools. It was assumed these people would have an in-depth knowledge and understanding of their school's philosophy and its goals (Cohen et al., 2000). The more personal nature of interviews allowed for fuller and more detailed discussion of each issue than was possible in the questionnaire (Merriam, 1998; Mertler, 2009).

Because schools are complex communities, it was anticipated that there might be challenges in the availability of personnel, which proved to be the case. Originally it was intended that formal interviews would be undertaken at the time of the classroom observations. However, the program in the New Zealand schools did not allow for that, although informal discussions were held with the principal of the New Zealand classical school, ECS. The principal of ACS was overseas on business, and no other senior management staff member was available.

Accordingly formal interviews were conducted in July 2008, at a time more suitable for the people involved. From the New Zealand classical school (ECS) interviews were held with the Board of Trustees chairman and the principal. From the integrated, non-classical school (ACS) the former Board of Trustees chairman, the principal and the principal of the primary department were interviewed.

For governance personnel the issues were primarily around the reasons for the school's establishment and their role as preservers of the vision. In addition to these questions, senior management staff members were also questioned about their role as intermediaries between the governance body and teaching staff. This involved asking how each person believed the vision of his/her school was implemented in the school's policies, procedures and the realities of classroom teaching.

In each school teaching staff present during the initial presentation session were invited to be interviewed but only a small number were willing, largely because timetable issues restricted their availability. It is possible some felt uncomfortable or even vulnerable being observed as part of a research project. In the classical school one junior school teacher and one senior school teacher were available for interview, while in the non-classical school three mathematics teachers from the secondary department were the only teaching staff finally willing to be interviewed.

In the case of management staff, each interview was conducted in that person's office. Every other interview was conducted in a room allocated for the purpose, providing freedom from interruption. Most interviews lasted between 45 minutes and an hour. They were recorded on audio tape and transcribed at a later date.

Questions posed largely followed up those in the questionnaire in order to build a fuller picture of the issues addressed. The more conversational nature of the interviews allowed for some impromptu questioning to clarify responses. The main focus of questions for the two principals was on their respective school's vision and mission, whereas for teachers there was a greater emphasis on their personal understanding of the impact the school's philosophical

stance has on specific subject areas and personal pedagogy. An outline of the interview questions follows with the full copy in Appendix III.

Administration

The first questions related to reasons for the establishment of the school, and its structure and governance roles.

> *What need was perceived to exist that developing the school would meet?*
>
> *What evidence was observed that the need was real? Was this local or nation-wide?*

These were followed by questions about the selection, structure and function of the Board of Trustees.

> *How are member of the Board of Trustees selected? By whom? For how long?*
>
> *What is seen to be their major role?*

Details of the respective schools' constituency were sought next.

> *How would you describe the school's constituency?*
>
> *What issues is the school facing with respect to its constituency?*
>
> *How does the school's philosophy help in finding solutions?*

Graduate Profile

Several questions were built around probing the understanding of distinctive features of each school's ethos and philosophy.

> *What specific features of your school do you believe distinguish it from other Christian schools?*
>
> *Why would a family choose to enrol their child(ren) here rather than in another Christian school?*
>
> *How would you express the fundamental purpose of this school?*

Questions on the school's overall academic success were included as an aspect of the graduate profile.

> *What criteria are used to evaluate the school's overall academic success?*
>
> *Who determines these criteria?*
>
> *How do they align with the school's philosophy?*

Curriculum

The next set of questions addressed the choice of curriculum model, challenges the school faced, and the influence of that model on determining pedagogy and assessment issues.

> *How do you believe the school's philosophy is put into operation in the choice of curriculum model?*
>
> *What challenges does the school face in presenting its curriculum?*

Pedagogy

Another set of questions asked how it was perceived that teachers' pedagogies might be influenced by the school's belief system.

> *Is a particular pedagogical approach expected?*
>
> *How well versed are staff with regard to current research on pedagogy?*

Assessment

Interviewees were asked what influence they believed the school's philosophy had on assessment practices.

> *How do the school's assessment and evaluation procedures reflect the school's philosophy of learning?*
>
> *What aspects are different from those of other schools?*

<u>Mathematics / Chosen subject</u>

The last section related to the teaching of mathematics or a chosen subject. Both management and teaching staff were asked about the status of the subject and what was considered the most important goal in teaching it. There followed questions about understanding how to teach the subject from a biblical perspective, any changes made in recent years, and advantages for teachers and learners in studying the subject.

> *Although in New Zealand mathematics is considered a core subject, what actual significance is it given in your school?*
>
> *Do your staff members have a clear understanding of what a biblical approach to teaching mathematics means?*

In the course of these interviews respondents often anticipated questions so the format varied each time often adding an unexpected richness of insight into issues being discussed.

4.6.3 Classroom observations

The final level of data collected was from non-participatory classroom observations in a range of classes from New Entrants to Year 13 in the two New Zealand schools. Given the complexities of school life (Cohen et al., 2000) there was virtually no opportunity for formal sampling strategies to be undertaken in the selection of classes to visit. An ideal situation would have allowed some stratification of sample classes from the junior and middle primary (grammar), intermediate and early secondary (logic/dialectic) and senior secondary (rhetoric) areas. There would also have been some purposive sampling of mathematics classes as a special focus of this study.

Availability of classes was however determined by timetable restrictions in the classical school and by the willingness of staff to participate at the non-classical school. Despite those restrictions, the number of staff in each school willing to allow observation did provide a considerable range of subjects and year levels, allowing for categorisation in accordance with the trivium designations of age groups. Five mathematics classes were also observed, three in the classical school and two in the other school.

Every teacher at the classical school, ECS, was willing to participate making it possible to spend extended time in each of the two classrooms in the primary department. Four lessons were observed in the New Entrants to Year Three class, and three in the Year Four to Year Six class. These were Bible, English, Mathematics and Social Studies in the junior class; Health, Mathematics and English in the older class. In the secondary school Bible, History and Mathematics lessons were observed in the Year Seven and Eight class; English and Bible in the Year Nine class and English and History in the Year Ten class. Rhetoric was observed in the Year 11 class; Apologetics in the Year 12 class; and Rhetoric in a combined Year 12 and 13 class. This gave a total of 17 classes observed across all year groups and a detailed picture of classroom practice in the classical school.

Despite the non-classical school being considerably larger than ECS, timetable issues and teacher choice limited the classroom observation to: English in the New Entrants/Year One class; English in Year Two; Social Studies in Year Six; Bible, Mathematics, Science, English in Year Seven classes; English in Year Eight; Health and Mathematics in Year Nine classes and Physics in a Year 13 class. This gave a total of 11 classes with a sampling across both subject areas and year groups.

Tables 4.3 and 4.4 illustrate the two charts prepared for the recording of field notes, allowing for entries on both sheets during each class observation. Effectively all activities and interactions were systematically recorded (Mertler, 2009) in anticipation of trends or patterns emerging (Jindal-Snape & Topping, 2010). For instance the prevalence of behaviourist-type pedagogy espoused in the literature produced by ACCS educators in USA (Bluedorn & Bluedorn, 2001; Wilson, 2003) meant the approaches most likely to be found in classical classrooms were identified alongside other approaches likely to emerge in the non-classical school.

The two observation charts were compiled as a matrix of cells in which observations of features were to be recorded. In some instances a check mark ($\sqrt{}$) was sufficient for identification of a pedagogical style or teaching process, while at other times more detail was required (Wiersma & Jurs, 2009). Two examples are presented on each table below with a completed observation sheet included in Appendix IV.

.

Demographic details such as the gender of the teacher, the year level of the class, the subject being taught and the time of day were recorded each time. One sheet recorded the main pedagogical style used, any assessment procedures followed and the class's response. The second sheet recorded learning processes undertaken as an illustration of the applicability of the pedagogy. As discussed in section 4.3.4, these notes also included details of times spent on specific activities.

Table 4.3 Style of pedagogy observed

Teacher: M / F	year level	subject being taught	time of the day	direct instruction	rote learning	text book exercises	revision	discussion	group work	practical activities	assessment tasks used	children's response
F	3	Maths	11:20 - 11:50	√		√ Indiv Work bks				√ demo count -ers		enjoyed demo counters- quiet- bkwork
M	13	Physics	11:15 - 12:15	√Power Pt pres.			√Prep for test	√Re use of equipmt				Not engaged Mostly silent

The following pedagogical approaches itemised in Table 4.3 were defined as follows:

direct instruction   teacher instructs– class at desks or on mat. Little interaction

rote learning   class chant/sing/or repeat memorised content

text book exercises   class sit at desks working exclusively from text books

revision   teacher specifically identifies review of content

discussion   question/answer time with teacher and class /or student groups

group work   class organised to work in groups, not whole class teaching

practical activities   class do activities not involving desk work with books

assessment tasks   any activity specified as intended to evaluate learning

children's responses   indication of relationship with teacher and engagement in

                                      learning

Table 4.4. Lesson processes

Teacher: M / F	year level	subject being taught	time of the day	basic facts	problem solving	[mathematical] thinking	general thinking skills	understanding of concepts	synthesis and integration of knowledge	clear evidence of biblical perspectives
F	3	Maths	11:20 - 11:50	√		√ Explanation during dir. Instr.		√ Q &A time		
M	13	Physics	11:15 - 12:15	√ Relating to use of equipmt		√ re applicatn of equipmt		√ re applicatn of equipmt		

The lesson processes itemised in Table 4.4 were defined as follows:

Factual material   Lesson presentation of facts to be learned

Problem solving   Lesson involves learning by investigation of problems

[Mathematical] thinking   Attention given to thinking strategies applicable to the subject – not rules to follow.

General thinking skills   Class encouraged to think beyond recall and simple comprehension

Conceptual understanding   Class encouraged to demonstrate understanding of underlying concepts

Synthesis/integration of knowledge   Higher order thinking encouraged and evident

Biblical perspectives   Teacher encourages/students express understanding of biblical underpinnings in subject

4.7 Analysis

Merriam, (1998, p. 193) describes case studies as "an intensive, holistic description and analysis of a single bounded unit". Although this study fits that description in one sense, because a second school is involved data analysis falls into Merriam's (1998, pp. 194, 195)

definition of both "within-case" and "across-case" analysis. To some extent the format of the questionnaire and interviews allowed for concurrent collection and analysis of data, initially organised into three main themes; policy, perceptions and practice with subsections of administration, curriculum, personnel and pedagogy as illustrated in Table 4.5.

Table 4.5 Features of school systems examined
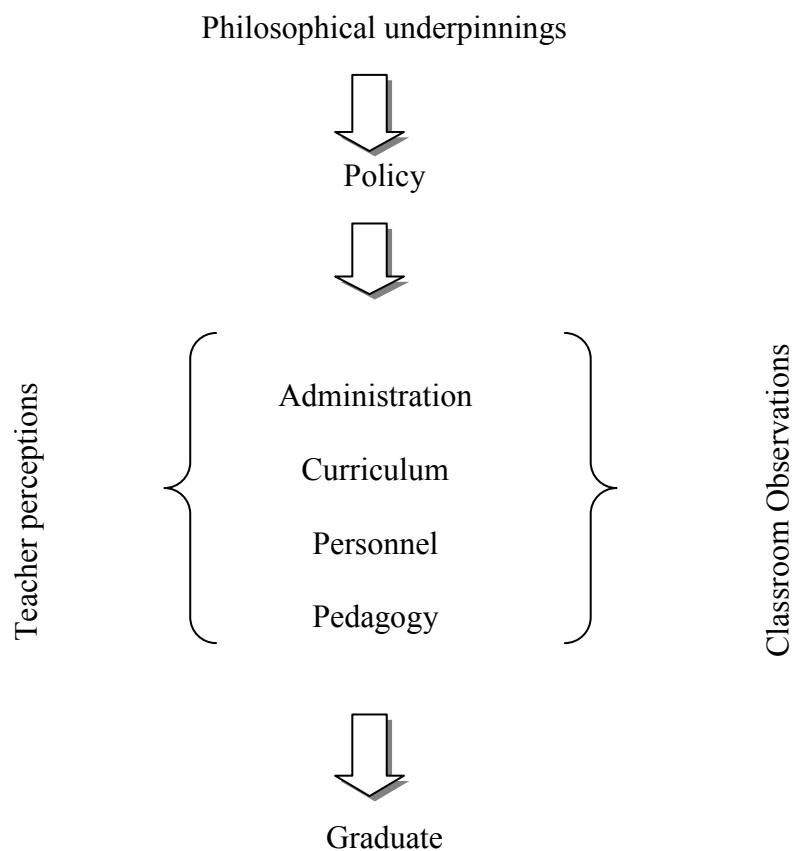
School documentation provided the first level of data (Merriam, 2009). The documentation was read repeatedly, firstly with respect to the two classical schools.   This was to establish whether the declarations and statements of overarching philosophy, vision and mission published in ACCS literature, some of which has been cited in Chapter Three, was present in the classical school's (ECS) prospectus.   The American school's *Summer Teacher Training*

Manual (ACCS, 2004c) was also read through repeatedly alongside the ECS prospectus to ascertain whether there was consistency in the expression of educational goals and other general policy statements between the two classical schools.

Further to this, the ECS prospectus was scrutinised alongside the electronic publication of the non classical school, ACS. Although this electronic publication is not extensive, it provided a sufficiently clear picture of the school's philosophy and its educational goals to allow for considerable examination of all the areas of philosophy and policy mentioned above.

Wording of faith statements was scrutinised to probe possible differences in the expression of Christian education, academic expectations and general policy. Data from the documentation were combined with data from interviews with governance and management personnel to provide the results in Chapter Five: Philosophy, policy and governance. Appropriate quotes from the interviews were included to support the documentary data.

Questionnaire responses were read section by section and classified into the themes of administration, curriculum, personnel and pedagogy as outlined in Table 4.5. Because it was possible to identify four respondents as from the classical school, their responses were kept separate from the others. Each block of data was scrutinised to draw out features which could be considered distinctive to either school. The mixture of responses from tables and written comments were identified as evidence to support these features (Verma & Mallick, 1999). The interview data were transcribed verbatim within a few days of the interviews then read and re-read many times in order for them to be aligned with the themes into which the questionnaire data had been arranged. Again, the responses from the classical school staff were kept separate from the others. Responses from management staff in each school were

compared with those of teaching staff who were interviewed and both compared against the written questionnaire responses.

All questionnaire and interview responses were then organised together within the four themes, with appropriate quotes identified for consistency (Wellington, 2000). The combined responses in three of those themes, administration, curriculum and personnel provided the data for Chapter Six, Process: Teachers' perceptions. Responses which were specifically related to pedagogy and teaching mathematics, along with the comments from the classical school history teacher were further separated and provided the data for Chapter Seven: Pedagogy, mathematics and history. These data were carefully examined with particular attention to expressions of teaching the subjects Christianly.

The final level of data collected was from the classroom observations. A description of the sheets prepared for note taking has been given above. They had been designed so as to capture a clear description of the settings and activities through each lesson (Lodico et al., 2006). Data from those field notes were repeatedly read and carefully scrutinised for evidence to support or refute claims made in the questionnaire and interview responses (Jindal-Snape & Topping, 2010). The initial organisation was to group together lessons under the trivium descriptors for the age groupings. This allowed for identification of pedagogical approaches and subject choices distinctive to the two curriculum models.

Further categorisation was undertaken with respect to the actual subjects observed, seeking similarities or differences of content and activities undertaken. Thirdly, data were again closely examined to find evidence of the expression of teaching Christianly in each school. These data were reported in Chapter Eight: Classroom practice.

Chapter 5: Philosophy, Policy and Governance

5.1 Introduction

The focus of this research is on the effect of a school's philosophy on its governance, policies, curriculum and classroom practice. The previous chapter has described the three schools that participated in this research, outlining their origins and demographics. This chapter first examines the underlying philosophies of the three schools involved, namely the two classical and Christian schools and the Christian school using the state mandated curriculum model. It addresses the first aspect of the research question:

- What impact does a school's philosophical stance have on policy, procedures, perceptions and practice?

The review of literature in Chapter Three has given a clear representation of the philosophical basis of the classical and Christian curriculum model as espoused by ACCS. Published documents from all three schools in the study were examined to elicit a fuller picture of the implementation of this philosophy in the reality of a school environment. This aligns with the belief of Cohen et al. (2000) and Merriam (1998) that such documentation is a primary source of evidence. The understandings of governance and management staff as to how the declared philosophies are reflected in policies and procedures were investigated through interviews with appropriate personnel.

Documentation published by the three schools in this study varied in quantity, but was adequate to identify significant features of the schools. For the American school, KCS, most material was derived from books written by the founders and staff of the school, many of which have been cited in Chapter Three. Other information was available from the *Summer*

Teacher Training Manual (ACCS, 2004c) received during the researcher's visit to KCS in 2004.

The New Zealand classical school, ECS, publishes a reasonably detailed prospectus, but the third school, ACS, has only brief descriptors on the school's website. Nonetheless it has been possible to identify clear statements of each school's philosophical stance along with declarations of spiritual, social and educational goals. This data provided a scaffold on which to build other data collected.

To supplement and validate evidence from published documents, members of the school boards and the respective principals were interviewed about their school's philosophies and policies. Questionnaire and interview responses provided clarification as to how the philosophy was translated into policy, then how policy was seen to be implemented throughout the schools.   It was anticipated that from these responses that a clear picture would emerge of each school's understanding of Christian education and its implementation in classroom practice.

5.2 Rationale for the establishment of the schools

A common feature of the three schools was the similarity in motives behind their establishment and their claims of offering a curriculum based on biblical foundations.

> …[we] are seeking to equip member schools to integrate all their teaching around
>
> the revealed Word of God   (ACCS, 2004, p.1)

> …[we] base our entire curriculum on the reliable and solid foundation of God's Word,
>
> the Bible.   (CSA**D, 2008, p.2)

Our aim… is to provide a quality education for students founded on a Biblical worldview

and based on sound Christian principles.   (ACS, 2007, p.1)

The two classical schools have used almost identical phrases "Word of God" and "God's

Word" claiming to build their curriculum on the foundation of the Bible. The implication is

that teaching and learning in the classical and Christian schools is founded on a thorough

understanding of the Bible as suggested by Green (2002) and Smitherman (2005/2006).   In

his interview Principal M of ECS stated a clear commitment to Bible study "We've got quite

a comprehensive Bible program and we spend three hours a week and we go into quite a lot of

detail – more than I've seen in other schools." This is a clear demonstration of teaching

Christianly being seen to involve 'teaching the Bible as content' as discussed in section 3.6.

By contrast the ACS documentation claims to base their curriculum on a foundation of

"Biblical worldview" and "sound Christian principles". The different focus at ACS implies a

more holistic approach more akin to a life style governed by biblical principles rather than by

knowledge alone (Lockerbie, 1994).   There was no specificity offered from either school as

to any depth of meaning of a biblical worldview approach or of how their respective curricula

are built on the foundations identified.

Establishment of ACCS schools in the USA

Section 3.2 provided an account of the establishment of ACCS the school (KCS) in the USA.

When KCS was established in the 1980s the founders believed that the state school system

was antagonistic to biblical principles, and that existing Christian schools were often

unfaithful to their declared philosophy. The school's founders adopted the trivium model as

the preferred model in terms of both curriculum and pedagogy to provide the sought after rich

Christian education for their children. They see a parallel to the trivium in the Wisdom

literature of the Bible, outlined in Proverbs 24: 3, 4 which describes a progression of knowledge, understanding and wisdom.

> Putting it together, we seek to establish our children in knowledge, understanding , and wisdom. Using pedagogical terms, we educate them in grammar, dialectic, and rhetoric. They should be brought to know the truth, understand the good, and attain wisdom in that which is lovely.
>
> (Wilson, 2003, p.137)

Establishment of the New Zealand classical school

The principals of the two New Zealand schools were clear that the main motive behind the foundations of their respective schools was the provision of what was seen to be Christian education. For ECS, the New Zealand classical school, although it was not initially established as an ACCS school, there was concern for Christian approaches to education which would be faithful to Reformed doctrine.

> Established 1991 – wasn't classical then. Main reason was to provide sound biblical education for the children, particularly of our church community –the Reformed church…
>
> (Principal M)

His use of "biblical education" as opposed to the more specific wording of the documentation parallels the "biblical worldview" perspective of the non-classical school. Regardless of any potential difference in meaning, Principal M believed that other Christian schools were inadequate in their commitment to education based on biblical foundations and was clear about his school's deliberate and non-negotiable allegiance to Reformed doctrine.

> We always wanted Reformed education- we are Reformed – and there was no particular thing that we could say "This is what Reformed education is like." What I found was a lot of 'baptised' secular philosophies, all chucked into the mix and Christian education was pretty much what you wanted it to be as long as you had some Bible verses in there and a Christian flavour to it. I thought 'there has got to be something better than this'.
>
> (Principal M)

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His concern over shallowness in biblical approaches in other Christian schools reflects the opinions of Fennema (2006) and Goheen (2004a) both of whom commented on the "Christianising" of secular approaches.

Although the classical approach does not necessarily have a Christian emphasis, ECS and their parent school have taken this model as the most appropriate for Christian education. The principal described ECS's distinctive features thus:

> One is the distinctly Reformed stance. The other is the classical model and how that is
> worked out, so we've got odd subjects. We've got Latin, we've got rhetoric and logic,
> and we've engaged with that and we expect parents to be involved with that, so we've
> got distinctive things like that - and we are deliberately not trying to find a non-denominational
> place. And the schools I know of, they are trying to avoid the – try to be generic, so they
> end up with a wide range of teaching staff, and a very limited statement of faith.
>
> (Principal M)

Comments offered by Board Member D confirmed the distinctive feature of the denominational stance of ECS, seeing it in contrast to the state system where Christian perspectives were not seen to be valued. "It seemed to some that God was becoming 'the last taboo'". He also expressed the belief that the history of the western world is tied up with God's purposes in the earth, so "there is an obligation to teach [history] for understanding of humanity." The place of history in the classical curriculum is discussed extensively in Chapter Seven.

Establishment of the New Zealand non-classical school

In contrast to the involvement of church communities in the establishment of the two classical schools, ACS was founded by people who "managed to gauge from the community that there was …enough support to start a school" (Principal F). Principal F also commented on the

extent of humanistic teaching in state schools, and the fact that many parents believed their children's faith was at risk.

> There was too much humanistic teaching within the state sector and Christian tenets
> were no longer being upheld. In fact in some cases the children were being attacked
> for their faith. Teaching material portrayed a very humanistic outlook on life.
> The aim of the school's founder was … to provide Christian education that was
> not financially out of reach for the families the school was founded to serve.

(Principal F)

This school does not adhere to any particular denomination but its commitment to education from biblical perspectives is described as seeking to be based on Christian principles.

> Development of Christian character and servant leadership are important objectives for
> our students. We seek to encourage young people in the understanding and articulation of
> their Christian faith, in service within the community and in living their lives enthusiastically
> and with integrity.

(ACS, 2007, p.1)

As well as reflecting the perspective of character development and Christian lifestyle (Lockerbie, 1994) this approach also aligns with Fennema's (2006) approach of preparing youngsters for active and purposeful engagement with society. It could be argued that such goals are the domain of every school, although the desire to encourage youngsters in the development and articulation of their Christian faith is directional. Further to that this commitment is a clear expression of 'applying biblical principles' as one expression of teaching Christianly discussed in section 3.6.

In her interview Principal F emphasised that a sound Christian education is able to be provided within the structure of the state education system. She mentioned the wide range of opportunities offered to the students in areas such as the arts, sports, leadership and

academics, mentioning that the students at her school achieve well in all these areas but comparisons with the students from local state schools was difficult.

> We have a formula that works for us which means we achieve highly academically,
> we have great leadership programs in place, our missions program is very good. We
> have really good outcomes for our kids. But I can't really compare that with someone
> else – to say whether it is different or better, because everyone does what is right
> for their community.   (Principal F)

In further contrast to the New Zealand classical school in the study, ACS accepts a small number of children from non-Christian families. They do however expect that those families will fully accept the school's philosophy. Principal F was strong in her expression of the need for a commitment to biblical principles as a foil against the influence of secular attitudes.

> You're always going to get disagreement where parents' values change or their boundaries
> change or they become a lot more liberal in their Christian witness as is happening in society
> at present…but the vision and the mission and the philosophy are so clearly stated, and they
> choose to buy into it. If they don't want it, they are very politely told there are plenty schools
> that will offer them a different sort of education and no-one forced them to be here. They
> come here by choice. That's the bottom line.

All three school communities claim a strong belief in the biblical foundation for all aspects of school life.

Types of Christian schools

The two New Zealand schools illustrate two of the types of Christian schools described by Nason (2002), Schimmer (2002) and van Brummelen (2009); namely those established by a denominational group or individual church community, and those which serve the broad church community. Each situation has implications for governance such as the potential blurring of theological and educational issues which can affect membership of governance boards in schools such as ECS. By contrast in an inter-denominational school such as ACS

which is likely to have a wider range of parent representation than a church school, tensions can emerge over maintaining the mission and vision.

5.3 Mission statements of the schools

The classical schools

Not surprisingly, the mission statement of the American classical school, KCS, is in fact that of the Association of Classical and Christian Schools. Their Mission statement declares:

> The primary mission of this association is to promote, establish, and equip schools
> committed to a classical approach to education in the light of a Christian worldview
> grounded in the Old and New Testament Scriptures. The mission of the association
> is both to promote the classical approach, and provide accountability for member
> schools to ensure that our cultural heritage is not lost again. Through these various
> means ACCS seeks to set an educational standard for a unified and directed approach
> to classical and Christian learning.

(ACCS, 2004, p.1)

This declaration virtually promotes the classical approach over the Christian, while implying that a Christian worldview requires such a perspective.   It aligns with the Calvinistic approach mentioned in section 3.3, that Christians must be well educated thinkers.   Further to the declarations quoted in section 5.2 as well as the idea of grounding study in the Bible itself, this statement now includes the phrase 'a Christian worldview' used by the non-classical school. Enculturation into both western society and Christian society is also promoted as a distinctive feature of the classical approach (Wilson 1999).   Similarly, the New Zealand classical school (ECS) has adopted the mission statement of its Association, but publishes a shorter statement as well, namely that their mission is:

> …to equip, based on the solid foundation provided by a Classical and Reformed
> Christian education, our students to contribute to culture meaningfully and defend
> their faith intelligently for the rest of their lives.   (CSA**D, 2008, p.4)

The non-classical school

For the non-classical school (ACS), the mission statement has the same apparent goal, but without the specifics of any denominational focus, direct mention of grounding education in Scripture, or reference to a specific curriculum model. Their mission statement declares the school's goal is

> …to be a Christian community of learning that nurtures young people towards their
> full potential as servant leaders in the kingdom of God.

> (ACS, 2007, p.2)

The school's motto emphasises this concept of servant leadership.

> Servant leaders are people of godly character who are willing to act on what they believe.

> (ACS, 2007, p.2)

This approach is more aligned to the goal of Christian education offered by Smitherman (2009) and Deuink and Carruthers (2008) as being the intellectual and spiritual development of young people for a productive life of Christian service.

Comparisons between the schools

The commonalities presented above hinge mostly on each community's desire to offer an authentic Christian education, despite differences of interpretation of what 'authentic Christian education' actually is. The differences include not only denominational allegiance, but a deeply held belief by the classical schools that the traditional Reformed theological approach to education, firmly grounded in the whole Bible also speaks into the choice of curriculum model. As mentioned above, the classical approach is believed by ACCS to be the appropriate Christian model (Wilson, 2003), whereas the community of the non-classical school, ACS, believes that a genuine Christian education can be built around the framework of the state-mandated curriculum.

The denominational focus of the two classical schools is clearly evident in their overtly Reformed statements of mission and faith, while the non-denominational status of ACS allows a more inclusive perspective to predominate. The implications of this difference will be seen in the chapters that follow.

5.4 Governance structures and roles

As with most issues discussed in this chapter, the structure and role of governance bodies in these three schools demonstrate some degree of similarity, but also some notable differences. For the two church-related ACCS schools, there are clear theological and educational goals. The American classical school is administered by a Board of Directors comprising eight people, five of whom are permanent members, while the other three are elected for three-year terms. This Board provides policies to be implemented by the school principal and staff. Strict standards of professional leadership are laid down for these people, who are expected to fulfil their obligations faithfully in every aspect of the Board's role, in recognition of Christ's Lordship.

This indicates that their role includes maintaining the vision of the school as well as establishing policies for the implementation of that vision.

> [A Board Member] recognises the Scripture's authority/admonitions/principles…
>
> recognizes Christ's Lordship in discussions, planning and regular prayer…
>
> (ACCS, 2004c, p.65)

This expectation is not unique to KCS, but is understood to be foundational for the governance body of any Christian school, who carry the responsibility to determine and maintain not only the spiritual climate of their school, but the social and educational climates as well (Nason, 2002).

Levels of governance

For the two New Zealand schools there are two levels of governance. The first level applies to ownership of the school while the other level applies to matters of strategic planning. For the New Zealand classical school the local church association owns the school, with Board of Trustees members selected exclusively from families in the association. With the church association being a broad and somewhat loosely defined body of church members, it becomes the role of the Board of Trustees to both hold the vision and undertake responsibility for strategic planning. For the non-classical school, ACS, membership of these boards is more broadly based, as discussed below.

Governance of ECS, the classical school

Preston and Norsworthy (2006) warn of the dangers inherent in blending church and school responsibilities in schools closely aligned to a church community. Although selection of Board members from the ECS church association might be considered a democratic process the reality is somewhat different according to Board Member (D).

> Generally it means you are tapped on the shoulder and asked if you are prepared
> to stand, and pretty much anyone who is prepared to stand gets the job. There's
> not generally a huge queue of people waiting to get on the Board.

Five members serve on this Board of Trustees for four years, but this term can be extended for a further three years, if required. Historically members have all been men, but there is no legal restriction regarding gender.

The Board has financial oversight and responsibility for the implementation of the school's vision through their policies and planning. Principal (M) described this role as

> making sure there is enough money to run the school, because that is a big part of
> their role really, [and] to work with me, supervise me and guide me in whatever
> we are doing here.

Governance of ACS, the non-classical school

Governance structures at ACS are more aligned to that advised by Preston and Norsworthy (2006) and by Deuink and Carruthers (2008) as a means of preventing the blurring of responsibilities. The first level of governance is a Board of Proprietors which owns the school. These people are invited into membership, with most current members having served the school in some capacity for over ten years. Continuity is seen as important to safeguard the vision as the following quote indicates.

> …and the reason for that is that the vision for the school, the mission, the purpose
> does not change with subsequent ideas from members coming on board who are
> not totally in agreement with the vision.

> (Principal F)

The other board, the Board of Trustees, is modelled on that of any state school, with members elected from the Board of Proprietors, the parent body, staff and students. There are five parent representatives, four from the Board of Proprietors, one from the staff, one from the student body and the principal.

The governance role of the Board of Trustees is defined as being the development of strategic planning, employment and oversight of the principal, and monitoring the direction of the school to ensure preservation of its special character in line with the integration agreement and government policies.

> The Board of Trustees is broken into five portfolio areas, so within those five
> portfolio areas they are very much focussed on ensuring that people understand
> the culture in the five specific areas and what they do within each of their areas.
> It's all about communicating to parents what the Board of Trustees is trying to
> do within that particular function, so connection, community, identity, future
> and school life. The main drive of the Board of Trustees is to make sure that
> as this school grows in numbers and reputation … that we are taking as many

people with us as possible, so that comes back to the parents meetings,

 - selling the vision and getting people on board – getting them to buy in - not to

be consumers because they are paying.   A lot of people think that because they are

paying for their education – 'I pay my money and I get my goods, and my goods

are an education for my kid'. But we say 'You are not a consumer, you are a partner,

which means you have to own the vision, you have to own the philosophy of the school'.

And that's a challenge because some people are not interested in that. They just

want to dump their kid, and 'You deal with my kid and I'll pick them up at

the end of the day'. But we are saying 'No, you are buying into a way of life

not just a product'.

<div align="right">(Principal F)</div>

Board Member V believes that "our focused Board and proactive proprietors, all committed to the vision provide the passion and parameters for the school to work efficiently in delivering its vision."   Parents also have the opportunity to be involved on committees without necessarily being directly responsible for setting and maintaining the vision (Nason, 2002; Schimmer, 2002).

5.5 Discussion of the structure and role of governance bodies in the two schools

The comments quoted above from the principals of the two New Zealand schools have identified important differences between the governance roles in their respective schools. The mission statement of the classical school clearly focuses on the establishment and preservation of both the classical and the Christian perspectives as defined by ACCS. The Board's role then consists largely of overseeing the appointment of appropriate leadership and teaching staff to pursue this end, and to actively support the principal and his teachers in running the school. In the words of the principal, the role of the Board is to:

run the school through me. That's the role they take. They have an overview

of the curriculum, they definitely control staff appointments. I may recommend

someone, but at the end of the day, the Board has to select that person.

<div align="right">(Principal M)</div>

The result of this dual role is a confounding of governance and management responsibilities.

By contrast, although the Board of Proprietors and the Board of Trustees at ACS, the non-

classical school, are both charged with preserving the school's vision through their policies

and procedures, there is a much broader, community perspective involved and a clear

distinction between governance and management roles.

There is an evident desire to share the vision for Christian education with an increasing

number of families, helping them to see that such an approach requires commitment from the

whole family. For young people to meet their full potential as servant leaders, in accordance

with the ACS school motto, families are invited to enter into a partnership with the school.

This interpretation of the biblical understanding of parents having first responsibility for the

education of their children has been a feature of education in Christian communities for

centuries. By contrast the interpretation of parental involvement at the classical school is

based on their membership of the Reformed church community.

5.6 Involvement of governance in school life

The differences mentioned above are reflected to some extent in the involvement of Board

members in the day to day running of the two New Zealand schools.

Involvement of governance in the classical school

In addition to its governance role, the classical school's Board of Trustees is also actively involved in the management of the school. Board members undertake regular visits for appraisal of all aspects of school life, focusing on the leadership of the principal. Despite the advice offered by both Preston and Norsworthy (2006) and by Deuink and Carruthers (2008) to avoid the blurring of governance and management roles, Principal M sees this involvement in the school as linked to their responsibility.

> They have a duty of visiting – we used to have two schools, but now there is one. They haven't quite worked out what they are going to do. Every term they are supposed to come, so there are four visits a year. One member would do the secondary and one the junior. They actually come in and spend time with each teacher and spend time with their classes. They also evaluate me once a year so I get a full appraisal. And part of that – issues come up - curriculum, how the school is run and things like that. The criteria used are quite complicated – it's modelled around something we found that's used in state schools for principals, but we modified it for things like the classical approach and biblical methods of doing things, and things like that so… The last time it was done it took a whole day. I had to show them evidence and things like that so it's quite a big undertaking. Issues are reported to the next board meeting and if there's a need for any action it might lead to a professional development request, some budgeting thing, or it might lead to rethinking some policy, or something like that. It would depend a lot on what came out. There wasn't anything much which came out of the last one.

Involvement of governance in the non-classical school

At the non-classical New Zealand school, ACS a clear distinction is drawn between governance and management with an implied sense of trust in the professionalism of management and teaching staff. The school's size and its status as a school integrated into the government system could also contribute to this situation.

Appraisals are limited to systems and processes rather than the performance of personnel. Primary Principal J confirmed that the range of portfolios described by Principal F (see section 5.4 above) gives Board members the opportunity to be involved with a particular function of the school, developing resources, communications and a sense of community.

> [The Board] might have done a monitoring of a particular system in the school –
> e.g. have done a monitoring of how IT [information technology] was being used in
> the school and ran the ruler over the school to find out. But they make recommendations
> and put in money to help improve things, but the principal and senior management
> do the actual running of the place.

<div align="right">(Primary Principal J)</div>

No senior management member from either school specifically mentioned relationships between the governance bodies and the rest of their school community in their interviews, nor was there any indication of unease with governance roles and responsibilities in their respective schools.

5.6.1 Appraisal of governance bodies

Because both New Zealand schools have a focus on parental involvement and responsibility, each school has mechanisms in place to evaluate the effectiveness of their Boards of Trustees. Parents are given open channels for discussion on any issue causing concern.

Interaction with parents at the classical school

Principal M, of ECS the classical school, responded to the question about parents being able to express concern thus:

> Oh, wow! We are a bit of an odd bunch in that we have a wider parent community than
> our association. We have parents who can't be part of our school association. So their
> only avenue is to protest to a staff member, and failing that they could go to the Board
> but they are always going to be seen as 'Well, that's your opinion' sort of thing. So they

simply leave if they're really not happy. Parents within our association of course can.

They've got lots more avenues. They can do the same as the others - the grievance

procedure – but they can also get to the point where they go and talk to the Board directly.

And if they were really unhappy they can go to meetings and vote board members off etc.

There's been grumbles about minor things, but in general – parents, if their kids are happy

at school and they are learning and the cost for them personally is not too high they are

happy with that and generally they seem to like….the ones that are with us like it.

The first part of this response relates to the number of children at ECS from non Reformed

families. Currently the ratio of church association families to those from other Christian

groups is approximately 70:30, with the smaller group belonging to a range of denominations.

Clearly families from within the church communities have greater and more regular

interaction with Board members, so issues are able to be addressed more informally than is

possible for the other families. Nonetheless, it is clear from these comments that in any

dispute the Reformed doctrinal approach would take precedence.

Interaction with parents at the non-classical school

In contrast to the situation at ECS, the main focus of the parent association at ACS is

fundraising. As the leader of that group is also a Board member, parents do have the

opportunity to raise issues informally. In both New Zealand schools, access to governance

bodies is informally available through relationships, fundraising and other school activities.

The following comment from the ACS principal (F) illustrates the point.

We have had, in the past, stakeholder surveys. We are looking this year at focus

groups but there is a parent association which is basically a fundraising group –

a member of the Board of Trustees heads that so she gets some feedback obviously.

Parent meetings - the Board of Trustees is present- especially the first one of the year

- and they run that one and they talk about the vision, the mission, what the school

is all about and give the school community a very clear message that if members

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of the community don't support the vision then they are clearly in the wrong place.

As for being able to express concerns over any issue relating to the school, primary Principal J echoed the comments above:

> We do have stakeholder meetings where they, e.g. parents, are able to comment
>
> on things such as their concerns – they have access to talk with Board members
>
> and senior management – so stakeholders survey.

Although there is the requirement that parents must accept the school's philosophical stance, parents are given the opportunity to express their concerns. Further discussion of this aspect follows in a later section.

5.7 Discussion of governance issues

While all schools in this study were established to provide Christian education, it is in the interpretation of that concept that differences emerge in governance structures and roles. It has not been possible to ascertain anything about the governance policy in the USA school, apart from the ideals written in documentation such as the *Summer Teacher Training Manual* (ACCS, 2004c). Differences between educational structures in the USA and New Zealand could well mean noticeable differences in governance structures at KCS. However, the close relationship between church and school for ACCS communities implies certain similarities exist in governance and management structures between KCS and the New Zealand classical school.

Interviews with Board members and management staff at the two New Zealand schools have led to clarification of the roles of governance and management bodies. In the classical school there was firstly an element of default in the whole church community effectively constituting the proprietorship. Secondly there is a definite blurring of any distinction between

governance and management, with the Board of Trustees closely monitoring the principal and staff. By contrast both the Board of Proprietors and the Board of Trustees of the non-classical school fulfil their roles without intruding into the daily running of the school.

Further differences between the two New Zealand schools are evident in the role of parents. The expression of parental responsibility differs considerably between the two schools, in one instance resulting in a position of virtual control, with Board of Trustee membership confined to church members. Furthermore, where disagreement over issues arises, preservation of denominational doctrine becomes the driving force.

By contrast, the more indirect and supportive meaning of parental involvement at the non-classical school is much more aligned to a broad interpretation of community and relationship building. Nonetheless, although parental involvement is generally more informal, there is a clear requirement for families to be fully committed to upholding the philosophical underpinnings of the school.

5.8 Educational philosophy and curriculum goals

Since the three schools in the study have been established for similar reasons, the expression of educational philosophy demonstrates some similarities, such as the appointment of Christian staff, the enrolment of children from Christian families, and the inclusion of some form of Bible study in the curriculum. However there is a considerable difference in the choice of curriculum model between the two classical schools and ACS, which has implications for pedagogy as well as subject selection. For KCS, the USA school, this has led to a withdrawal from any connection with the state school system, but for the New Zealand classical school government regulations require regular inspections of standards and any

graduate wishing to attend a local university needs to provide evidence that he/she qualifies to do so.

The classical curriculum as implemented in ACCS schools

The educational philosophy developed by ACCS includes all aspects of the upbringing of children, academic, social and spiritual, in the belief that education grounded in the Bible is the only way to address and hopefully redress what is believed to be unacceptable current social and educational conditions.   In developing a curriculum which would meet the perceived academic needs the classical trivium model was chosen (ACCS, 2004a, 2004b). This model was believed to address the loss of both traditional pedagogical approaches and academic content, such as the study of Greco-Roman literature and culture, which had resulted from reforms in the 20th and 21st centuries discussed in Chapter Two.

Bible study and its influence on curriculum

Bible study in ACCS schools involves both academic study of the Scriptures as well as times of prayer and worship within the school day. Careful consideration is given to selection of curriculum material.   Although strict guidelines are set for selection of material, as cited below, there is no clarification of the meaning of emotive words such as "objectionable', nor explanation of exactly what qualifies as 'biblically based material' or 'broad biblical truths'.

> The decision on materials to use to best meet the adopted curriculum objectives
> for each course is one that involves judgement. In other words, the teachers and
> curriculum committee must decide if the value of the material offsets the amount
> of objectionable material present in the reading.
>
> No curriculum material with a secular worldview may be adopted for student
> use unless all the following conditions have been considered:
>
> 1. After thorough research there appears to be no biblically-based material of equal
>   or better quality to the secular materials.

2. The secular material's primary document status necessitates it be used to fulfil

   adopted course objectives.

3. After a thorough examination it is determined that while secular in intent, the materials

   do not undermine, but rather support broad biblical truths (e.g. a high quality, secular

   mathematics text, or high quality, timeless literature.)

<div align="right">(ACCS, 2004c, p. 46, 47)</div>

Despite the determination expressed here to focus curriculum material around the schools'

understanding of Christian material, yet the acceptance of 'a high quality, secular

mathematics text, or high quality, timeless literature' reflects their view (ACCS, 2004b) that

Christianity does not have exclusive ownership of scholarship.

High expectations are laid on the students with respect to work ethic, academic standards and

social responsibility.

> The entertainment model of education wants the students to enjoy *themselves*; the older
>
> classical model wants students to be disciplined so they come to enjoy their *work*.

<div align="right">(Wilson, 1999, p.23. emphasis in original)</div>

Curriculum in the New Zealand classical school

Initially the New Zealand classical school did not have a classical approach, but followed the

state curriculum. After the principal read material from the founders of KCS in USA, he was

able to convince the church community that this was the best way to provide the education

they wanted for their families.

Earlier investigations of Christian education had left this principal disillusioned as he saw

> what seemed like secular philosophies 'Christianised' by including a Christian flavour
>
> to subjects, or Christian activities in the program.

<div align="right">(Principal M)</div>

This is consistent with Wilson (1991, p.140) who asserted that

<div align="center">122</div>

It is not enough to take whatever educational philosophy is currently about, add

prayer and a Bible class, and somehow think that the result will be satisfactory.

Other Christian educators such as Fennema (2006) and Frogley (2005) also expressed their

concern after observing this situation in some Christian schools.

Perceived value of the trivium

Principal M of ECS saw great hope in the ACCS material because he believed that such a

curriculum model would allow youngsters to learn how to "Love God …with their minds"

(Mark 12:30) by aiming for high academic standards as an expression of Christian education

congruent with Reformed theology. Even though some families apparently found the model

difficult to understand, their experience with children helped them realise the value of a

system which focussed on what children seemed to do naturally at various ages.

> I was able to explain the trivium and what it means in practice, that we focus on rote
>
> memorisation, and most of them know kids well enough to know that is right.   And they
>
> know teenagers – that they like to argue, so it made sense to have logic and so on. And
>
> the rhetoric - most people have appreciated that. They have certainly said that most of our
>
> kids go out and they've got confidence in public. And a lot of parents know from their own
>
> upbringing that they themselves are not. And that speaks a lot. They've really taken that on board.
>
> So in a sense they like the truth of it.

(Principal M)

This additional designation of the trivium as a description of developmental stages was

discussed in section 3.3 as a consequence of the model being used differently in modern times

from its original use for adult education. Because the ECS community has wholeheartedly

embraced this educational approach, the school prospectus includes an outline of the trivium

methodology and the value of studying ancient languages and culture in the light of biblical

Christianity, with all subjects integrated around the Bible:

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> Emphasise the fundamental rules of each subject [grammar], the ordered relationship
>
> of particulars in each subject [logic], and the clear expression of these for each
>
> subject [rhetoric]...
>
> Teach all subjects as part of an integrated whole with the Scriptures at the centre
>
> (2 Timothy 3:16-17) in order to equip the child for his calling in this world.
>
> (CSA**D, 2008, p.5)

All subject areas and educational structures are viewed from a Christian perspective in the belief that all things pertaining to education are shaped by Christian truth, echoing Augustine's claim that all truth is God's truth and that any school subject can be taught Christianly (Gaebelein, 1968; van Brummelen, 2009).

> The Christ of Scripture restores man to fellowship with God, and renews the mind unto
>
> a right knowledge of God, self and the world. The Bible as God's written Word is
>
> man's only infallible authority, the only key to the knowledge of God, self and the
>
> world.
>
> (CSA**D, 2008, p.6)

The school's educational philosophy was carefully reworked by the whole church community to ensure it was able to be worked out in the reality of the classroom. In the words of the principal

> our kids should be - or Christian kids should be - culture-transforming-type people.
>
> And that's where the classical came in, because it actually equips people to be leaders.
>
> Not everyone is going to be politicians or CEOs but it gives them a basic skill set they
>
> can do a lot with. That's where our philosophy, with its rigorous academic basis –
>
> you know Christian education is not just withdrawing from the world but it's trying
>
> to do a genuine Christian job as best you can – so kids are leaders in society later.
>
> That's what we are hoping for.
>
> (Principal M)

Curriculum in the New Zealand non-classical school

Despite differences between the two curriculum models in this study, many subjects are common to both. The national curriculum in New Zealand covers all essential learning areas defined by the New Zealand Ministry of Education as necessary to prepare students for the challenges of the 21st century. *The New Zealand curriculum* (2007, p.17*)* identifies eight learning areas, namely English, The Arts, Health and Physical Education, Learning Languages, Mathematics and Statistics, Social Sciences, Science and Technology.

As well as teaching these subject areas, the ACS school community declares a commitment to dealing with children as individuals so as to encourage them to reach their maximum potential as they develop in their understanding and knowledge of the Bible. The emphasis on the individual development of children is one aspect of Christian schooling advised by Pearcy (2004) and Vanderhoek (2006) as the means to prepare them for Christian service. This perspective also aligns with the concept of curriculum providing a holistic range of experiences for pupils in any school as discussed in section 2.2.

There is also a strong commitment to partnership between the school and home, for the development of Christian character and servant leadership in the students (see section 5.2) "…enabling children to personally adopt a Biblical Christian worldview in knowledge, understanding and life applications" (ACS, 2007, p.2).

ACS is one of a growing number of New Zealand schools which have a Middle School for Years Seven to Ten rather than the traditional Intermediate School format of Years Seven and Eight. The justification for the Middle School, namely that children in early adolescent years have specific needs, is very similar to the justification of the classical approach for the logic period in the trivium model.

> Logic and research indicate that students entering early adolescence have different
>
> needs to primary or college students. Therefore to cater for these specific social,
>
> emotional, educational, spiritual and physical needs the educational environment
>
> is adapted to appropriately cater for the unique needs of this group.
>
> <div align="right">(ACS, 2007, p.5)</div>
>
> They like to argue. They enjoy correcting the mistakes of their parents and teachers.
>
> They are beginning to develop the ability for abstract thought.
>
> <div align="right">(Garfield, 1996, p.93)</div>

The choice of curriculum model demonstrates possibly the greatest contrast between the two New Zealand schools. The curriculum model of the classical school, ECS, is closely tied to its special character, whereas ACS expresses its understanding of Christian education through a commitment to the development of students' faith within the framework of the national curriculum. The non-denominational nature of ACS does not, however, appear to the principal and members of the Board to hinder the setting of both Christian and educational goals similar to those of its classical counterpart.

The belief in both communities that parents have the prime responsibility for the education of their children means that there are still strong parental ties and expectations. Both schools believe that their mandate involves the charge

> …to discipline the children, not evangelise as such, though it comes as a bit of a
>
> by-product at times. But the school is established to disciple children from
>
> Christian families.
>
> <div align="right">(Principal F)</div>

5.8.1 Advantages and disadvantages of the choice of curriculum

Because the curriculum model of each school is so closely aligned to the school's philosophical stance the two New Zealand principals were asked what advantages or

disadvantages they believed existed for teachers and students in their school's choice of curriculum model.

Advantages and disadvantages of the classical curriculum for staff

Principal M of ECS believed that his staff had a tremendous advantage because he believed the classical model gave them

> a much more interesting job because you can actually understand why you are
>
> doing stuff. Frankly I see some of the stuff that's going on, especially in the
>
> New Zealand curriculum and I don't understand why they do it. There seems
>
> to be a whole jumble of competing philosophies going on. So you think 'how
>
> do I judge what's right and what's wrong in this situation?' Whereas the
>
> classical model is a lot clearer. You have a more deliberate focus. I think
>
> that's an advantage. The disadvantage of course, is that you're on your own.
>
> So professional development is not always possible, and any progress career-wise
>
> might be a disadvantage in the long run, I think. They've not got the experience
>
> with the New Zealand curriculum. That's the down side for the staff.

He was further asked whether the fact that the classical curriculum is relatively new in New Zealand meant his staff faced particular challenges in teaching subjects they had not necessarily learned. He was fully aware that this was a huge challenge since some subjects are completely new to staff.

> When I first got into it I was and still am the only logic teacher. I had to learn that
>
> all from scratch, which is fine because there are quite a lot of resources around, but it's
>
> taken me a while to get my head around what's what, what works well, and that.
>
> The same with rhetoric. I've sort of learned that from nothing. That was actually
>
> interesting for me. I enjoyed it. And again you get material from the USA. You've
>
> got something to work with. And the teachers, from what I've seen, have responded
>
> to the challenge quite well. Small school problem is always the case. You put teachers in a position
>
> where you're it, even though you have no background. It's hard.

Mention was also made of the need to adjust American material to the New Zealand context, another issue discussed in the questionnaire. Staff responses to the questionnaire had expressed a sense of challenge, but Principal M's main concern was more on the pedagogy than the actual content of the material.

> The way Americans do teaching we've had a bit of an issue with. They have a lot of 'fill in the blank' type even from the classical schools, so we end up having to create our own material to augment it, because we prefer that they do more of their own writing than simply filling in spaces.

Teacher J believed the curriculum model was actually liberating for teachers because of its flexibility.

> As long as you are focused on a certain core of skills like thinking, communicating, reasoning etc you can apply that in almost any way you want. There is the satisfaction of being able to connect things in different areas much more easily. You've got a model that integrates things readily. The challenges relate to the age of some material used. We use things like Aristotle etc which is great, but often the texts are written in archaic language and the teacher – a lot rests on the teacher being able to make relevant what is very old. The students sometimes react when they are given so much old stuff. There is the implicit assumption that what you are doing is irrelevant and useless. As a teacher you have to connect that and say 'actually what we get from the past is still very relevant'. And you have to adapt….spend a lot of time adapting the old stuff to fit the 21st century. For example, the rhetoric course as it stands rests very heavily on Aristotle's work on rhetoric which is great but he focuses very heavily on rhetoric in the political and legal setting. In the 21st century advertising is a major area where rhetoric is practiced and that's an area where I as a teacher really need to balance out what is lacking in Aristotle's work.

This teacher clearly believes that the skills of logic and rhetoric, which are at the core of the classical curriculum model, offer an advantage, despite the limitations of material and initial reactions from students.

Advantages and disadvantages of the classical curriculum for students

Principal M commented that although he believed children at his school received a "much more rigorous education" than was possible in other schools, this was balanced out by the limited range of subjects available. Because the classical model tends to be more academically focussed there are some struggles for the less capable child who might object by asking why it was necessary to do logic and rhetoric. He continued:

> we do spend time trying to explain, 'well everyone thinks'. And the same with rhetoric – 'we all communicate so we try to teach you to do it the best way possible'.

He perceived that students enjoy these subjects once they start, but some still struggle with rhetoric

> …so we work with them to get the main things, e.g. that they are confident
> to communicate in public. It's great that some kids who are not academic at all are
> able to put together a rhetoric thesis of 3000 words and deliver it orally to their peers
> and the teacher at the end of the year. That's the main part of the rhetoric in Form Five
> [fifteen year olds]. And the topic has been something they are interested in.
> That's been the key. We say 'Well what are you interested in?' and one kid might
> be interested in motor cycles, or something like that and they'll get right into some
> exotic topic like motor cycle carburettors or something, and that seems to solve the problem.

The two classroom teachers from ECS who were interviewed largely echoed the responses of Principal M. Teacher S believed that the trivium model gives the children

> the foundations that they need. They know their facts, and not only that, they
> learn to think. They know what they believe in and why and they are able to articulate
> that, and they are able to go out, either into the workplace, or to study when they get
> older, with a solid basis to think - to be discerning in what they read and what they
> write. That is what you want, I think, from Christian young people. And that's why
> I think the school uses that model.

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This sense of confidence echoes Principal M's comments above. Teacher S's experience has been with primary age classes, and it is here that she believes the children get their best foundation for the logic stage and beyond. She acknowledged this meant that teachers need to

> know quite a lot yourself. I like that because you are constantly learning yourself,
>
> which I think you should.

She was also aware of the difficulties of having a small staff in that each teacher had to cover a range of subjects even though resources were limited.

Advantages and disadvantages of the state mandated curriculum

For the non-classical school ACS, the emphasis was different. The main focus of Principal F's response was somewhat pragmatic, directed towards the advantages integration with the state system offered, particularly the fact that salary and operational costs are covered by the integration agreement.

> So it allows you to offer your education to a wider range of kids. That's why this
>
> school moved from being independent to being integrated. The Christian community
>
> could not afford to be paying $4000 a child to attend this school and because the
>
> whole philosophy is family based, a family with four or five kids couldn't afford
>
> to come. So the advantage is that it has opened it up, made it more accessible to
>
> more students, more families.

Asked whether any disadvantages had emerged, she replied "Haven't found any yet." Potential disadvantages related to the availability of suitable teachers or resources to present subjects in accordance with the school's beliefs were seen as part of a national problem of teacher shortage. A specific challenge lay in the need for very careful selection of applicants, but again this was seen to be common to other Christian schools as well. Principal F believed:

> there's a perception 'Oh, that's a good school and I could teach Christianity, or I
>
> could teach religious studies.' They don't understand that it is integral to everything

we do, so… that's a bit of a challenge, but we get some very good quality applicants

for jobs, and when I talk to colleagues in state schools, they are struggling too, so

it's not any more of a challenge for us. We have to be a lot more careful obviously.

So the staffing thing is the biggest challenge we face.

Disadvantages for staff at ACS

Rather than there being disadvantages for teachers in using the state curriculum, there were

challenges identified with respect to teaching their subjects Christianly. This was seen as a

particular problem for those teachers who trained in a state training institution. The following

quote supports the contention that many teachers struggle to understand the meaning of

teaching Christianly as Goheen (2004a) and Thompson (2003) have contended.

> For those teachers we face the challenge of teaching them how to teach Christianly –
>
> which is a huge challenge because you don't have the finance or the resources to
>
> do that and have them teaching the whole time so you have to put in place an
>
> induction process and a professional development process that actually gently
>
> takes them along that path.   (Principal F)

Questionnaire responses and classroom observations are expected to provide evidence as to

whether expressions of Christian faith are indeed integral to all activities. Although Primary

Principal J offered only brief responses, mostly commenting on the extent of the primary

school curriculum she mentioned many of the same issues as Principal F had discussed.

> The advantages could be said that the students get the taste of a lot of subjects.
>
> The disadvantage is that the emphasis is very widespread rather than concentrating
>
> for example on numeracy and literacy for the primary school, which is probably
>
> what I would like to do.

Challenges facing individual teachers were almost all due to a crowded curriculum rather than

any inherent structural issue.

> Teachers in classes now face tremendous stress and pressure. First of all it is an
>
> overcrowded curriculum, and I do not believe that they can do justice to any subject

particularly well, especially the numeracy and literacy because it is overcrowded. Teachers are meant to have a knowledge of a wide sphere of subjects which I think is almost impossible - to have passion for all of them, and though we do a bit of changing of teachers so they teach the same subject to a lot of classes we don't do a lot of that in the primary school, because of the home [classroom] base situation we are trying to work from. But they don't get enough release time, preparation time, even mentoring or helping to become knowledgeable about the subjects they are trying to teach. I think it is fourteen subjects- you are trying to cover if you dovetail them all out - but you have to make a decision which ones you are going to concentrate on and I'd say we concentrate more on the literacy and numeracy in the primary school.

5.9 Discussion of the different curriculum models used

In discussing the choice of the New Zealand national curriculum as opposed to the classical curriculum model, it was clear that the ACS school community understands the role of curriculum in a different way from the two classical schools. For both KCS and ECS the classical curriculum model is believed to be 'biblical' as defined by Wilson (1996, p.23) "But the... use of classical is thoroughly Christian, and grounded in the ...great truths of Scripture recovered and articulated at the Reformation" (emphasis in original). ACCS educators see every aspect of the model as an expression of worship as much as a model of Christian education. The trivium structure as a format for the classical approach to curriculum is believed to provide the academic rigour and love of learning these communities want for their children. This suggests that for ACCS the meaning of teaching Christianly is more closely aligned to following the dictates of the curriculum model than any theological perspective.

The testimony of a recent graduate quoted in section 5.13 below provides some level of evidence of success. Enormous value is put on the development of intellectual capacities through the learning of logic and rhetoric and the in-depth study of history and western

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culture through its literature. All these are considered to be vital components of Christian education, alongside Bible study and membership of the church community. Principal M of the classical school stated during his interview that the ECS community want their children to be citizens who make a real impact for good on society regardless of their adult role in the workforce.

By contrast, the ACS school community see the national curriculum only as a tool by which the desired academic, social and spiritual goals can be met. More important than the curriculum model itself is the commitment of families to the school's vision, the godly character and academic excellence of teachers and the fostering of sound trusting relationships within the school community. These aspects, built on the integration of informal Bible study and biblical perspectives in pedagogy are seen to be providing a Christian education. This perspective is focussed more on the development of community through trusting relationships which are believed to provide sound motivation for learning, as opposed to the emphasis on rigorous academic structures in the ACCS schools.

5.10 Appointment of teaching staff

None of the schools in this study publish a specific policy of teacher appointments and expectations, but there is clear indication throughout the documentation of expectations regarding a teacher's character and pedagogical expectations. For the American classical school, KCS, character issues are described thus:

> The teacher consistently exhibits love, joy, peace, and spiritual maturity in his/her
>
> daily work and relationships in the school. He/she is punctual, compliant, attentive
>
> to duties etc. The teacher loves his/her students through consistent self-controlled
>
> discipline.

(ACCS, 2004c, p.54).

A distinctive feature of the staffing policy of KCS is their decision to prefer people committed to the school's philosophy and who demonstrate a 'gift of teaching' over those trained in the state system (M Whitling, personal communication, July 12, 2004). Although this implies many will have no formal training at all, this approach is seen to be more truly biblical than the acceptance of a person, however well trained, whose philosophy is 'worldly'.

In support of their teaching staff, KCS has a stringent teacher appraisal program which involves formal observations and interviews scheduled twice yearly. A wide range of issues relating to instruction, classroom management, lesson planning and grading is evaluated, as a guide to offering ideas for enrichment or improvement, if necessary. Each teacher is required to complete a weekly accountability sheet listing the type and number of assignments given, graded and returned. Teachers also have a compulsory personal reading program to complete, as well as being required to undertake ongoing study in their teaching areas to enable them to be as scholarly as possible in fulfilling their teaching duties (ACCS, 2004c).

Understandably, both New Zealand schools have established similar character expectations for staff, but neither undertakes an appraisal system as stringent as that described above. The ECS prospectus promises families that the school will

> provide a clear model of the biblical Christian life through our staff and Board…as
> this is essential in delivering a Reformed Christian curriculum.

(CSA**D, 2008, p.5)

Similarly, the non-classical school claims to promote 'people of godly character' by

> employing only qualified staff who have a genuine commitment to Jesus Christ and
> who model a Christian lifestyle.

(ACS, 2007, p.5)

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It is clear that for all three schools the demonstration of biblical qualities in the person of the teacher is critical to the maintenance of their special character. The exclusive nature of the KCS recruitment policy along with the stringency of appraisal suggests a tendency towards the legalistic approach warned against by van Brummelen (2009).

Both principals commented on the need for new staff to be enculturated into the school's philosophical approach.

> You get a new teacher come in and they would completely shape the curriculum their way. You then get a replacement and it all changes to that person's way and we've been letting that happen over a number of years. I guess you could argue 'that is just my particular flavour'. I think we need a philosophy that stands, and when we bring a staff member in we bring them to that philosophy rather than their philosophy becoming the school's because they work here. We need to own our own curriculum, if you like.
>
> (Principal M)

> New staff we have to bed in to what it all means, particularly if they come from state schools, where it is all about academics or only about raising the profile of the school, taking new people on board. The biggest challenge is getting them to buy into the culture and understanding the culture, because we don't want to change our culture – because it works and it's what we believe in so – and it's the same with the parents. The bigger you get, the harder it is to maintain the family feel and to keep those stakes in the ground – the ones that are never going to move.
>
> (Principal F)

Each of the schools in this study sets high personal and professional standards for teaching staff, requiring staff to be committed Christians, with the expectation that each one will, as a minimum, model Christian qualities (van Brummelen, 2009).   Differences that have emerged hinge on the preference that classical school staff be members of the Reformed church community and the rigid appraisal system.

5.10.1 Differences in pedagogical approaches

One aspect of the enculturation of staff relates to pedagogical approaches relevant to the curriculum models employed. Although personal character qualities are highly valued in the two classical schools the pedagogical emphasis is on academic excellence in fulfilment of the classical curriculum requirements.

> The teacher demonstrates true academic scholarship… [using] a variety of thought – and interest- provoking techniques; e.g. questioning, illustrations, applications etc.

> (ACCS, 2004c, p. 54)

Principal M gave a clear understanding of the impact the classical curriculum model has on each teacher's pedagogy

> because we are a classical school. There are definite philosophical views about teaching
> that we believe are important so we expect that teachers actually instruct. We tend to go
> more for direct instruction than group work. We are not against group work. We just
> don't see it as the great wonderful thing the state seems to. We will use methods that
> come out of the classical philosophy - like a lot of recitation, singing you will find in
> the juniors [sic] and you will find us spending quite a lot of time on review. That's one
> thing I've personally taken on board is review – so we do a lot of review.

The implementation of the ACCS philosophy in this way is believed to produce young people soundly grounded in their Christian faith, able to take their place in society well equipped intellectually, spiritually and socially. Once more the emphasis is on scholarship and the requirements of classical curriculum model rather than any distinctly biblical perspective of character or pedagogical approach for the expression of faith.   Further comments in relation to pedagogy in general and mathematics classes in particular will be discussed in Chapter Seven.

By contrast, the pedagogical statements for ACS reflect more the desire to stimulate Christian relationship and inspiration for the students, with a commitment to

> …creating an environment where a sincere desire to know God is fostered; utilising whatever resources are consistent with biblical truth; [using] teaching and learning strategies that challenge students to achieve to individual potential; actively pursuing opportunities for young people to serve, bless others, and share their faith in the wider community.

(ACS, 2007, p. 2)

For the non-classical school the focus is clearly away from the curriculum model itself, which is viewed as a means to an end, and is placed firmly on a learning environment fostered by the development of sound relationships between teachers and learners in a community focused atmosphere. There is a belief that Christian education is defined more by creating such a situation than by adhering to any specific curriculum model, range of subjects or theological stance. This way it is believed that servant leaders will be developed. The discussion in section 3.6 focussed on the personal expressions of faith as a vital part of teaching Christianly, but also suggested the inclusion of perspectives in curriculum and pedagogy.

This focus on learning relationships is not restricted to Christian schools. Hunt (2005) believes that sound learning relationships are vital for intellectual growth and are central to lasting educational reform. Hattie's (2005) research, also cited in Chapter Two, highlighted the powerful influence of relationships between teacher and learner. A more complete discussion of the perspectives, pedagogy and classroom practices of teachers in the two New Zealand schools will be presented in the next two chapters.

5.11 Policies for parental involvement in the two New Zealand schools

Parental involvement in New Zealand schools was discussed in section 2.5. Both New Zealand schools in this study have a firm belief that the ultimate responsibility for a child's education lies with the parents, but some differences have emerged in the implementation of this policy. These differences hinge around the close church community of ECS as opposed to the more broadly defined community of the non-classical school.

Parental involvement at the classical school

For the New Zealand classical school there is an expectation that parents should be actively involved in the education of their children in line with ACCS policy. This firmly held belief in parental obligation is based around Old and New Testament scriptures (Deuteronomy 6:4-7; Ephesians 6:4) which command parents to instil the law of the Lord in their children. Schools are seen as support for families and the signing of a covenant between parents and school seals this commitment.

> Not only are parents responsible to oversee the Biblical teaching of their children,
> they are also responsible to see that their children don't receive false teaching …
> parents *should* see the work of the Christian school as a supplement to their own
> teaching… the parents are the ones given the charge to educate, train and instruct
> their children.
>
> (Wilson, 1991, p.51. emphasis in original)

> We recognize the primacy of parents in the education of their children…. Parents are
> expected to support the discipline and instruction of the school …and fulfil their
> obligations under the Parent-School Covenant…
>
> (CSA**D, 2008. p.8)

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Because of the denominational focus of ECS there is no dispute about tenets of faith or their expression within the school, as indicated by Principal M.

> When we enrol a new family – we have a fairly extensive school/parent covenant.
> One of the points makes it quite clear where we come from. We make no bones
> about the fact that this school is based around a certain theological position.
> We publicly align ourselves to the professional standards we use and we actually
> go and interview the family – myself and a board member. And one of things that
> they have to understand is that we may say something in class that maybe they
> don't agree with and the child comes home - and they don't like adult baptism
> for example, so we make sure they understand where we are coming from and also,
> if there's a problem-and they must accept - from our point of view, we can't make
> them accept our point of view but they accept it's going to be there, and they learn
> it as an academic exercise. 'You're at liberty to correct them at home but what
> we don't want is your child proselytising around the school'. That's how we deal
> with it. Most parents are fine. In practice it has worked out well I think,
> because we are upfront.

Parental involvement at the non-classical school

In contrast to the situation at ECS there was very little on the ACS website which relates specifically to parental expectations, but its general policy is clearly outlined.

> The development and education of our students is a partnership between school and
> home, a responsibility which can only be achieved through a close relationship
> between parents and teachers. …it is important to us that all students feel safe
> and supported throughout their school day.

(ACS, 2007, p. 3)

During Principal F's interview she was very firm about the expectations that parents should honour the commitments made during the interview process.

> In my nine years here there have been a few people who have challenged a few things –
> but the vision and the mission and the philosophy are so clearly stated, and they choose
> to buy into it.

In contrast to the requirement to commit to a covenantal relationship in the classical school, these comments indicate an expectation at ACS based more on a relational commitment to the school. Although the approach to parental commitment is more aligned to partnership between parents and teachers than at the classical school, there is a clear understanding that parents are expected to accept the school's philosophical stance.

The inter-denominational nature of ACS means the approach to issues of dispute is slightly different from that at ECS with a broad understanding of Christian perspectives on learning and biblically acceptable behaviour rather than commitment to any particular denominational doctrine. Principal F's comment was that the families "sign a statement which says they buy into it [the Christian perspective]."

> Our kids come from a variety of churches and they've all got different ideas and
> because the church doesn't set real boundaries any more, there's no real promotion
> of those values from the pulpit in the same way there used to be twenty years ago.
> The boundaries have got much wider, so people are accepting of stuff that twenty
> years ago wouldn't have been accepted. So you can't take your standard from
> any specific church because not everyone will buy into that. Therefore we have a
> special character statement and tenets of faith, but that is fairly universal and that's
> what we work from. And the Word of God and if it's not in the Word of God it's
> not going to happen. So if we are talking about biblical worldview teaching and
> the Bible as being the source of all truth and knowledge, then that's the foundation.
> Unfortunately there are very liberal ideas in a lot of churches.
>
> (Principal F)

Complaints, which were infrequent according to Principal F, are firmly dealt with by reminding parents of commitments made at the enrolment of their child. To some extent the pressure for compliance is as great in this situation as at ECS.

> If you buy into it, you buy into all of it and they sign a statement which says they buy
>
> into it. On a couple of occasions I've pulled out that statement and given it to a parent
>
> to remind them that they actually made a commitment and sometimes they say they
>
> didn't understand what that meant at the time, but when they were wanting to get their
>
> kid in here they will sign their life away. It's only afterwards and there's something
>
> they don't agree with e.g. the jewellery rules, or the cell phone rules or something else,
>
> and they are usually silly things around rules - rather than major things like the philosophy.
>
> (Principal F)

Primary Principal J expressed a similar opinion over dealing with parents who challenge the school's handling of difficulties, though she was much briefer:

> Not anything you could call significant. But we have taken note of things – can't think
>
> what they are just now. We are aware of what they say and we do consider it –and see
>
> if it's valid.

5.12 Distinctive features of the two schools

Distinctive features of the classical school

When asked if it was possible to identify features of ECS which would distinguish it from other Christian schools, and which might encourage enrolment there, the principal of ECS emphasised the school community's deliberate and non-negotiable denominational allegiance which has given rise to the classical curriculum. He further discussed the complex mix of financial, doctrinal and social challenges facing his school with regard to enrolment policy. He was clear that providing an affordable Christian education was difficult for his community as well as for other Christian families in the area.

> We are the only Christian secondary school in the city at the moment that I know of
>
> apart from R Christian School, which is way up north. So we've got parents who

want a secondary Christian school for their children and because it's independent the fees are pretty high so they are serious about it. I think that's one of the advantages of a fee that it does actually filter out the parents in that sense. So our constituents are mostly people from the Reformed community.

The children can easily – 'cos our kids know one another, they've been going to school together for years and then you get a stranger come in - there's a tendency – 'Oh, they're a stranger', so they tend not to make them terribly welcome. The kids feel that – because the relationships are so strong. That's a bit of a problem from time to time. And we are reminded – the Bible says we should welcome the alien and the stranger, so… and they try. The other kids are a bit iffy as well. So we've had those issues, but they seem to work out over a period of time.

The concern over enrolling children from outside the immediate church community was also addressed by Board member D, but no clear solution was suggested.

It boils down to Christian people learning how to work together. In a large community, even if 20% disagree, there is enough support to continue, but in a small community this becomes difficult, if not impossible.

Distinctive features of the non-classical school

Because it was known that in contrast to ECS, ACS included a small percentage of non-Christian families in its community, Principal F was asked why such a family would want to enrol a child at ACS. Her answer came quickly.

Because they don't want to go to [the two closest state schools]. There is a lot of talk in the community about whether kids are happy at school, whether they are achieving, whether there are good opportunities, and our kids have very good opportunities in the arts and sport, leadership opportunities, and academically we achieve well. We achieve way above the local colleges academically, and also there is a perception that this is a nice school where kids will have nice friends and there won't be any bullying, bad language, bad attitudes or drugs or anything like that. It's a misconception because things like that happen everywhere,

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but that is the community perception – that if you were stacking up against

[the two local schools] then this would be the school of choice. A lot of applications

come in from people who either have friends here, or neighbours, or they've seen a

change in the kids of friends or neighbours. They want the same for their kids, or

our kids are a very happy group of kids. The kids are happy, they play well together,

they look as though they are enjoying school and those are the kinds of reports

we get. Somebody comes to the school and within a couple of weeks I'm getting a phone

call or an e-mail saying 'My kid's never been happier', so…

These comments give a very clear picture of her awareness that the distinctive nature of ACS

is closely tied to student achievement in a wide range of areas and of the general public

perception regarding the behavioural standards maintained within the school community.

5.13 Graduate profiles

All   schools in the study claim to offer their students the best possible preparation for

adulthood, but evidence of the intended outcomes is extremely difficult to quantify. It was

noted in section 4.2 that all these schools have only been in operation for about 30 years and

none has kept continuous formal records of graduates beyond their last year at school. The

American classical school, KCS, claimed that 95% of its 2002 graduates entered four-year

university programs (ACCS, 2004c), but it has not been possible to access details of

completion rates or employment for these students or any data from other years.

No details about graduate destination were presented in documentation from ACS, but the

following aspiration was included in their electronic prospectus:

students will leave ACS with a strong commitment to honesty and justice, the confidence

and ability to communicate effectively in an increasingly multicultural society,

compassionate and concerned for the needs of others… We seek to instil in our students

an appreciation for the natural world… a respect for the importance of history, culture

and heritage across time and diversity. Above all the college encourages students to

be wise leaders whose lives are based on an understanding of what it means to love

God with all the heart, mind, soul and strength.

<div align="right">(ACS, 2007, p.5)</div>

In July 2007 a meeting of the New Zealand classical school community, ECS, was held to discuss the future direction of the school which had been under considerable financial strain in recent years. At that meeting graduates were among those invited to speak. One young man, who finished school in 2006, presented the following testimonial in support of the curriculum model, which he values highly, although he is aware that other schools may have been better resourced or may offer a wider choice of subjects.

> Earlier in the year, I received several hundred dollars to assist me in my studies from the
> tertiary studies grant at the college. I was and remain very grateful for this, but in the
> intervening months I've discovered something more important to be thankful for.
> The quality of education I received during my seven years at the college is frankly stunning,
> especially given the limited resources the school has to play with. It is not uncommon for me,
> or any other of the ex-students of the college I've spoken with, to find that course material at
> uni that causes issue for the class is nothing new to me. I well remember reading my Algebra
> notes during my first week at [university]and recognizing them from third form logic classes.
> I've found that what the college lacks in copious curriculum subjects it more than makes up
> for in the depth of study of those core subjects it focuses on.
>
> Even more crucial than that though, I've been taught how to think. When struggling with new
> material, I have access to tools, of rhetoric and logic and critical thinking that my classmates
> simply don't possess. As I'm sure both [principal] and Mrs Sayers would agree this is a precious,
> precious gift, for all of life, not just for study. The college may not be big, or shiny, or glamorous, but
> even so it is a beautiful thing. You students, treasure the opportunity, and use it wisely. You parents,

continue to support it so that my children can have the same gift you've given me. And you, board

and teachers, thank you, and keep up the good work.

5.14 Summary of policy and governance issues

Data collected in this study show that the schools' educational policies are consistent with

their declared mission statements and philosophical approaches to education. All the issues

addressed in this chapter have been presented from the perspective of the published

documentation and the views of governance and senior management staff.

Intertwining of educational philosophy with denominational theological approaches was

evident at ECS, with allegiance to Reformed approaches paramount in decisions regarding

staff appointments, student enrolments and other issue of conflict. By contrast, the

interdenominational stance of ACS has left it free to enrol children from non-Christian

families. Expectations of compliance were seen to be as stringent as at the classical school,

even though not based on specific doctrinal approaches.

Similarities emerged in the claim of all three schools to base their curriculum on biblical

foundations with social and spiritual growth highly valued. At KCS, the USA classical

school the interpretation of Christian education has led to withdrawal from any involvement

with state education systems, and to the development of the trivium classical curriculum

model built around a scaffold of Bible study. In this way Christian perspectives and the

classical approach are believed to be integrated.

There are some variations in the implementation of this model in the New Zealand classical

school, ECS, although there is still an uncompromising commitment to Protestant Reformed

doctrine and a degree of withdrawal from the state educational system. This withdrawal is

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limited by the requirements of New Zealand government authorities that registered schools be staffed by qualified personnel.

By contrast, intellectual development is not given priority over social and spiritual development at ACS, the non-classical school, but the primary goal seems to be to develop young people well balanced academically, socially and spiritually. The curriculum model is strictly a tool by which this goal can be met. In sharp contrast to the exclusiveness of the classical schools the integration agreement between ACS and the New Zealand government determines the choice of the state curriculum model.

It is clearly understood in all the school communities that preserving their special character, Christian and/or classical, means developing specific policies and systems to ensure no compromise occurs. It is in the area of policies that a disjunction emerges between the two New Zealand schools. For the classical school the focus is primarily on theological issues, from which educational decisions are made. Both staff members and those who comprise the governance bodies are selected from within the church community, leading to a blurring of governance and management roles. There is also a blending of theological and educational philosophy in the choice and implementation of the classical curriculum model.

By contrast, for the non-classical school teaching staff are required to be members of a Christian church, but the focus is on commitment to the school's philosophy rather than any particular doctrinal stance. Membership of governance boards follows the pattern of state schools, representing a range of interested parties, including parents, but not exclusively. In further contrast to the situation in the classical school the role of these boards does not intrude into that of management staff.

This chapter has discussed some aspects of response to the research question "What impact does a school's philosophical stance have on policy, procedures, perceptions and practice?" These issues have been addressed from the perspective of governance and management staff. In the following chapter the perceptions of classroom teachers will be discussed in order to further probe the question by ascertaining how they see the implementation of their school's educational philosophy and policies.

Chapter 6: Process. Teachers' Perceptions

6.1 Introduction

 The focus of this chapter is on the perceptions teachers in the two New Zealand schools have of the impact their respective school's philosophical stance has on school processes and their own teaching practice. There are additional observations of each school's graduate profile, the curriculum model, pedagogical and assessment procedures and special attention is given to the teaching of mathematics.

6.2 Data collection procedures

Data were collected through written questionnaires and semi-structured interviews. Those interviewed from the New Zealand classical school (ECS) included the principal M, who also teaches some classes, and two teachers S and J. From the integrated, non-classical school (ACS) the principal F and the primary principal J, whose roles are purely administrative, and three teachers C, W and V were interviewed.   All interviews were conducted in July 2008.

As outlined in section 4.6.1 there were only 11 complete responses, all from the New Zealand schools. Unfortunately limitations in the software contracted some of the initial responses from ratings to frequencies or totals, disguising individual responses. In sections where respondents were asked to rank teaching or assessment procedures of preference, the identification of individual responses could have provided evidence of differences, or their lack between the approaches of each school.   These would then be rejected or confirmed by evidence from other data sources. However, expected differences emerged with relative clarity during interviews and classroom observations.

Certain written responses made it possible to identify that four of the completed forms were from teachers at the New Zealand classical school (ECS) leaving the other seven from the non-classical school (ACS). Eight respondents were identified as female and three male.

The following tables present the age groupings, teaching experience and qualifications of the respondents.

Table 6.1 Age groupings of respondents

Age group	20-29 years	30 -39 years	40 -49 years	50 and over
Number of respondents	1	2	4	4

Table 6.2 Summary of   respondents' teaching experience

Number of years	0 – 5yrs	3 – 10 yrs	11 – 15 yrs	16 – 20 yrs	Over 20 yrs	
…in teaching profession	1	3	2	0	4	Only 10 responses
…in current position	10	1	0	0	0	
…in a government school	4	5	0	0	1	1 N/A

One respondent did not identify the length of time he/she had been teaching, and one respondent from the classical school had not taught in a government school. Although the total number of years of teaching service is reasonably widespread, all respondents have been in their current position for ten years or less.

There was considerable variation in the qualifications identified and in the institutions where they were gained. The type of qualifications such as Post Graduate Certificate and Diplomas is consistent with the high proportion of respondents who identified themselves as over 40 years of age. This demographic as well as the number of people from countries other than

New Zealand is reasonably typical of each of the schools involved as well as of other

Christian schools throughout the country.

Table 6.3 Qualifications of ECS respondents

Qualification	Institution and country
BA	Victoria University, New Zealand
Bachelors [sic]	Wellington College of Education , New Zealand
Higher Diploma in Education	University of Freestate, South Africa
BA Hons	Pretoria College of Education, South Africa

Table 6.4 Qualifications of ACS respondents

Qualification	Institution and country
Post Grad Certificate	Edge Hill College, UK
Dip Ed	University of Alberta, Canada
B. Ed. (tchg) [sic]	Bethlehem Institute, New Zealand
M Ed	Wellington College of Education , New Zealand
Graduate Diploma in Education	Massey University, New Zealand
BA Hons, PGDip Sci [sic]	University of Pretoria, South Africa
B Ed.	Palmerston North Teachers College, New Zealand.

6.3 Philosophical stance of the schools

Section One of the questionnaire began by asking respondents to describe their school and

express their understanding of its philosophical stance. These understandings echoed the

view given in each school's documentation, namely that all aspects of school life were

fundamentally based around biblical principles. Two specific responses from ECS were very

brief, namely, "Classical Christian" and "Classical Christian world view". These responses

and one other "We educate holistically, from an integrated Christian worldview" were not

specific, presumably assuming that this would be understood. The fourth response from ECS offered more detail of the school community's understanding of its role:

> Our aim is to assist parents in bringing up their children in the fear of the Lord, giving
> them the tools to be fruitful in his kingdom.

Similarly, the responses from ACS were varied in the amount of detail offered ranging from "No comment" and "Christian" to "To teach students a biblical worldview and to foster student leadership"; "We educate from an integrated Christian worldview"; "To teach a biblical worldview and to foster servant leadership" and "We are to model Christian character". Modelling Christian character reflects the illustration of that approach to teaching Christianly cited in section 3.6, while mention of a biblical worldview approach hints at a metanarrative approach but without specifics.

One ACS response was more extensive:

> I understand that all relationships i.e. teacher/teacher/all staff/pupil/parents are rooted in
> biblical principles. All curricula are to be taught from a biblical basis subjects [sic] or
> in reference to a biblical worldview i.e. all things, humans etc have been created by God
> and have been subject to the Fall and can be redeemed.

This comment suggests that the teacher has an understanding of the Creation-Fall-Redemption framework discussed in section 3.5. The previous comment foreshadows the importance of relationships which were the focus of later questions and which were raised as a significant issue during the interview with the principal of ACS.

Defining characteristic of schools

In order to probe teachers' understanding of their school's philosophical stance more deeply they were next asked to identify the defining characteristic of their school, namely what it was they believe makes that school different. Three of the four classical school (ECS) responses mentioned their school's Christian foundations, namely "a commitment to applying biblical

principles to all aspects of education"; "Non-government, private Christian - Christ-centred" and "We seek to show children that Christ is Lord of every aspect of our lives". Only one of the ECS comments mentioned the aspects that are unique to that school "a Reformed faith is fundamental; classical methods are our aim".

The phrase "Servant leadership", which is the non-classical school's motto, was the only comment in two of the responses from ACS teachers. The other brief comments were "Friendly, open students"; "Holistic Christian Education" and "Small and caring". Again it seems that the respondents presumed that the reader would understand the meaning behind these phrases.

Two ACS responses offered some level of detail as to how a Christian approach might be actualised:

> I would expect it to be the development of the Kingdom of God demonstrated by the
> outworking of the Royal law of love and a 'one another' lifestyle.

> Servant Leadership- training the children to have a balanced-Biblical worldview. Jesus
> grew in wisdom and stature, and in favour with God and men (Luke 2: 52).
> (Intellect/physical/spiritual/social).

The questionnaire responses from classroom teachers regarding the philosophical stance of their school were consistent with those published in the documentation and with responses given by the two principals as discussed in Chapter Five. All respondents were clear about the biblical foundations of their respective schools, but few offered any depth of explanation. Only 1 respondent mentioned anything relating to a specific worldview framework such as that discussed in section 3.5.

6.3.1 Impact of philosophical stance on staff appointments

The questionnaire next addressed the issue of staff appointments, with respect to both qualifications and characteristics sought in new staff. All four ECS responses were almost identical, citing the need for a relevant degree as well as a teaching qualification, for example "Bachelors degree, teacher registration".

Similarly the ACS responses indicated the need for relevant qualifications, for example "NZQA [New Zealand Qualifications Authority] approved teaching diploma/degree", but three were more general, "Teacher training and Bible School Training", "Sound academic profile" and "Suitable for the position being sought". One response was "Competent teachers, enthusiasm, organisation" which is a response more suited to the section which followed.

Regarding personal characteristics sought in a teaching applicant there was one general response from ECS, namely, "Committed Christian, thorough subject knowledge", while the other three referred to the denominational focus of their school: "Reformed church member"; "A Christian with an understanding of Reformed ideas and supporting of Reformed faith";

> A character and lifestyle which demonstrates the fruits of the spirit and subscription
> to the doctrinal standards of the school association. Furthermore, teachers should be
> able to build a rapport with high school-age students.

The phrase 'fruits of the spirit' relates to the New Testament teaching regarding character qualities which are expected to be manifest in the life of a believing Christian. This clearly demonstrates the desire for individual teachers to manifest biblical qualities as discussed in sections 3.5 and 3.6.

6.3.2 Impact of philosophical stance on structures

In the last part of this section respondents were invited to rate on a five point scale from *Very great* to *None* the impact the philosophical stance of their school has on seven specific areas as listed in Table 6.5 below. They were also given the opportunity to comment more fully on each issue, although there were no more than five written comments for any one area.

The results in Table 6.5 below show a clear understanding that each school's philosophy is perceived to have significant impact on the school. The area considered most influenced was teacher appointments, where all respondents stated the impact was at least 'considerable', with a majority stating it was 'very great'.

However comments indicated that the impact may have been greater in intent than in practice, with some limitations on the implementation, for example "We aim for enthusiastic teachers with a Christian worldview but at times PD [professional development] needs to be provided if applicants don't meet those criteria."

Perceived impact on student selection showed a much wider spread of responses. None of the ACS responses pointed unambiguously towards a particular belief system, but one did mention the need for families to be committed to the school's philosophical approach, "We look for students that come from Christian homes". "Difficult in College… Primary age, it is the parents' philosophy that needs most to be in line with the school." Another ACS comment stated that the children themselves are expected to be fully engaged in the school's belief structure, "Students don't have to be Christians, but they must take part in the school's philosophy and abide by it". The last observation was broad, "Majority of students are selected on the same basis as staff". These comments indicate a clear understanding of the

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school's attitude that full commitment to its belief structure is vital, but there is no allegiance to any specific denominational group as is the case at the classical school.

Table 6.5 Impact of philosophical stance on personnel, structures and relationships

Criteria	Very great	Great	Consider-able	A little	None
Teacher appointments	7	1	3	0	0
Student enrolment selection	3	3	3	2	0
Structure of governance roles	2	4	1	3	1
Structure of management roles	2	3	2	3	1
Relationships management and staff	5	2	3	1	0
Relationships between staff and students	6	2	3	0	0
Relationship school and families	2	4	5	0	0

As to the perceived impact of the school's philosophical stance on the structure of governance and management roles there is a clear indication that most respondents believe that the underlying Christian philosophical basis has some impact on these aspects in their school, though few rate that impact very highly. The one response from the classical school, ECS, aligned closely with comments above, "Board members need to be members of the Reformed Church". All ACS responses indicated awareness that for a state-integrated school, both governance and management structures closely follow government policy, for instance, "Mostly defined by state structure" and "Integrated schools structured like state system".

6.3.3   Impact of philosophical stance on relationships

The second area, after teacher appointments, where respondents deemed the school's philosophical stance to be considerable was on relationships. The need for Christian teachers to have an active faith as the foundation on which to build their pedagogy is supported by the results above and by the fact that all respondents also saw relationships between teaching staff

and students as at least 'considerable'. Approximately half the sample rated relationships between management and staff and between staff and students as 'very great'. Furthermore almost the entire sample rated the impact of their school's philosophical stance on all relationships as at least 'considerable'.   Comments reinforced those ratings.

6.3.4 Summary of perceptions of each school's philosophical stance

Respondents from each of the schools indicated a clear understanding of their school's philosophical stance, teachers from the classical school echoing the claims of the school's documentation regarding allegiance to the Reformed belief system of their school community. The ACS responses were more general, since that school has no denominational focus, although responses indicate a clear understanding of the expression of Christian principles, especially in relationships within the school community and align well with published documents and comments from their principal on these issues. The spread of responses in Table 6.5 indicates that the respondents considered the impact of their respective school's philosophical stance to be greater in the area of relationships within the school than on the structures.

6.4 Academic expectations and character development of learners

Section Two sought clarification of the academic expectations as well as character qualities that each school expected to see developed in its students. It was anticipated that as the schools involved have an underlying Christian philosophy they would consider social, spiritual and physical qualities as well as academic achievement to be of considerable importance.

6.4.1 Academic expectations

Academic qualifications were addressed first. As both schools have classes ranging from five year olds to 18 year olds, respondents were asked to identify the highest academic qualification available in their school. They were also asked to specify whether it was an official government qualification, particular to that school, or an alternative to the official government option. A discussion of the public examination system in New Zealand was included in Chapter Two as it is a significant feature of New Zealand secondary schools, particularly as public perceptions of a school's success are tied to the published results of such examinations.

Two staff from the classical school ECS, wrote "Year 6" which would appear to indicate that they were conscious of the fact that ECS is housed on two sites separating the primary and secondary departments, and were referring to what was taught on their site. Other responses identified senior secondary school qualifications: "Students work towards earning credits in the Cambridge International Examinations system", and "offered by Cambridge University". Principal M had remarked during his interview that ECS had rejected involvement in NCEA as inappropriate for that school. Their withdrawal from involvement in NCEA is part of wider dissatisfaction with educational reform in New Zealand as reported in Chapter Two.

The responses from ACS named the NCEA Level Three, as was to be expected in a school using the state-mandated curriculum. Two of these respondents commented further in the next section "NCEA is an official government qualification" and "IB [International Baccalaureate] program trialled but not endorsed". Other comments were not helpful.

6.4.2 Academic attributes

Table 6.6 below summarises the responses from each school to the question about the academic attributes expected in graduates. Attributes were to be ranked from one to four, one being the most important. Unfortunately in this section as in several others, the limitations of the software restrict a full analysis of responses but written responses provided some clarity allowing an element of comparison and contrast between the schools. Some offered only a few suggestions, some none at all.

Table 6.6 Desirable academic attributes

Rating	Academic Attribute – ECS	Academic Attribute – ACS
1	Higher order thinking Oral	Teachable Fluent reader A desire to do their best
2	Sound knowledge base Reading	Basic principles of maths Diligent
3	Well-roundedness- ability to make connections Maths	Know all major Bible stories Organised
4	Ability to learn independently General knowledge	General knowledge Knowledgeable

Academic attributes listed by the classical school (ECS) respondents clearly demonstrate the school's emphasis on developing not only a deep and broad knowledge base, but refined thinking and dialogical skills which are foundational to the classical approach to curriculum. Mathematics is the only subject separately identified, presumably from a teacher who with strong beliefs about its importance. It was expected that responses from the USA teachers would highlight any contrast with the ACS respondents.   A level of contrast has emerged between the responses of the two New Zealand schools.

This contrast shows in the ACS responses being generally more focussed around character qualities than academic attributes, as indicated by those rated highest, namely 'teachable' and

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'a desire to do their best'. Such attributes are indicative of the ACS emphasis on personal development and relationship emerging throughout this study. However the mention of general knowledge, basic mathematical principles and fluency in reading indicate an awareness of the importance of such skills. One ACS response was simply "The aim is holistic so difficult to separate". This respondent offered no entry in any part of the chart which followed.

Assessment procedures at the classical school

With regard to the school assessment procedures in the academic aspects of schooling, it was anticipated that there would be evidence of more formal testing procedures at ECS than at ACS. Three of the four ECS teachers commented on the formality of testing within their school, namely "Rhetoric thesis", "Standardised and unit tests", and "Detailed marks, reports, testing". The other response, "Informally and regularly throughout the school life of the student" was somewhat unexpected given the more formal nature of the classical program. Standardised testing does still have a place in New Zealand schools alongside a focus on formative assessment procedures (see section 2.4).

Principal M was clear that the assessment requirements of a classical curriculum were varied, but closely aligned to curriculum requirements for the age groups.

> I do know that we have had a strong emphasis on memorisation of Scripture right
> through and that starts in the primary school and goes right through. So memory is
> evaluated. We do want them to memorise poetry and things like that and we have
> a big emphasis on correct spelling and grammar - the mechanical things - a big
> emphasis on that and they will get assessed on that.

> At secondary, one thing I've done, in science, and even in maths sometimes, not quite
> as much, but certainly at times, I've deliberately had kids do presentations, more individual
> research and report what they find to the class. Same with the rhetoric level, they

get assessed on their thesis - a huge part of their work in the Fifth Form – it really is.

We haven't been able to develop our model into Year Twelve properly yet.

We are wondering about the future there. If the school were to grow we would

have a second year of rhetoric and it would be at that level. We do apologetics with

Year Twelve and that's really good.

<div style="text-align: right">(Principal M)</div>

Teacher S, one of the primary (grammar) staff, uses a variety of procedures, both written

and oral, for instance

they may have their maths test, then I might ask them to orally repeat a memory

verse that they've spent a couple of weeks learning. Other times they will do

written work that I assess. For instance lately we've been doing Aesop's fables,

and they were doing various activities related to that fable, and the final assessment

was writing a fable themselves. So it can vary from subject to subject. I think it's

strongly written and oral.

She acknowledged the considerable focus on knowledge acquisition at this stage, rather than

on processes and reasoning, which became the focus as the children moved through the

school. There were, however, occasional opportunities for appropriate reasoning skills to be

assessed.

Comments from Principal M on the challenges involved in finding appropriate assessment

procedures for the senior classes in the classical model were echoed by Teacher J, one of the

secondary staff.

That's an area for me at least, which is a bit of a blind spot. I'm not very clear on how

the classical model applies to assessment. Except where you ask a student a question

which gets them thinking logically or rhetorically you could assess them on how well

they expressed themselves. So the assessment sort of flows out of the tasks, if you like.

Any more than that I couldn't really tell you.

His final comment reflects the belief of that a close intertwining of teaching and assessment

enhances learning. The testing of logical and rhetorical skills clearly is challenging, but Faire

and Yates (1994) and Smith (2005) have commented on the deep and purposeful learning which can flow from such studies which help learners to build connections between various areas of knowledge.

Assessment procedures at the non-classical school

In contrast to the ECS responses, both Principal F and the primary Principal J of ACS were clear in their belief that relationship building between staff and children was a major factor in evaluating a child's success at school.

For the ACS management staff, the demonstration of their biblical worldview perspectives through relationship building was considered of prime importance.

> We just know that if kids are in good relationships with their teachers and they
>
> want to do better they achieve higher. So if you look at college which is easier
>
> to measure because you have NCEA results to stack against – we look at who's
>
> doing well and who's not doing well.

<div align="right">(Principal F)</div>

With respect to the biblical worldview framework discussed in sections 3.5 and 3.6, this school clearly emphasises the development of relationships out of personal faith over any specific methodology for presentation of curriculum content.

Further comments were added with respect to the impact of external examinations.

> …but we are working very hard to have a fully streamlined Year One to Thirteen.
>
> We are trying to sell the same message to all the staff. We don't split them up. Yes, we
>
> have syndicate meetings and department meetings, but when the staff is all together, which
>
> is every morning, and full staff meetings and things like that we are singing the same song,
>
> and consequently that's the message we are getting through to everybody. And it does
>
> have good positive spin-offs. I don't think we do anything differently because we still say
>
> it's relationship and good learning comes out of good relationship, so …

Primary Principal J commented on the implementation of ACS's philosophy as the influence of relationships on their planning procedures and meetings:

> …once a term, for the whole of the term's outlines for different subjects. These are done as a collegial group within each department and that group then works together to outwork them. Within that planning we do try to put in aspects of how they are going to teach from the head or the heart or the hands. They have to put in a biblical perspective in their planning – what is the biblical perspective of what they are trying to do. That is a collegial thing and it is also a reflective time of when they can actually look at how things are going. But having said all that, time is a huge factor and I don't believe we always hit the ball on the head every time, and I think it is a time factor. I don't believe the evaluative time is always effective because it has to be pushed into a meeting after school often and when teachers are tired.

In an attempt to probe details of the type of assessment tasks used by the staff at ACS, the question was asked whether or not there was any emphasis on learning knowledge as opposed to skill or attitude in the composing of assessment tasks. Such an approach would indicate whether or not the school's policy aligned with the redirection of curriculum in New Zealand from knowledge acquisition to processes and a focus on competencies (see section 2.5).

The reply from Primary Principal J again referred to relational aspects which she called 'heart attitudes'.

> Because I meet with the heads of departments each week they do have opportunity to talk about these [planning] sheets and the planning of them. The assessment tasks do address all those components of assessment - whether it is knowledge, skill, process, and there's another one I can't think of –heart attitudes you are also trying to work into the program.

The same contrast with the more formal approaches of the classical school was evident in the ACS responses which gave a clear indication of the school's goals of achieving academic

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excellence, but not at the expense of the individual. All but one ACS respondent offered a comment, one of which was "Important", another, "This needs to be kept in balance depending on the individual", expressing a broad, holistic perspective.

6.4.3 Physical, social and spiritual attributes

Even though the major concern of a school might be considered to be academic, it was assumed that in Christian schools claiming to educate the whole child according to biblical principles, the staff of those schools would be able to articulate physical, social and spiritual attributes desirable in a graduate of their school. Table 6.7 lists the physical attributes given in the completed responses, with evaluation procedures discussed thereafter. Repeated responses are indicated by their frequency (n).

Table 6.7 Desirable physical attributes

Rating	Physical Attribute – ECS	Physical Attribute – ACS
1	To perform at the best of their physical ability Fitness (n=2)	Sportsmanship (n=3) To understand and practice a healthy life style
2	Teamwork Large motor skills	General fitness Tidy
3	Competitiveness Small motor skills	No comment
4	Healthy (n=2)	No comment

There is commonality in the responses of general health and fitness expressed by teachers from both schools. 'Competitiveness" and 'sportsmanship' are the only responses which are more attitudinal than specifically related to physical attributes.

Responses as to how these attributes were evaluated were very brief from ECS staff, two stating "we don't", the others "informal assessment" and "reporting". One ACS response echoed this aspect of formal reports "Report comment observations, health and PE [Physical

Education] program". Several other responses from ACS were a little fuller, with the observation "This needs to be kept in balance depending on the individual" repeated. Two general observations about participation were offered, "Physical wellbeing, participation in active activities" and "participation & sports/healthy programs, in school & co-curricular".

Desirable social attributes

Since both schools are Christian it was anticipated that there would be similarities in the social attributes to be evidenced in graduates of each school. This was the case, both in the attributes listed and comments regarding the evaluation of them. Table 6.8 lists the responses offered. Only the attribute of respect was repeated.

Table 6.8 Desirable social attributes

Rating	Social Attribute – ECS	Social Attribute – ACS
1	To treat others with grace Caring	Respectful to adults Able to relate effectively with others Servanthood
2	To treat others with respect Responsible	Respectful to peers Inclusive
3	To edify others Leaders	Aware of others needs Caring
4	Servants	Friendly.

Although respect is mentioned more than once with different rankings, the concept is implied in other responses. Only one ECS response gave any hint as to the school's special character in commenting on the evaluation of social aspects. "Observation and providing public speaking opportunities at school assemblies" relates to the emphasis on developing public speaking skills as a major focus of the study of rhetoric in senior classes. The other ECS responses mentioned the regular, informal nature of evaluation in this area.

School reports were mentioned in one ACS response, "Report comment observations, surveys, group work" with the remark "This needs to be kept in balance depending on the individual" offered a third time. Other than one brief comment being "Very important" the

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other ACS responses were reasonably detailed "What extra-curricular and activities OUTSIDE [sic] school are the students involved – what are they devoting their spare time to?" "Friendships developed, learned to get along with others, service done for others". One referred back to the school motto "Servant leadership". Responses from ACS in this section more closely aligned to the school's focus on relationships than those in the previous section. A more formal approach to the development of social skills was evident in the ECS responses.

Desirable spiritual attributes

The desirable spiritual attributes identified were virtually identical from all respondents who contributed to this section. There is no comment which reflects anything exclusive to the Reformed doctrinal stance of the ECS community, but all comments are what could reasonably be expected from evangelical Christian groups, including an observation of the authority of the Bible, and the expectation that Christian behaviour should manifest obedience and spiritual 'fruit'. Table 6.9 lists the responses offered. Although all responses have been listed there is considerable similarity in their meanings.

Table 6.9 Desirable spiritual attributes

Rating	Spiritual Attribute – ECS	Spiritual Attribute – ACS
1	To follow Christ Knowing Christ Honest	Knowing Christ as their saviour A growing relationship with Jesus Love God
2	Sound Bible knowledge Caring for each other	Knowing God is creator A desire to share their faith Love others
3	Discernment Fruits of the Spirit	Knowing his word has authority A servant heart Love the Bible
4	To display biblical fruits Servants	Knowing what God expects of them Obedience to God and the Bible

Comments on the evaluation of these attributes echoed these points, focussing on observation of the qualities being lived out. From ECS comments were "Informal assessment", "Informally and regularly throughout the school life of the student", with two including the

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aspect of parental responsibility "observation – believe it is personal/parental issue in the main" and "day to day feedback, speaking to the kids/parents."

Responses from ACS did not include the parental aspect, but focussed on observing evidence of growth, for instance "Growth in personal faith and beliefs"; "Character qualities - fruit of the Spirit. Hard to quantify"; "Biblical understanding and evidence of Christian beliefs and practice". One ACS respondent summed up the whole section in the comment "Essential- the other three depend on this being right/healthy."

6.4.4   Summary of academic expectations and character development

Many responses in this section were similar because of the Christian character of the two schools involved. Comments about physical and social attributes were similar in most respects, not revealing any attributes which might be definable as distinct to either school, and in fact might reasonably be expected in any school. With respect to desirable spiritual attributes there was no response which could be considered exclusive to any one denomination as might have been expected from ECS respondents.   In fact responses indicate a focus on the development of youngsters' faith somewhat aligned with descriptors of teaching Christianly that Thompson (2003) identified in his research, namely Christ-centred pedagogy and Knowing/Serving God approaches.

In the case of each of these schools the question arises as to whether in fact the school does, or even can, contribute to the development of desirable spiritual characteristics, especially as each school strongly declares the responsibility of raising children lies with the family. The closest indication of this possibility is the clearly expressed desire in ACS for the development of relationships at every level of school life.

6.5 The curriculum model

The next two sections of the questionnaire dealt with curriculum, one with the actual model of the curriculum and perceptions of its influence on students, the other asked more specific questions about subjects taught. Respondents were first asked to rate the extent to which they believed their school's curriculum model was based on the state model. Not unexpectedly the ACS respondents were clear about their school's curriculum being the state-mandated model, while the ECS respondents were equally clear about their curriculum being independent of the state model.

One comment from an ECS respondent as to the influence of the curriculum model on students was somewhat vague: "try to follow the minimum requirements for students to be able to compete" while the other "as a private school we are obliged to provide an education equal to or excelling other private schools (not state schools)" left doubt as to its meaning. Two other ECS responses mentioned the use of USA material, one mixing that comment with a seemingly unrelated idea: "With an emphasis on doing their best (as unto the Lord), Bible etc. The USA books are not always appropriate for context & Maths concepts"; "Follow our own curriculum-USA mainly hist. geog is NZ based [sic]".

Consistent with their school's philosophy, responses from ACS teachers were all similar, mentioning that the national curriculum was the base from which they worked, but that content and pedagogy was adapted to express the school's special character, e.g. "We use NZ curriculum and adapt and integrate to fit Christian worldview" and "We follow the New Zealand curriculum to ensure coverage, but the content would be linked back to Biblical truths". No specific details were offered as to how this might actually be implemented either

with respect to either presentation of curriculum material or pedagogical approaches. Evidence to support the claims would be sought during classroom observations.

In response to the perceived extent to which the curriculum encourages students to meet the graduate profile, most respondents agreed that the curriculum model had considerable influence on students meeting the graduate profile. As was to be expected, one response from ECS reflected a strong awareness of the specific aims of the classical model, "Classical Christian model has a strong emphasis on worldview, communication and reasoning skills, and public speaking". Again acknowledgement was made of certain challenges involved, "It's a long process to develop a curriculum that achieves all these goals – we are on our way".

Somewhat differently, comments from ACS focussed more on the development of Christian character in the students, including the observation that the school's biblical worldview approach encouraged students to develop Christian character, to foster spiritual and social growth. For instance "All teaching is to foster spiritual and social growth" and "We look for opportunities to serve and place high importance on Christian character". These are clear indicators that the belief structure of the school is integral to the whole teaching and learning environment. Another respondent commented

> Students should have a sound understanding of what it means to be a Christian and to act
> out a Christian lifestyle[sic]. Students are encouraged to serve within their giftings.

6.5.1 Factors determining choice of curriculum subjects

Respondents were asked to rate on a five point scale from *Very Great* to *None* the influence of government authorities and their school's philosophy on curriculum subjects. The results recorded in Table 6.10 indicate awareness by most respondents that government authorities

do have influence in New Zealand schools, although three people think that is not so. All respondents agree that their school's philosophy has some influence, but their understanding of the extent of that influence varies.

Table 6.10 The influence of government authorities and school philosophy on curriculum choices

	Very great	Great	Considerable	A little	None
Influence of govt authorities	3	3	2	0	3
Influence of school's philosophy	3	4	1	3	0

For ECS the decision to follow a classical curriculum restricts choice somewhat, although Teacher S mentioned the flexibility of the classical model which left her

> quite free to choose topics that fit into that, so if for instance I wanted to do a history
>
> topic which- you know there's a big focus on history in the classical model [sic].
>
> This year I have chosen to do a topic on explorers, because it's not something
>
> they've done before. I discussed it with other staff members, but it was my choice.
>
> I'm not restricted in the curriculum.

It could be argued that the same situation applies in other curriculum frameworks. For ACS, the non-classical school, there is virtually no choice of subjects as the curriculum is government mandated.

Uniqueness in subject choice was identified by ECS respondents as the inclusion of Logic, Rhetoric, Ancient History and Latin, the last two of which are offered in the state curriculum but only in a small number of other New Zealand schools.   Additional comments were varied, with one ACS teacher commenting on the role the school Board of Trustees has with

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respect to the influence of the school's philosophy on curriculum choices, "School Board is very much a driving force behind Biblical Studies".

Table 6.11 Compulsory subjects in each school by trivium age groups

Age in years	Four to ten Grammar / junior school	Eleven to fifteen Logic / middle school	Sixteen to eighteen Rhetoric / senior secondary
ECS classical school	All subjects as per national curriculum + Bible /devotions + introductory Latin	All subjects as per national curriculum + Bible, Latin,& Logic	All subjects as for Logic stage , (year eleven) Rhetoric (years twelve, thirteen) Rhetoric, Apologetics
ACS non-classical school	All subjects as per national curriculum + Bible /Devotions	All subjects as per national curriculum + Bible, ICT, Spanish/Japanese Hard/soft Material Technology	(years ten to thirteen) All core subjects as per national curriculum + English, Maths, Science, Physical Education, Biblical Studies. (year twelve) English, Mathematics, Biblical Studies (year thirteen) English, Biblical Studies

Within the constraints of each curriculum model, certain subjects are considered compulsory, others optional, especially in secondary level classes. Table 6.11 identifies the compulsory subjects in each school according to the three trivium age groupings. A noteworthy feature of this table is that at the classical school their core of subjects aligns with that of the national curriculum.

6.5.2 Biblical Studies programs in the two schools

Because both schools in this study are Christian schools, they each have special times allocated for Bible study or devotions. Section 3.6.2 discusses the place of Bible study in

Christian schools. A deeper understanding of respondents' perceptions of this area and their understanding of the extent to which it was embedded in the curriculum was sought by asking for a brief overview of the curriculum.

Biblical studies at the classical school

The formal approach to biblical studies at ECS is reflected in the format of their biblical studies program clearly illustrating van Brummelen's (2009) description of the Bible being dealt with as a distinct area of study.   The curriculum is developed from

> Bible knowledge in years 1 to 8; more interpretation in years 9 and 10; church history year 11; apologetics in years 12,13.

> The Bible curriculum takes students through bible stories such as Genesis, Proverbs, Ephesians, Daniel, etc. At Year 11 Church History is taught. At Years 12, 13 apologetics is taught

> Bible - Old & New Testament over two years.

> They are meant to know all the main stories of the Bible by Yr 6, though we also seek to teach every subject from a biblical perspective

This last comment is the only one from ECS suggesting the school's aim to permeate their faith through all areas of learning, not limiting it to being an academic subject among others. No suggestion is offered as to how this is put into effect.

Biblical studies at the non-classical school

Two ACS respondents also mentioned the integration of biblical perspectives into other subject areas: "Biblical Studies one hour a week in addition to integrated Christian perspectives in every subject"; "Each term a theme is given. Teaching is towards that theme". Generally the ACS comments focussed on the idea of a theme and morning devotions,

suggesting a methodology for integrating biblical perspectives though other curriculum areas. One specific outline of topics studied was given by a Year Nine teacher, showing that there is an element of formal structure to Bible studies in some year groups at ACS.

> Year 9: Term1 – the Beatitudes/40 Days of Community. Term 2 – Evolution vs Creation/
> Nehemiah 9. Term 3 - Joseph and Daniel/Jesus. Term 4 - Overview of Bible/Scripture union
> Devotionals. Plus a school wide character theme each term.

Other responses were brief, namely, "We call it Biblical Studies and we study the Bible from different aspects at each year level", "Devotions each morning", "Year 7 – covers the main stories in the Old Testament". Such comments offer a mixture of approaches, including direct teaching of the Bible as content and informal devotions times, suggesting either a possible lack of clarity over the school's intent or alternatively providing evidence of a holistic approach.

Integration of Christian perspectives

The issue of integration of Christian perspectives was further probed by asking whether the Christian studies curriculum was fully embedded in other areas, totally stand alone, or some mixture of both approaches. All ACS respondents and one from ECS claimed a mixture of both approaches, while two ECS respondents said it was fully embedded and one claimed it stood alone.   Comments about the embeddedness of the program came only from ACS respondents, the most explicit of which was

> Although it has a separate slot on the timetable it should not be viewed as a stand alone
> subject. What we teach needs to have everyday relevance to each student and can be
> incorporated into classroom discussion at other times.

Others were less explicit, namely

> Usually only in introduction or synopsis phase of instruction

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Mostly embedded, we try to refer all core subjects back to the worldview question each term.

Biblical Studies in Year 7 is the study of Bible stories from Genesis to Malachi.

All curriculum subjects are taught (should be) from a biblical worldview.

Again, a mixture of approaches is suggested by these responses, preventing the emergence of a clear understanding of the school's goals to teach from a biblical worldview perspective.

6.6 Teaching strategies and associated assessment procedures

The next two sections of the questionnaire addressed issues of teaching strategies and assessment procedures. Any claims of the philosophical stance behind a curriculum model can only be validated if teaching and assessment strategies of classroom practice genuinely put the basic principles of that philosophy into effect in the classroom. Curriculum reform in recent decades in New Zealand has focussed on aligning teaching and assessment to ensure maximum benefit for learners (See section 2.5). Accordingly, this section asked whether or not the respondents believed their school had a formal policy on teaching methods and the extent to which that was determined by the school's philosophy. Ten of the 11 respondents stated that teaching methods do differ noticeably across different age levels.

Pedagogy at the classical school

Given the formal trivium structure of the classical curriculum at ECS, it was anticipated that respondents would articulate clear differences in teaching methodology for the three age groupings. Two ECS respondents claimed that their school has a formal policy for pedagogy. All ECS respondents declared their awareness of the classical philosophy impacting classroom practices, but each was non-committal regarding actual details of classroom

methods. "Classical methodology is encouraged"; "Clear guidelines not always available but working towards the classical-Christian model"; "Not formally, though certain methods are encouraged." One response was considerably more specific:

> We encourage classical methods and provide PD [Professional Development].
>
> Gregory's seven laws of teaching our basic guide.

J. Gregory's *The seven laws of teaching* (2004) mentioned in section 3.6.1 is a foundational text for teachers in ACCS schools.

Teacher J of ECS made these comments during his interview, acknowledging the change of focus from knowledge acquisition in the grammar stage classes to the development of reasoning skills in older classes.

> So the model moves you away from stuffing heads full of detail and more towards a certain
> kind of learning. So in that sense it is restrictive, but because those skills are quite general
> you find there is still a great deal of freedom in it. It determines for instance the types of
> questions we would ask. As I'm saying all this I'm talking about ideals partly. What
> happens in practice doesn't necessarily match the ideal, but one place you see that is in the
> kinds of questions we might ask. After having the students read a text for example, so
> instead of asking questions which get them to pluck details from the text, I at least would try
> and ask them questions which either get them to recognise reasoning, or for them to come up
> with their own reasoning and then something which gives them practice in expressing their own
> response to the text. So in that way you are directing them towards logical, rhetorical practice
> rather than to the 'grammar' which is the details of what they were reading.

Pedagogy at the non-classical school

It was anticipated that pedagogy in ACS classrooms would reflect the outcomes based approach of the national curriculum model (New Zealand Ministry of Education, 2007), with the influence of external examinations in the senior secondary school influencing pedagogy for that age group. One response was "Methodology is up to the individual teachers although suggestions are made by senior management" and the only other ACS comment was vague

and non-specific "We try to use a mixture". None declared that ACS has a formal policy regarding teaching methods. Given the repeated claims of integration of worldview perspectives through curriculum content, it might reasonably be expected that there be at least some guidelines for teachers.

In contrast to the teacher-centred approach in the classical school, lessons in junior and middle school classes at ACS involve a mixture of whole class and group work in line with requirements of the national curriculum. A different contrast arises at the senior secondary stage, where a more traditional approach is taken at ACS, presumably due to the emphasis on public examination preparation, whereas the approach to public examinations at ECS is secondary to the development of the arts of dialectic and rhetoric.

The influence of ACS's philosophical stance on pedagogy was clearly articulated by Principal F during her interview, where she stressed the importance of relationship as well as the individual teacher's belief.

> If [teachers] come from a school where constructivism is the basis of the teaching
> program that is a huge change for them. We currently have a couple of teachers
> who have come from a local school and for one of them it's been a bit more of a
> challenge because she's used to a particular style, and finds our style very, not
> rigid, but more controlled. She's had a lot more freedom and the head of her syndicate
> has to work with her to say 'well this is how we do it here.

> We don't do this free-wheeling, constructivist stuff.' [Teachers] use all of the techniques, you know,
> groups, individual, pairs teaching – all that stuff but I think because of the behaviour of our students is
> more opportunity for teacher- led lessons where kids are actually listening. The groups – that
> all still happens, but not just chalk and talk from the front. It's actually a variety of
> teaching methods but it's not a variety of teaching philosophies or pedagogical styles.

This clear statement of the school's philosophy provides room for a variety of approaches including 'teacher-led' lessons.

> …the expectation that every child in the class is treated as an individual. Now if we
>
> look at [the Minister of Education's] personalised learning thing which makes it
>
> sound as if it is a whole new bandwagon, that's what teaching is all about. We have
>
> to make a connection with every child. That's probably what we push very strongly
>
> - is that it is your responsibility as a teacher to connect with every child in every
>
> class.

> If you are a college teacher it is a lot harder because you have more classes
>
> coming through your room each day, but the foundation of it all is relationship –
>
> and if the kids are going to learn in a really nice safe environment and learn all the
>
> right things they need to have a good relationship with the person teaching them.
>
> It's not… well in a way, it is more important than the teaching Christianly, because
>
> the teachers are all at different levels depending on how much background they've
>
> had. But the relationship thing – there's no compromise there. It has to happen, regardless.

In line with the discussion in section 3.6.3 the two aspects of personal faith and relationship building are clearly of paramount importance, but no mention is made of relating those aspects to curriculum content or pedagogy. In fact the comments above indicate that for Principal F, specific curriculum aspects are of lesser significance that the personal faith and relationship aspects. Her comments clearly indicate that at least in her mind, pedagogy as relationship is the focus for this school.

A summary of pedagogical approaches in the two New Zealand schools is presented in Table 6.12 below. Comments from the questionnaire respondents indicate a clear understanding from ECS staff that pedagogy is determined by the classical curriculum model requiring didactic approaches in the primary classes, then shifting to a more dialectic approach for the older classes. The New Zealand state curriculum model is represented by the variety of

interactive approaches used in all age groups as depicted by Griffin and Nix (1991) and

Shepard (2000). (See section 2.4).

Table 6.12 Pedagogical approaches in each school by trivium age groups

Age in years	Four to ten Grammar / junior school	Eleven to fifteen Logic / middle school	Sixteen to eighteen Rhetoric / senior secondary
Methodology ECS	Transmission of knowledge; learning the grammar of each subject; emphasis on recitation, rote memory work.	Variety of methods; emphasis on developing understanding; reasoning and logic; seeing how things relate together.	Variety, emphasis on students' development of expression of understanding; rhetoric; personal persuasiveness
Methodology ACS	Much group work; modelling; mixture of group and whole class; mix of practical and book work; balance of different approaches.	Differentiated learning; modelling, variety; mix of group and whole class; some chalk and talk; integrated thematic approach.	Chalk and talk; lecture; example; practice; mix of group and whole class; more academic approach.

6.6.1 Assessment policies and procedures

Teaching strategies and assessment are closely intertwined and demonstrate the

implementation of a school's philosophical stance. Accordingly, this section probed teachers'

awareness of the possible influence of their school's belief structure on assessment policy and

practices, asking first whether or not there was a formal assessment policy, then questioning

the perceived influence of the school's philosophical stance on assessment as opposed to the

influence of external, national examinations. Those perceptions are listed in Table 6.13

below. It was anticipated that the ECS responses would clearly focus on the formality of their

approach to assessment, in line with the ACCS emphasis on academic achievement.

Individuality of responses which might have contributed to that situation was lost in the

software malfunction.

Although eight respondents stated that their school has a formal assessment policy, Table 6.13 shows that no-one believes their school's philosophy actually has 'very great' influence on the formation of that policy.

Table 6.13 Influence of each school's philosophy on assessment

Criterion	very great	great	considerable	a little	none
Influence of school's philosophy	0	2	4	1	4
Influence of external exams	2	2	3	1	3

The only comment from the classical school was unhelpful. Responses from ACS were vague "Based on state guidelines only"; "not really"; "In primary/middle school. Less in college as NCEA"; and "In middle school, Christian perspective is included in core subjects". Despite that reference, there is no detail as to how those perspectives are implemented in assessment procedures. However, the picture is somewhat clearer with regard to the influence of external examinations on assessment policy and procedures. It is reasonable to assume that those identifying the influence of external exams as 'considerable' or more are from ACS, as their senior students are prepared for the government NCEA qualifications.

Two comments from ECS support the classical school stance of ensuring that the external examinations serve the goals of the classical model rather than the reverse, e.g. "Generally we do, but specifically we do not have external assessment in mind", and "we want to ensure students are not disadvantaged." This last comment suggests that alongside the perceived advantages of youngsters receiving a classical education there is also an awareness of the value of state qualifications for school leavers.

By contrast, ACS responses were clear on the impact of external examinations of younger classes. "Many rules are generated by internal examinations done for NCEA", and

"Considerable at MS [Middle School]. Very great at Sec S. [secondary school]", indicating a clear awareness that the prospect of external examinations in the senior secondary years has impact as early as the middle school years.

6.6.2 Types of assessment tasks

A fuller picture of assessment practices in each school was sought by investigating the type of assessment tasks teachers felt most suitable for students at different stages of their schooling. These were again selected to align with the general age groupings of the trivium model. In-depth analysis of these results was limited, with the brief comments which followed not very helpful. Had the ratings been recorded accurately, emphases on memorisation and formal written testing in the junior school would have reinforced differences between the two New Zealand schools. Similarly a focus on formal and summative assessment in the senior school would suggest the examination focus of senior classes at ACS.

Respondents from ECS were clear that there exists a 'classical methodology' but only Teacher J offered specific details during his interview as to its implementation in the classroom. ACS responses were equally general with the exception of Principal F, especially with respect to building learning relationships between teachers and their students. Two respondents, one from each school, identified PAT (Progressive Achievement Tests), the one from the classical school, ECS, calling them "Public examination." This response suggests they are the two identifying 'public exam' for the junior primary area. One ACS respondent also listed IEPs (Individual Educational Plans) offered in many New Zealand schools to children who struggle with their learning.   The overall conclusion that can be drawn from this section is that all types of assessment tasks are used in both schools at all year levels.

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An overview of the responses about teaching strategies and assessment practices indicates that on the whole these teachers do not perceive that either area is significantly influenced by their school's belief structure, despite the fact that six respondents claimed this influence to be of some significance. There is however a strong indication from responses that external influences such as national examinations and national testing regimes do have a recognisable influence on both teaching strategies and the type of assessment tasks chosen at all age groups.   Yet, despite those aspects, the results in this section and the subjects listed in Table 6.11 suggest that to some extent there is little significant difference between the two schools with regard to curriculum content and assessment.

6.7 Summary of teachers' perceptions

Responses discussed in this chapter have presented a level of dualism.   Respondents stated clearly their understanding of the general aims of Christian education, while teachers from ECS, the classical school, freely commented on 'classical' methodology. However no responses from either school offered any level of specificity as to the intertwining of Christian beliefs and classroom practices.

There was some suggestion from both schools of teaching the Bible as a curriculum subject, but responses indicated little clarity on the meaning of a biblical worldview approach. There was no clear articulation of any framework around which pedagogy could be built. Responses regarding curriculum choices, pedagogy and assessment procedures reflected the actual curriculum model rather than any explicit Christian approach to these issues, with decisions based on educational rather than theological grounds.

The only evidence of Christian ethos emerged in the perceived impact each school's philosophy has on relationships within the schools. This aspect emerged strongly as a feature of ACS responses. The quote from Principal F in 6.6 above declared that the development of such relationships was the major educational goal, taking priority over teaching Christianly. However, no clarity emerged as to what teaching Christianly meant in her school beyond this relational perspective.

Because mathematics is a special focus of the study, the final section of the questionnaire addressed a range of issues around the teaching and learning of mathematics. Chapter Seven will address the responses to those issues. Chapter Eight addresses general classroom practices, as the final level of data investigating the implementation of declared philosophical approaches in the classroom.

Chapter Seven: Pedagogy, Mathematics and History.

7.1 Introduction

The previous two chapters have addressed ways in which the philosophical stance of each school in this study is believed to impact policies and processes. Evidence from KCS, the American school was limited to documentation, but in each of the New Zealand schools deeper analysis has been possible through interviews and a questionnaire as well as the investigation of school documents (Verma & Mallick, 1999). This chapter addresses the research question "What are the significant features of pedagogy in mathematics classrooms which reflect a school's educational philosophy?" A short section on teachers' perceptions of the importance of mathematics is followed by a discussion of teachers' personal pedagogy and their understanding of teaching mathematics Christianly. This is followed by a discussion on more general issues raised during interviews.

Although the final section of the questionnaire was focussed on mathematics, the choice was offered for any secondary teacher to answer with respect to his/her chosen subject. Because only the history teacher from the classical school took that option, this chapter concludes with his responses. He presented a very clear picture of the subject's place in the classical curriculum and his journey in learning to teach history Christianly.

7.2 Mathematics teaching and learning

The teaching and learning of mathematics is a special focus of this study as documentation from KCS and its associated authors indicate a different approach from that found in most New Zealand schools, especially in junior primary classes. It was anticipated that the New

Zealand classical school would be true to the curriculum in this respect, as the trivium format virtually dictates the pedagogy for each age group and that methodology in the non-classical school would align closely with that of the numeracy program in New Zealand schools discussed briefly in section 3.7.

7.2.1 Perceptions of the importance of mathematics

Given that mathematics is core to a school curriculum in New Zealand it is no surprise that every respondent deemed the subject to be important. Furthermore, along with literacy, mathematics is the focus of government initiatives in New Zealand, giving it extra significance (Thomas & Ward, 2002). The results of respondents' perceptions of the importance of mathematics in the school are listed in Table 7.1 below.

Table 7. 1 Perceived importance of mathematics (chosen subject)

Essential	Very important	Important	Quite important	Not important
6	4	1	0	0

During interviews, the staff of both schools also acknowledged the importance of mathematics in the school curriculum as one of the essential learning areas compulsory in New Zealand schools until the end of Year 10. Accordingly daily lesson times were allocated to reflect that situation throughout the school in primary and middle school classes. At secondary level mathematics is assigned equal time with other compulsory subjects for classes up to Year 11 at ECS and Year 12 at ACS, after which the subject is no longer compulsory.

In response to the question as to what was considered to be the most important goal in the teaching and learning of mathematics, helping students enjoy their study was a common response from both schools.

> Somehow we don't want them to lose the delight in it. You look at the little guys,
> and I think 'Yeah, the delight's there naturally' but by the time I get them in the
> secondary level a lot of them are already jaded with maths and as they get older
> you see that getting worse and worse. I personally think maths curricula currently
> are very boring. They are designed to – one thing they are completely abstract and
> that's why I like Jacobs [text series], because he brings them back to that.
>
> (Principal M)

Section 3.7 included mention of learners' antagonism towards mathematics being an important factor in mathematics education reforms in New Zealand towards the end of the 20th century. Teacher S of ECS also recognised the importance of developing a sound understanding along with enjoyment in doing mathematics.

> My most important goal is that the children understand, not only how to get an
> answer, but the processes you use to get there, and often a very important goal
> for me is - and it might be a minor thing - but that they actually enjoy what they
> are doing, because maths can affect the other subject areas, so I try and encourage
> the students so it helps them in their school life in general.

Responses from staff at ACS expressed the same sentiment, summarised in that of primary Principal J "The most important goal…if it has to be one thing it would be to enjoy maths."

7.3 Personal pedagogy

Section six of the questionnaire asked about each school's policy regarding teaching strategies. The focus of section seven on respondents' personal pedagogical style was aimed at eliciting their understanding of teaching mathematics Christianly. Research by Thompson

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(2003) discussed in section 3.6 had identified challenges teachers have in establishing a meaning for teaching mathematics Christianly. There was also discussion of van Dyk's descriptor of mathematics as a 'structural' area of study focussed on creation.

Questionnaire respondents were first asked to identify activities which might be considered to encapsulate teaching mathematics Christianly. A list of six possible methods of teaching mathematics, or their chosen subject, Christianly was presented along with the opportunity to comment on the selections made. Each respondent was free to select more than one option.

Table 7.2 Possible methods of teaching mathematics Christianly

A short devotional at the start of the lesson	2
Finding verses to match the content of the lesson	2
Finding Bible stories to illustrate the content of the lesson	3
Looking for attributes of God in the topic	8
Helping students understand the place of the subject in the full Bible story	6
Other suggestions	0

Of the six possible methods proposed there was clear preference for two particularly, namely, investigating attributes of God and mathematics in the full Bible story. These responses suggest a level of understanding of a metanarrative approach as discussed in Chapter Three, although no response indicated any clarity in that regard.   Seeking evidence of God's attributes is closely related to seeing Him as Creator, while the other option aligns closely with the understanding that there is a biblical metanarrative in which mathematics has a special place. Evidence of the implementation of those beliefs was sought during classroom observations, the results of which are reported in Chapter Eight.

Interestingly, there were no additional comments from the classical school staff, and only three from ACS.   "I would constantly be looking for opportunities to link ideas/discussion back to God but I would not contrive them." The second comment echoes the earlier

comments of God as the source of knowledge while adding two other dimensions pointing towards care of individual children's learning.

> Helping students enjoy a topic God invented and understand it. Differentiated learning, teaching for a love of God, opportunities to serve, not viewing it as a way to help students earn money in the future.

The concept of teaching 'a love of God' as part of the teacher's Christian service links closely with the understanding of God as the source of all learning, a perspective espoused by Gorman (2001). The phrase 'opportunities to serve' is ambiguous as it could well refer to both teacher and learner, especially when coupled with the final comment of viewing learning as much more than preparation for work.

The third ACS comment also referred back to the previous section noting the potential use of Bible stories, "finding Bible stories depends on the age level and for Other, see answer in (ii)". That response mentioned God as the author of all mathematical thinking, and the idea of creation reflecting mathematical concepts.

While Principal F of ACS did not clarify her own understanding of teaching mathematics Christianly, she did describe her attitude to the teaching of mathematics in general in her school. In sharp contrast to the classical curriculum focus on review, Principal F expressed particularly strong feelings about excessive practice especially for intelligent children who understand the material. In fact her words were "I hate that with a passion". She continued

> …then the challenge comes on how you are going to have enough challenge so the kids that are more able aren't sitting there bored out of their tree because they actually got the concept in the first five minutes and then spend the next 45 hearing all about it and dropping off to sleep. It takes a very skilled teacher to be able to perform at that level every period of every day every week.

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Her opinion is in line with critics of the drill and practice approach was discussed in section 3.7.1 as the main objection to the classical approach to mathematics.

7.3.1 Classroom strategies

As discussed in section 3.7, teaching mathematics in primary aged classes of a classical school is based on direct instruction, rote learning of basic facts, and repetition, while problem solving techniques and conceptual understanding are addressed in the older age groups (Nance, 1996). Other curriculum models, such as that of the New Zealand curriculum would include some of these methods but not necessarily to the same extent as in the classical model. The discussion in section 2.5 showed that curriculum reform in New Zealand has led to minimising these traditional approaches to teaching in favour of a more outcomes based approach.

This section was designed to probe the extent to which ECS teachers understood classical methodology as it applies to teaching mathematics, and to identify anything in the responses from ACS which might indicate a difference of understanding. Accordingly respondents were given five approaches: teaching factual material, problem solving, mathematical thinking, understanding of concepts, and synthesis and integration of knowledge. They were asked to identify the age level at which each might be introduced and the age at which it could be considered of less importance. In line with other sections of the questionnaire, the age groups were aligned to the broad trivium designations of four to ten years (grammar); 11-15 years (logic); and 16-18years (rhetoric).

There were only two comments from the classical school, each giving the expected response for the junior classes, but only hinting at the progression in later years: "More of an emphasis

on factual knowledge for five year olds but all aspects are introduced at five then built on year by year"; "A slow build up from concrete to abstract".

By contrast ACS responses offered were fuller but less age specific, almost all focussing on the perceived needs of individual children.

> I think this is an odd question. It's the level that changes, not the type of content. These start as soon as the child is born, but you adapt to the level they are at.

> It all depends on the ability of the child. These do not take into account the ability of the child. Ability varies so age for introduction would vary.

> These answers do not take into account the ability of the student.

> I don't really believe ages are appropriate here – rather it depends on the child's mathematical ability and what stage they are at.

Responses such as these, focussing on the individuality of the child illustrate a significant difference between the approaches of the two schools. For the classical school, the age and therefore the trivium stage, is a determining factor in the presentation of material and pedagogical approach.

As to the age at which any of the named aspects might be considered less important, there were no helpful responses from ECS, whereas the ACS respondents continued in the vein of the previous comments, namely: "We should be aiming to develop students' thinking"; "Right through to year 13 all aspects are important"; "Never – again, the level changes, not the type of content"; and

> I think these aspects are always important up to the age I teach -Year Seven and beyond I would think e.g. Factual material is always taught – otherwise students would never learn anything new.

These responses indicate a holistic understanding of mathematics closely aligned to the philosophy behind the Numeracy Development Project discussed earlier which parallels mathematical strategy with the learning of knowledge. It also offers a clear contrast to the more structured approach of the classical model.

Mathematics teaching strategies

In order to add another dimension to those responses, the invitation was given for teachers to identify those strategies which they personally used most frequently. Seven strategies were identified; direct instruction, rote learning, textbook exercises, revision, group work, discussion and practical activities. Again they were asked to identify the age groupings for which those strategies were considered appropriate.

Once more, detailed electronic analysis of these responses was lost as the software read the rankings as frequencies. It was anticipated that clear evidence would emerge of direct instructional methods and rote learning for primary classes in the classical school, and possibly similar didactical approaches in the senior secondary classes at ACS. Given the ACS declaration of Middle School children needing different pedagogical approaches from their junior peers, evidence of these approaches could have been submerged in the default. Similarly, the small number of ACS respondents limited the emergence of notable features of similarity or difference.

 In terms of the written responses only one from each school ranked the teaching strategies. The ECS response identified 'direct instruction', 'text book exercises' and 'revision' in that order for the four to ten year old group. These methods are typical of a classical approach to pedagogy in the grammar level age groups. The one ACS response listed 'direct instruction'

and 'text book exercises' as first and second choice for those he/she used most frequently, with 'practical activities' as the third choice, indicating very little difference in approach.

The option of identifying a strategy not included in the list was offered, but the only identified strategy was role play, without mention of whether it was appropriate for any particular age group. Or any other specific detail. The only general observation came from the ECS history teacher who wrote

> Most teaching strategies have their place at most levels. It is up to the teacher to decide
>
> when and where it is appropriate to employ them.

It may well be that respondents were not comfortable articulating their understanding of teaching mathematics Chrsitianly, even though most agreed it should be different from teaching the subject in a secular school, as is shown in Table 7.3 below.

7.4 Teaching mathematics Christianly

Responses regarding personal pedagogy in this section were closely connected with those relating to teaching Christianly. Respondents were invited to comment both on how differently they believed mathematics should be taught in a Christian context from elsewhere, and how differently they themselves taught the subject. Tables 7.3 and 7.4 present those responses.

Table 7.3 How differently mathematics (chosen subject) should be taught

Very differently	Differently	A little differently	No differently
0	5	5	1

Table 7.4 How differently respondents teach mathematics (chosen subject)

Very differently	Differently	A little differently	No differently
0	3	7	1

Despite five respondents claiming that a Christian school should teach mathematics differently from the way it is taught elsewhere only three claim to teach the subject differently themselves. This suggests that at least for mathematics, the reality of teaching the subject Christianly is a challenge. There is overall consistency with ten of the respondents answering both questions as either 'differently' or 'a little differently'.

Respondents' perceptions of how to teach mathematics Christianly offered in the questionnaire and during interviews fell into three broad categories. The first of these, God as source of knowledge / creation was common to teachers from both schools. Teachers from ECS expressed ideas consistent with the classical approach to pedagogy, and ACS responses highlighted teaching /learning relationships.

The first of these categories has a degree of commonality with the Creation-Fall-Redemption framework discussed in Chapter Three. The perspective of God as the source of knowledge clearly refers to creation and all things emanating from God. The ACS emphasis on relationships has been discussed in Chapter Six as a vital part of the school's expression of teaching Christianly. The link to creation is less clear, but could be said to link loosely through the aspect of an individual's personal faith in Creator God.

7.4.1 Mathematics as an expression of God in creation

Given that the two schools in this study are both Christian schools, it was not surprising that comments relating mathematics to creation came from both schools. Respondents from the classical school, ECS, included Principal M whose comments centred on the need for Christians to emphasise the drawing of mathematical understandings from the way creation

works. He observed the challenges involved in teaching mathematics Christianly, but was clear in his understanding of the subject's foundations in God.

> I think it's one of the hardest areas in the curriculum to say you're doing it biblically, but I think the fundamental thing is that God made this world. Maths comes out of science. It is the language of science and I openly say in class 'God thinks in numbers. And if you don't like maths you basically need to rethink that one for that reason, 'cos that's basically the way God's made the world.' Because I'm sort of in the maths area myself I try to encourage the teachers to think like that. But it's a very difficult subject.

During her interview Teacher S's comments also centred on mathematics learning centred on God and creation.

> I think with maths we should see that maths is very orderly and God is a God of order, that maths is a way that you can see that…how in creation that plays itself out as well. And all that we do we do heartily which should come out in all subject areas, not just maths, so we have to work through the steps and processes of different things in maths and that we can bring glory to God in all that we do.

Asked to clarify what she did specifically in the classroom, Teacher S mentioned developing good thinking habits, and recognition of the wonders of creation, neither of which offers any clarity as to actual strategies.   Neither response probed more deeply into these issues.

The response from Principal F of ACS was clear that

> God is a God of order, pattern and design, so that nothing happens in the world without there being some mathematical aspect involved. It's that whole understanding of numbers, and for us it's the thing of God's view of numbers – that God is a God of order, and pattern and all that stuff, and that there is nothing that happens in the world that doesn't have some sort of mathematical base to it even if they don't realise it.

Her final comment hints at van Dyk's (1981) description of a 'structural' subject, but in isolation rather than as an integral part of a broader perception of the subject.

Comments from ACS staff also reflected a belief in God as the source of mathematical concepts, with the structure and order of mathematics demonstrated in the laws governing the universe, in line with van Dyk's (1981) description of mathematics as a structural area. "We want to show that God is a God of order, infinity + creativity [sic]". The observations "Children should be taught that God is the author/origin of all mathematical thinking and that the created world demonstrates mathematical concepts e.g. golden rectangle" and "God created mathematics shown through order, patterns, design, logic" suggest some integration of the history of mathematics into lessons along with an emphasis on order and pattern and the development of logic. During his interview Teacher W of ACS claimed his main focus was recognizing the patterns and structures of mathematics as evidence of God in creation.

Other responses from ACS acknowledged the universality and unchanging nature of mathematics, for instance "Maths concepts are universal and need to be taught with that in mind"; "We follow the Numeracy Program which is taught in state schools but again I would be looking/aware of opportunities to link back to God our Source"; "Mathematical principles do not change wherever they are taught but we choose to acknowledge the Source"; "Maths is from God, so even state schools teach God's subject, so we should do everything they do and reflect more awe of God's design and order in our teaching." One response related back to the options listed in Table 7.2.

> Aim for D & E above [D. looking for attributes of God illustrated in the topic; E, helping students understand the place of mathematics in the full Bible story]. Use some Biblical investigation problem solving challenges. Refer to God's use of maths in his word at the start of each unit.

Another questionnaire response "Bring in the attributes of God but maths facts remain maths facts" implies an attempt to 'Christianise' an otherwise neutral subject. The ACS responses clearly focussed on creation, with some also demonstrating understanding of deeper structural perspectives in the subject. No comment emerged expressing any understanding of Christian perspectives aimed at restoring God's original purposes through this subject.

7.4.2 Classical approach to mathematics

Understandably, other responses from ECS teachers about how to teach mathematics Christianly revealed aspects of the classical approach to teaching in general. For instance the observation "More emphasis on real-world origin of most maths; history brought in. Dislike of calculator in junior classes" illustrates the classical approach in the logic and rhetoric stages described by Nance (1996) in Chapter Three where his belief that teaching at this level should be focussed on understanding relationships across subjects and exploring their relevance was quoted.

The latter part of the comment reflects the approach at the grammar stage of knowledge acquisition and more traditional approaches to teaching mathematics. This is echoed in another comment "We believe in the grammar stage it's very important for children to memorise facts, not just to explore maths". The response "emphasis on history, logical development, relation to creation" reflects the classical emphasis on history, the skills of logic and critical thinking and the creationist doctrine of ECS (CSA**D, 2008).

Apart from the reference to creation, there is nothing specifically Christian about these comments. They reflect educational perspectives aimed at developing sound mathematical knowledge and skills.

7.4.3 Teaching and learning relationships

The responses from ACS, the non-classical school offered little by way of specific details as to mathematics pedagogy that might be particular to that subject. The comments were focussed on relationship building between teachers and learners without specific relevance to mathematics, for example "I pray more with my students". Each of the three ACS teachers interviewed claimed that they aimed to find ways to help the children enjoy their work and develop a love of the subject, an aspect discussed above in section 7.2.1.

Both Teacher C and Teacher V recognized that part of their role was to enthuse the children so that they could enjoy the subject, echoing the questionnaire comments of enjoyment and relevance. Again relationship building between teacher and learner is implicit in their attitude.

> … love of the subject…what do you do to foster that? Where it comes into play in
> the world try to make my enthusiasm rub off.   Convey enthusiasm – enjoyment.

Teacher W was particularly vague about what a biblical approach to mathematics might be.

> …pretty limited- focus on patterns and structures and so on. Beyond that I couldn't say.

An interesting perspective to the theme of relationship building at ACS emerged in Teacher V's comment that teachers need to demonstrate depth of character in qualities such as "personal integrity, honesty, being good co-workers, hard workers". Being role models for their pupils was seen to be an aspect of implementing the school's belief system, as is the expression of love and respect for the children, treating them as individuals.

> I will pray specifically for students' personal support and encouragement.   Students
> appreciate the clear fact that the teacher cares about how they are doing.

<div align="right">(Teacher W)</div>

> Love for the kids – care about each one. Never write a child off. Constantly reinforcing
>
> the truth that God is in them. Never discriminate with respect to their ability. Give children freedom
>
> to talk about things. They know that you are a worshipper, so …role model of faith. Deal with the
>
> discipline challenges in a more loving way. Respect, honesty and integrity in
>
> the treatment of the individual child. These are not negotiable. Far more important than
>
> what is being taught. (Teacher C)

> Treat the children as individuals so each one feels loved and aware he/she can achieve
>
> something. (Teacher V)

These comments reinforce those of other ACS management and teaching staff that align with two of the four aspects of teaching Christianly discussed in section 3.6. There is nothing in these comments to suggest a methodology specific to the teaching of mathematics, but they clearly illustrate two aspects suggested in section 3.6 of teaching Christianly by modelling biblical qualities and applying biblical principles. The teacher is first to be a committed Christian, then from that personal faith comes the building of sound relationships of respect and trust. Mention is also made of a focus on the development of individual children which is a focus of both Christian and secular education (Pearcy, 2004; van Brummelen, 2009; Vanderhoek, 2006; New Zealand Ministry of Education, 2007).

Further to these comments, Teacher C mentioned the difficulties created when parents imposed unfair expectations on their children who consequently came to school expecting mathematics to be difficult. Aware of the underlying messages of misunderstanding, Teacher C mentioned that all children need to overcome the myths and expectations laid down by parents who often tell their children to expect mathematics to be hard, so the teacher's role then is to build the learner's confidence. In her experience there was no discernible difference in confidence between boys and girls.

All these comments demonstrate consistency between the questionnaire and interview responses from ACS staff. Any mathematics-specific responses related to the ideas of pattern and structure in the subject, but lacked specificity as to pedagogical approaches. The use of NDP in the junior school was the only mention of a mathematics program, and Principal F was the only person to comment at length on pedagogy in mathematics classrooms. Not unexpectedly, the focus of responses was on an understanding of teaching and learning built on broad biblical principles expressed through relationships.

7.5 Discussion of teachers' understanding of teaching mathematics Christianly

It was not unexpected that teachers in both schools would comment on relating mathematics to creation and God as Creator, with the recognition of order, pattern and design in the laws of the universe prominent in responses. Although there were suggestions of a level of understanding in some teachers of the foundation nature of mathematics as laws of the universe, there was little evidence of any broader understanding of biblical worldview perspectives.

In fact, all responses implied a difficulty in understanding how to teach mathematics Christianly. One challenging comment "maths is maths" could indicate either a belief in the neutrality of knowledge, or lack of any understanding of how to teach the subject Christianly. The observation "Curriculum dictates methodology in most cases" suggests that a teacher has no choice as to how the subject is taught. Both of these comments deny room for individuality in a teacher' understanding of expressing the school's philosophical stance in teaching mathematics.

Responses from the classical school indicated a clear understanding of the teaching modes appropriate to the classical curriculum. For these teachers, teaching mathematics 'differently' can be seen as acknowledgement of the features distinctive to the curriculum model rather than as an expression of a Christian approach to the subject. More generally, their school's philosophical underpinnings are expressed as much through the curriculum model itself as through the recognition of any biblical Christian worldview perspective of the subject.

For the ACS teachers the principal expressed an uncompromising expectation that teachers would build sound relationships with their pupils as an expression of the school's philosophy. Respondents from her school echoed that approach. Beyond that, the understanding of teaching mathematics Christianly was largely limited to broad statements of acknowledging God as the source of knowledge and recognising His attributes. Their pedagogical approaches were more closely aligned to the Key Competencies defined in the New Zealand curriculum documents as discussed in Chapter Two.

Despite the consistency demonstrated in all responses, teachers at both schools indicated a difficulty in expressing Christian beliefs as they relate to mathematics other than through the common acknowledgement of God's attributes of order and design, reinforcing the findings of Lundberg (2005) and Thompson (2003). No responses indicated any depth of understanding of how mathematics might fit in a comprehensive biblical worldview framework such as that discussed in Chapter Three.

7.6 Challenges in teaching mathematics

Further to personal challenges involved in teaching mathematics Christianly, the ACS teachers mentioned school-wide issues largely related to the desire of Principal F to have a

"seamless Year One to 12". Interestingly only one aspect related directly to Christian perspectives, namely the possible discomfort of non-Christian children being exposed to overt expressions of faith. Other matters related more directly to the teaching of mathematics, such as the different processes used in primary classrooms from those in the secondary department, making the desired seamless system difficult to put into practice.

> We do have some non-Christian children, so some challenge there. It does create some
> challenge because we wear our faith on our sleeves. Another concern is that we don't
> have a maths specialist in the primary or middle school.

> (Teacher W)

Differences of procedure between age groups within the school also led to timetabling challenges as classes moved from the home room model to subject specific timetabling and smaller classes at senior levels.

> Year Nine are taught by their home room teacher, and I wonder if that is the best.
> Timetabling is the biggest frustration because the school is still small. Up to Year
> Eleven last year we were able to stream with fantastic results then this year they are
> all together in Year 12. Mixed ability again - too small to run parallel classes.
> This year we managed to stream Year Ten, but the timetable still gives some problems.
> Three classes at each level is OK, but if there were five it would be even better.

> (Teacher C)

Challenges associated with Numeracy Development Project (NDP)

Because the school uses the state curriculum other challenges have arisen, directly related to the implementation of the NDP discussed in Chapter Three. The success of the project at ACS was considered to be variable but Teacher C expressed the belief that the major benefit of the project was seen in the achievement of lower ability children. Once again, the challenges relate to issues of the content and structure of the project itself rather than to biblical perspectives of mathematics or pedagogical approaches to the subject.

The school has not used the project long enough for significant advantage to be seen in the secondary program, but Principal F believed there are real benefits for both teachers and children learning strategies rather than only knowledge. Official reviews of NDP have reported measurable benefits at all levels of schooling but they also acknowledged some challenges especially related to the rate of progress in children's mathematical development (Tagg & Thomas, 2008). Principal F's concern was similar in recognising that the focus on the number strand created weaknesses in geometry, algebra and measurement hindering overall mathematical development. As a response to this situation the school was considering the introduction of the Middle School Cambridge mathematics program.

Principal F commented:

> Our primary and middle school have been on ENP [Early Numeracy Development Project] and ANP [Advanced Numeracy Development Project] but we have focussed on it to improve and because the kids are coming through with much better strategies now from primary and middle school we have raised the level of maths. It is still not where I want it to be. I think there is a better understanding of mathematical knowledge – teachers understanding how to teach strategies, not just process.
> You know- the strategy of learning rather than "this is what you've got to do here", so the kids can take the strategies and apply them to other numerical situations. The only problem with ENP and ANP is its focus on number so there's a weakness in geometry, algebra etc.

Challenges associated with fragmentation of knowledge

When the New Zealand Ministry of Education first introduced Unit Standards and NCEA one of the main criticisms which arose was over the fragmentation of knowledge in the system. Section 2.5.2 included some discussion of critiques of this aspect from the popular press as well as from formal reports. This was also one of the major objections to state schooling in

the USA which led ACCS (Wilson, 1991) to adopt the more holistic classical curriculum model.

The issue was raised by Teacher W as a genuine concern. He was challenged by the fragmentation of learning that has evolved as a consequence of the NCEA system and Unit Standards which make up various stages of the qualification.

> Fragmentation makes it very difficult to maintain a 'flow' within a topic etc especially with unit standards. You work on a unit for two or three weeks, you test it, then it's gone, shelved. Maybe not dealt with again- rarely built upon again that year. I wish there was more of a flow on effect . It seems even in the Achievement Unit level classes that is true. The idea of a spiral curriculum you can see things grow etc…

Asked what distressed him about the fragmentation of knowledge, Teacher W's commented that lack of continuity in learning seemed to be unbiblical.

> Rather than the creaking up and shelving that happens - in the Bible I see things that are carried through to completion and I want to do the same thing with my students. I want to go through to finish something. I want to say 'We are at the end of the road now.' I hate being on the road, and then having a roadblock- having to take a detour.

His concern was over the fragmentation caused by working on a topic for a limited time before changing to another. His preference seems to be for taking the time to work through each topic thoroughly.

The concerns expressed by these ACS teachers almost all related to aspects of the state curriculum model and few were directly connected to the teachers' understanding of what it means to teach mathematics Christianly. Teacher W's comment above does reflect a desire to build Christian character in learners, but is relevant to learning procedures in general rather than being exclusive to mathematics learning. The Christian focus for each of these teachers

was more on building relationships and encouraging a love for mathematics than on the articulation of any specifically Christian way of teaching the subject.

Challenges associated with textbooks

Another area of potential difficulty in mathematics classes voiced by the ACS teachers related to the use of textbooks. Although any connection between the use of texts and the ACS educational philosophy is somewhat tenuous, yet it is the choice of state mandated curriculum which has led to the involvement with the NDP in primary classes where no text books are used, and to the enrolment of senior secondary students in public examinations where the use of textbooks is considerable.

The situation at the classical school is almost the reverse, where the classical curriculum emphasises a reliance on a set of particular textbooks for mathematics classes to reinforce the belief in the value of repetitive practice and review, especially in primary (grammar) age classes (Nance, 1996). Although there are changes in pedagogy and choice of text in the older classes, textbooks are still widely used.

Both principals and each teacher interviewed were asked about the role of mathematics textbooks in their school. The two principals were clear on the limitations of textbooks, but Principal M of the classical school (ECS) was mostly concerned that children should be experiencing mathematics in the real world, whereas Principal F believed that mindless repetition could destroy any love of the subject. Brown and Baird (1993) spoke of the risk involved in teachers relying on text books rather than using them as one of a range of approaches.

Teacher S at ECS commented during her interview that her teaching of mathematics was strongly textbook focussed, mostly because she was teaching more than one year level in the same room. None of these comments or those of the three ACS staff about how much they used mathematics textbooks gave any indication of whether or not they believed the use of textbooks enhanced mathematics learning. There was certainly no suggestion as to how they contributed, or not, to teaching the subject Christianly.

Tables 7.4 and 7.5 indicated that most questionnaire respondents believed that mathematics should be taught differently in a Christian school from the way it was taught elsewhere, and in fact did so themselves. Responses from both schools were lacking in providing evidence of what that difference might be. Understanding of Christian perspectives in mathematics were largely limited to references to creation, the relational pedagogical approach of ACS, and the classical approach of ECS.

7.7   The place of history in the classical school

The questionnaire offered the opportunity for secondary teachers to comment on a subject other than mathematics. Only one questionnaire respondent chose to do so, and it was possible from the response below to identify this respondent as Teacher J from ECS, the classical school.

> The value placed on History ought to be much higher in a Christian school. One way
> of demonstrating that is by making it a compulsory element of the curriculum from
> Year Seven onwards. In the teaching itself, history can be used to testify to the
> truth of Scripture, especially as it speaks about the fallen and sinful nature of man.
> Further, teachers ought to consider how historical figures (e.g. David) are
> portrayed in the Scriptures and imitate this approach to recent figures.
> If we did this consistently, Christian students would be less likely to give

honour and glory to man for his achievements, and more likely to honour and
acknowledge God as the orchestrator of events and personalities.

These remarks indicate a strong commitment to integrating biblical perspectives through the history curriculum, reinforcing the philosophical stance of ECS which includes an understanding of history as the demonstration of God's dealings with humanity on earth (CSA**D, 2008).   They also demonstrates a clear understanding of what van Dyk (1981) and Wolters (2005) describe as 'directional' studies which investigate ways in which God's original structures have been distorted over history.

Classical scholars, both Christian and secular also value the study of history as the means by which children can be enculturated into western society as discussed in section 3.2, with understanding of and engagement with culture seen as responsible expressions of faith (Fennema (2006). One of the classical school teachers picked up the issue of enculturation during her interview expressing her awareness of the influence of philosophies from the past which have helped to shape the modern western world.

> It's quite important to learn where our thinking has come from and focus on the culture
> and thinking of those people in the past - they pick this up then in the second and third
> levels- logic and rhetoric- those ideas – the philosophies that have come into our present
> day. So through history you are able to learn about those cultures.

(Teacher S)

This response is aligned to the school's educational philosophy, rather than reflecting any aspect of their religious philosophy. The school's valuing of history is seen in its decision to make the study of history compulsory until Year 11.

Biblical principles in studying history

During his interview Teacher J remarked that the study of history can lead to discussions and debates on a range of theological as well as historical issues. He expressed the belief that any Christian scholar who truly values the principles of honesty and truth

> should by rights be quite happy and comfortable showing a historical figure in all their
>
> weaknesses and strengths whereas those who are perhaps more ideologically driven
>
> would be more inclined to elevate certain things about a person and play down the
>
> nastier aspects of their nature. So we use history to show that human nature really
>
> is what the Bible says it is. That's an important distinctive, I think.

He saw the impact of ECS's belief system in a natural connection between teaching Bible and history, since both teach students about how to reach truth.

> Not just relying on one witness. Relying on a series of witnesses, which is central to
>
> historical scholarship and is also a Christian principle. Treating people and ideas with
>
> respect even if you don't agree with them. That's where the scholarship and
>
> theology/worldview overlap.

A biblical approach to history can help children focus on understanding the distortion of God's structures and ways on which the Gospel restores (Goheen, 2004a), linking well with the Creation-Fall-Redemption framework (Wolters, 2005).

There was also seen to be a natural connection between history and rhetoric, since both are applications of the liberal arts goal of teaching advanced thinking skills. Teacher J saw a large part of his role being to inspire his students to develop a genuine interest in these areas as well as learning the life skills believed to be extremely important.

Teaching history Christianly

As for his personal pedagogy, Teacher J mentioned that he felt rather too text book reliant at times, but was developing a more unit based approach, built around the development of specific skills in order to be more discriminating in the use of texts.

> Yes. At the moment I feel I'm too textbook dependent. And over time I'm moving towards a more unit based approach, which will still make use of text books, but more discriminatingly. Units will be focused on developing certain skills. It will become more skills based than it currently is.

In discussing the ways in which Teacher J considered he taught these subjects from a biblical perspective, beyond what was already discussed above, he mentioned that class activities often involved using biblical passages and historical principles together for comparison and contrast. The rigorous thought demanded of both history and rhetoric was seen to include both positive aspects and challenges. Discussion on the relationship between rational thought and Christian faith and the implications for Christian schooling were presented in section 3.5.

However, these demands helped Teacher J find personal answers to the questions "How do I teach history in a Christian way? What are biblical principles of history? "

> Sometimes I would set activities which deliberately bring those things together for example with the Year Nine and Ten class I had one lesson where they were given a set of biblical verses and then a set of principles of historical scholarship and they had to go around and match them. That's one way where it is explicit. Often it takes place just in incidental comments in the classroom. Sometimes it might be in assessment tasks – for instance I might set an essay on Dietrich Bonhoeffer or Martin Luther King and say 'Right I want you to research these guys, and I'm going to give you a set of principles of church leadership or Christian leadership and I want you to explain how these men demonstrated biblical principles of leadership in their lives'. So they have to write an essay showing scholarship, as well as what the Bible says about those things.

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He was asked if this type of activity ran the risk of a proof-text approach of taking verses or short passages seemingly in isolation. His reply was that although that may seem the case, more often than not, the chosen verses were the best encapsulation of what the whole Bible is saying on the subject.

> I try to determine what the Bible as a whole says about something, but then pick certain verses which best articulate that. Even though those verses appear to be taken in isolation, they are the best articulation of what you see the whole Bible as saying.

Once more, Teacher J indicated a reasonably deep level of understanding of teaching subjects Christianly, particularly in mentioning the need to locate particular topics in the full Bible narrative. He continued with mention of the fact that often people will interpret disasters in the world as God's judgement on an area, without looking seriously at the major themes of God's dealings with the world.

During his interview, Teacher J also discussed <u>biblical principles in rhetoric</u> in similar terms to those associated with the teaching of history.

> Well for a start, don't use it unjustly, don't try to persuade people to do the wrong thing. Commitment to truth and honesty. Focusing on character. Making sure you are an upright character. You know… Aristotle said one of the key ways of persuading people is by being sure people actually trust you as a person aside from the message you're actually trying to convey. They need to trust the messenger as well. And as a Christian it's good to be reminded of. You might say the right thing but if your character is such that people don't believe you the message is lost. And speaking eloquently, showing people respect. Very basic principles that are Christian too. We can see that in the New Testament in the way Jesus reacted with His audience and with His opponents and the apostles.

Although Teacher J was the only respondent choosing a subject other than mathematics as the major subject focus, his comments on history and rhetoric highlighted the significance of these subjects in the classical and Christian curriculum model. His understanding of these

subjects' value with respect to the study of Christianity was as clear as his determination to express his own biblical worldview through his lessons. He alone demonstrated an understanding of a biblical worldview perspective which reached beyond consideration of creation, incorporating a mor holistic metanarrative approach to the subject.

7.8   Discussion of aspects of mathematics pedagogy which reflect a school's philosophy

This chapter has addressed the teaching and learning of mathematics in the two New Zealand schools involved in this study, with a focus on eliciting teachers' understanding of teaching the subject Christianly. As was to be expected with two different curriculum models, there were differences in pedagogy reported, primarily in the teaching mode used in the primary age classes. True to the classical model, ECS teachers reported a reliance on knowledge acquisition, memorisation and textbooks for this age group.

By contrast at the non-classical school, the focus shifted from teacher-led lessons, to a more child-centred approach more aligned to the outcomes based approach of the New Zealand curriculum. Similarities emerged in at least one of the ACS teachers acknowledging the value of didactic teaching and text book dependence and the classical teachers recognising the value of developing a range of teaching styles in order to stimulate in the children an interest in learning.

With respect to Christian perspectives of mathematics, again both differences and similarities emerged. All respondents agreed on the importance of mathematics and most agreed that it should be taught differently in Christian schools from the way it is taught elsewhere. Apart from the selection of possible strategies recorded in Table 7.2 responses lacked any specific details as to how this was actually done in their classrooms.

Although acknowledging the need to teach the subject differently, teachers expressed a range of understandings of what it means to teach mathematics Christianly. All were clear that mathematics is an expression of God's attributes of order and design, evident in creation. Other responses were either with respect to the requirements of the classical curriculum or the building of learning relationships. No teacher from either school clearly explained how their Christian beliefs influenced the way they taught mathematics.

By contrast the classical school history teacher was able to clearly articulate Christian perspectives of his subject and how he specifically taught the subject Christianly. His comments were explicit about the classical school's approach to the place of history in the purposes of God, clearly linking curriculum practice to the school's belief structure. He clearly expressed his understanding of integrating faith into the teaching of both history and rhetoric and the strategies he used in his lessons to implement this understanding. As no respondent from the non-classical school commented on history and no history lesson was available for observation at that school, there is no comparison possible with ACS.

In summary, responses confirmed earlier research that most people find difficulty expressing biblical perspectives of mathematics beyond the recognition that the structure of the subject reflects God's attributes. Responses did provide a degree of consistency between the respective school's philosophical underpinnings and pedagogical approaches in general. Care for the children as individuals and a desire to develop sound relationships were prevalent attitudes among the staff from the non-classical school, again aligning with the school's philosophy of education built around the expressions of broad Christian principles.

The final level of data collected was from classroom observations. Questionnaire and interview responses have provided evidence of what management and teaching staff believe is meant by teaching in ways which implement their school's philosophical underpinnings. Chapter Eight reports on the data collected from classroom observations which sought evidence as to whether or not the beliefs expressed elsewhere find expression during classroom lessons.

Chapter 8: Classroom Observations.

8.1 Introduction

The previous three chapters have discussed data collected from published documentation, questionnaire responses and personal interviews, where it has been shown that teaching staff from both schools were committed to the biblical principles underpinning their approach to teaching, but were uncertain about implementing these principles in their teaching. This chapter examines classroom practice in a range of age groups and subjects in the two New Zealand schools in order to address the final aspect of the research question "What impact does a school's philosophical stance have on policy, procedures, perceptions and practice?"

It was anticipated that differences would be evident in lesson content and associated pedagogy: classes in the classical school might be expected to be more teacher-directed rather than child focused and lesson content would be different because of different curricula. The focus in the following sections will be on these aspects while simultaneously investigating ways in which biblical principles are incorporated into classroom teaching. This is in order to ascertain whether the claims made in previous chapters are justified and to identify the nature of any pedagogical differences that may emerge within the two schools.

Because ECS, the New Zealand classical school, is a very small school in a small country (New Zealand), it can not be justifiably presented as representative of the entire ACCS network of schools. However, despite those limitations, evidence emerged of certain alignment with ACCS published educational philosophy and goals.

8.2 Classrooms and lessons observed

The two schools differed considerably in size, with only eight class groups in total at ECS as opposed to 48 at ACS. The smallness of ECS made it possible to observe some year groups or teachers more than once. The consistency resulting from these observations allowed important validation that practice observed was fairly typical. By contrast, the large number of classes at ACS actually restricted the availability of rooms for observation. Those visited were largely determined by the timetable on days available for the school visits. Despite the limitations of size and availability a reasonable cross-section of year levels and subjects was observed in each school as outlined in Table 8.1 below. In all, 17 lessons were observed at ECS and 11 at ACS.

Table 8.1 Lessons observed in each school by year group

ECS Year level	Subject observed	ACS Year Level	Subject observed.
NE – Yr 3	Bible English Mathematics Social Studies	NE/Yr 1 Yr 2	English English
Yrs 4 -6	Health Mathematics English	Yr 6	Social Studies
Yr 7/8	Bible History Mathematics	Yr 7 Yr 8	Bible Mathematics Science Poetry English
Yr 9	English Bible	Yr 9	Health Mathematics
Yr 10	English History		
Yr 11	Rhetoric		
Yr 12	Apologetics		
Yr 12/13	Rhetoric	Yr 13	Physics

Two observation charts were used in each classroom, one directed towards the teaching strategy employed and the other towards lesson content. These charts were developed to focus on features of classroom practice already identified as specific to the pedagogical approaches of the two schools (Lodico et al., 2006).   This aligns with the advice of Wiersma and Jurs (2009) and Verma and Mallick (1999) to tailor observation checklists to focus on issues relevant to the research. Both tables were presented in Chapter Four but the headings are repeated here for clarity. Demographic details were also noted in each classroom (See Appendix IV).

Table 8.2 Classroom strategy employed

direct instruction	rote learning	text book exercises	revision	discussion	group work	practical activities	assessment tasks used	children's response

Table 8.3 Lesson content

Factual material	problem solving	[mathematical] thinking	general thinking skills	conceptual understanding	synthesis integration of	biblical perspectives

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8.3 Observations of primary / grammar classes

Both schools have combined classes at primary level, which is not in itself unusual for a New Zealand classroom. The Bible and the Social Studies lessons at ECS involved the whole class, whereas the other lessons involved separate teaching and learning activities for the different age groups. Except for the mathematics lesson when a teacher aide took one group to another room, the children all stayed in the same room with the teacher who moved around to deal with the groups separately as necessary. In the non-classical school each class remained together throughout the lesson.

English lessons in the two schools

Several lessons which were observed in common in both schools come under the New Zealand curriculum learning area designated as English (New Zealand Ministry of Education, 2007). At ECS they included structure of language in the junior classroom and written and oral language in the older primary class. The junior class lesson began with a short teaching session to introduce activities to each group then the children were given written grammar practice exercises relevant to their age group expectations. These were to be completed in individual workbooks.

The health and English lessons in the upper primary class at ECS were blended together for all three age groups with attempts made to involve the class in discussion and interactive activities, but they were stilted and largely unsuccessful. Even though the health lesson was built around the students sharing previous work together, the teacher's style was exclusively didactic. During presentations by the children, interactions were minimal with no opportunities for discussion or peer evaluation.

During these lessons there was nothing either in the lesson content or in the classroom interactions which suggested biblical perspectives. However, both content and pedagogy were faithful to the classical approach in focussing on review, practice and individual written work, but the lesson with the Year Four to Six group contrasted with the lessons in the junior classroom in lacking evidence of comfortable interaction between teacher and children.

At ACS both English lessons were more focussed on reading aspects of oral language. The NE/Year One class was presented mostly as if it were a Year One class. The children sat together at the front of the room as the teacher read them a story and asked questions about what was being read. There was a short period towards the end of the lesson when the younger children worked orally with the teacher as the older ones did some written work. A similar pattern was followed in the Year Two class, but the activities included the whole class singing and performing an action song related to the story that had been read.

As at ECS there was no mention in either of these lessons of anything relating to a biblical approach other than a brief reference to the school's theme "God is generous" during the Year Two lesson at ACS when it related to an issue in their song.   There was a clear contrast between the more traditional approach of the classical school lessons and the more informal conversational style of teaching at ACS which demonstrated a strong degree of comfortable interaction between teachers and children.

Social studies lessons in the two schools

Differences between the two social studies lessons observed are in part due to the fact that the classical school class was NE to Year Three, as opposed to the ACS class being at Year Six. However certain features of pedagogical methodology were clearly evident.   The classical school social studies lesson involved all the children in written and oral activities related to a

topic study of the rain forest. This lesson was more interactive than the others observed as the teacher engaged in a question and answer session with the children, inviting a few to read their story to the class.

Even though the social studies class at ACS was at the end of the afternoon, the children were actively involved in sharing their work with the teacher and with one another. The lesson, on the theme of 'Prominent People' included a period of children sharing their research with one another, whole class discussion, watching a video, and writing notes.

Mathematics lessons observed in the primary classical classes

The mathematics lessons observed in the junior class at ECS involved the Year Three group being taken to another room to work with a teacher aide on practicing multiplication tables and completing arithmetic exercises from their individual workbook. The teacher conducted a brief period of instruction with the other children using interactive materials then they were sent to work independently from their workbooks.

A noticeable difference emerged between the two mathematics classes observed at the classical school, ECS. While the learning focus in the older Years Four to Six classroom was on the practice of basic facts and review, there was no evidence of purposeful interaction between the teacher and the children as had been observed in the younger class. These children spent a 45 minute mathematics lesson working from their text books or worksheets on a range of basic arithmetic exercises, with the only teacher instruction being to identify work to be completed in preparation for testing.

None of the criteria listed in Table 7.2 for teaching mathematics Christianly was evident in either the lesson content or the pedagogical approach, nor was there any reference to creation

or God's attributes. In equivalent classrooms of a state school one might expect to find group work alongside activities designed to develop mathematical strategies and thinking patterns. However the reliance on text books and individual written work observed in this class is consistent with the classical model.

Data from the questionnaire and interviews suggested a strong belief at ECS in mathematics demonstrating the attributes of God in creation. Neither mathematics lesson provided any evidence in the content taught or in the teaching methods employed to support this claim. There was however consistency with the decision to follow the classical approach of didactic teaching, knowledge acquisition and individual mastery of content.

The only obviously Christian aspect in this classroom at the classical school was the Bible lesson which began the day. It was focused on learning extensive background knowledge of an Old Testament story and included a short oral session of question and answer to review what had been done in the previous lesson, chanting of the weekly memory verse, as well as recall of another Bible verse applicable to the story. This academic approach to studying the Bible demonstrated its use as a curriculum subject, one of the options discussed in section 3.6.

8.3.1   Discussion of lessons observed in primary classes

The lessons observed in the primary level classrooms at ECS clearly illustrated approaches presented in Chapter Two, where discussion on curriculum reform began by presenting concerns in many countries over the loss of tradition societal values and the subsequent inadequacies in school curriculum. It was in response to those concerns that groups such as ACCS adopted a classical model which has retained traditional curriculum content, pedagogical approaches and assessment regimes.

To some extent the anticipated differences between the two New Zealand schools were evident during these lessons, especially with respect to pedagogy and lesson content. The two settings highlighted elements of difference and similarity. The traditional approach of the classical model was evident in all lessons observed in both junior classrooms, although differences in the expression of those approaches emerged. Lesson content was mostly focussed on learning factual material, with little evidence of problem solving techniques or general thinking skills beyond memorisation. There was however some evidence of the children in the ACS Year Six class engaging in activities to promote deep thinking and conceptual understanding through their research project.

Classroom procedures in the older classical classroom also centred on direct instruction, rote learning, textbook exercises and individual bookwork, with no evidence of any requirement for the children to engage in developing thinking skills or conceptual understanding of material, as might have been expected to some extent in the Year Six group. By contrast all three teachers observed at ACS conducted interactive lessons involving a range of teaching strategies suited to the age of their children and the subject taught. Although their relational approach is clearly a focus for ACS, it is not an aspect exclusive to Christian schools, but it could be seen as an expression of the aim to develop *shalom* (Wolterstorff, 2002) as discussed in section 3.6.

Despite the claims reported in Chapter Seven of integrating Christian principles through lessons, the only overt evidence of Christian beliefs was in a formal Bible lesson at ECS. No valid comparison with ACS Bible lessons for this age group is possible as no formal Bible lesson or devotions time was observed in any of the ACS classes. The only expression of biblical perspectives observed was mention of the ACS theme for the term.

With respect to the preservation of traditional approaches to assessment both classical school teachers directed learning during their lessons towards preparation for formal written tests due soon after those lessons. This approach is a clear demonstration that the classical model has retained the traditional, formal approach to assessment largely rejected in recent curriculum reforms. Details were discussed in section 2.4.

8.4 Observations of middle school / logic classes

Many more lessons were observed in this area of each school than had been in the younger age groups. Bible, mathematics and English classes were among those observed in both schools, providing a clearer picture of similarities and differences than was possible in the junior classes.

Bible lessons in the middle school / logic classes

As was the situation with the junior primary class, the Year Seven/Eight classical school class began the day with a formal teacher-led Bible study lesson involving the whole class and centred on the children learning content knowledge. The Year Nine Bible lesson followed the same format and included an extensive explanation of a doctrinal issue which arose. Not surprisingly the devotions time in the ACS Year Seven class was considerably more informal, involving both teacher and children reading a short Bible passage followed by spontaneous prayer from one student. Such a devotional illustrated the first option offered in Table 7.2 as a way to express teaching Christianly, namely 'a short devotional at the start of a lesson'. There is a risk of dualistic attitudes developing with the devotions times treated separately from other curriculum subjects, even being seen as an 'add-on' to Christianise the curriculum.

Mathematics lessons in the middle school / logic classes

Mathematics lessons demonstrated an element of similarity between the schools' approaches, but also confirmed the differences. The classical school Year Seven /Eight mathematics class began with whole class instruction on procedures for calculating statistical measures. This was followed by individual written text book activities. There was evidence of a genuine concern for the children's learning in the willingness of the teacher to spend time reinforcing the content with them and moving around the class checking work and helping individuals. Throughout this lesson there was no mention of biblical perspectives, verses quoted or divine attributes discussed as had been claimed during interviews and in the questionnaire.

The two ACS mathematics classes contrasted with one another while also differing in some respects from the classical school mathematics lesson. The Year Seven class was conducted in a very similar fashion to that at ECS in being largely teacher-led, but most work was written on the board, rather than all being from a text book. An element of interaction was involved as a sequence of measurement problems was worked through with both oral and written responses from the children.

By contrast during the Year Nine mathematics class at ACS the teacher was fully involved for the whole period in practical statistical activities with the children. She offered an introduction which actively engaged the children, then set them working in groups on a range of activities related to statistical enquiry, moving around to monitor their efforts. This teacher's approach to statistics as enquiry contrasted strongly with the more mathematical approach taken by the ECS teacher. Once again any explicit expression of God's attributes, creation or the Bible was absent.

English lessons in the middle school / logic classes

The third subject area observed in both schools was English, with Year Nine and Year Ten observed in the classical school, and a Year Seven and a Year Eight class observed at ACS. Both English classes at ECS were taught by the same teacher, whose approach to her lessons offered no surprises. At the time of the observations each class was studying the same book by C.S Lewis, which was an allegory of foundational biblical doctrines. There was little to distinguish between the two lessons, each of which involved a series of readings and discussion on the meaning of the text and its literary features, but had little to identify either a Christian or a classical approach apart from the choice of text to study. Even that is not necessarily a choice exclusive to a classical or a Christian school.

The Year Seven English lesson observed at ACS was a poetry lesson which involved the children first listening to a recording of two Bible psalms and other biblical passages, all referred to as illustrations of poetic styles. The class was then invited to answer questions around the issues raised, which they did in a lively and interested fashion. The biblical approach was overt in the sense of the Bible being used of as a teaching text, but in a way discouraged by Thompson (2003) as inappropriate. Because this lesson was setting the stage for a unit of work the question and answer session dominated the time, with minimal written work undertaken.

The Year Eight English class at the non-classical school ACS was quite similar to the classical approach for this age group in that the teacher was clearly aiming to engage the children in deep thinking and discernment of issues behind the text being read. The probing nature of the questioning suggested that the text itself was secondary to the goal of developing thinking skills, indicating a similarity with the goal of teaching logic and thinking skills in a classical school.

As opposed to the absence of any evidence of Christian perspectives in the mathematics lessons observed, language lessons in both schools indicated some level of a biblical approach in the use of the Bible as teaching content in ACS and to a lesser extent in the choice of text at ECS, as many schools choose books written by Christian authors purely as illustrations of notable literary works.

Other classes observed at the classical school

Two history lessons were observed at the classical school, one in the Year Seven/Eight class and one in the Year Ten class. The emphasis on history in this school has been discussed in Chapters Three and Seven. During the Year Seven/Eight lesson involving both groups, a lively interactive task was given as review for an impending test. This approach suggested an attempt by the teacher to introduce an element of creativity and relationship with her learners, while maintaining the classical emphasis on review.

History for the Year Ten class at the classical school was taught by the history specialist. During the lesson there was a mixture of discussion and didactic instruction on reasonably complex issues. Discussion was largely focussed on stimulating critical thinking around underlying issues rather than focussing on historical facts per se. This teacher spoke during his interview of being somewhat textbook dependent, but there was no evidence of that during the lesson. In these lessons, as in the others discussed, there was no overt expression of biblical perspectives beyond the actual choice of history as an important curriculum subject for classical schools as discussed in Chapter Seven.

Other classes observed at the non-classical school

Two other classes were observed at the non-classical school, ACS. One was health in Year Nine, the other science in Year Seven. Each presented an aspect of teaching Christianly but

in each case this was mostly restricted to the actual content. For instance, the science lesson on the form and function of the human skeleton began with a review of previous lessons where a clearly articulated creationist approach was used. The class was reminded of the perspective that God had made the different parts of the skeleton with their particular function in mind.

Initial brief discussion was followed by individual written work centred on review for an impending test. The final activity of this lesson was the screening of a video which surprisingly presented a totally evolutionary discussion of skeletal formation and function. Despite the clear contradiction of the approach earlier in the lesson, no comment was offered to the class before or after the screening. This suggests lack of thorough preparation by the teacher or confusion in her understanding. It would undoubtedly present a mixed message to the children.

The Year Nine health class at ACS presented Christian perspectives in the discussion of biblical virtues and attitudes to decisions regarding personal choices using examples and analogies from the Bible. The lesson was almost entirely oral discussion led by the teacher, but in a way which actively engaged the students. This approach of focussing on broad Christian principles in addressing the national health curriculum which largely centres on sex education is consistent with the ACS philosophical approach to Christian education.   It also aligns well with van Brummelen's (2009) citing of applying biblical principles as one expression of teaching Christianly.

8.4.1 Discussion of lessons observed in middle school / logic classes

Observations in the middle school / logic classes covered a wide range of different subjects at each of the schools. The range of lessons observed demonstrated predictable differences in pedagogical approaches as well as some similarities. There was an unexpected level of evidence of biblical approaches to lessons in the non-classical school, and virtually none in the classical school beyond the formal Bible teaching lessons.

There was one ACS lesson which began with a short devotion time as was to be expected. The poetry lesson was based around biblical text for illustration, the science lesson used the doctrine of creation for explanation, and the health lesson addressed the curriculum content by way of biblical perspectives on the issues raised. There was no evidence of any of these approaches in the ECS lessons observed, and the choice of a C. S. Lewis book for study could not be justified as an illustration of Christian perspectives, as many schools choose books written by Christian authors purely as illustrations of notable literary works.

Mathematics and English classes both demonstrated formality of approach at ECS and a more interactive approach at the non-classical school, ACS. Further to that there was evidence of an inquiry based approach to learning at ACS, more aligned to the dialectical methods employed in older classes in a classical curriculum. These lessons clearly illustrate the general approach to teaching and learning discussed in Chapter Two with respect to curriculum reforms in the New Zealand, and more specifically to mathematics in Chapter Seven.

Other observed lessons at ECS demonstrated that school's focus on history, with the lesson structure in younger class more aligned to grammar level pedagogy of review and formal

testing of knowledge. Reliance on textbooks was evidenced in ECS classrooms demonstrating another expected difference between the two schools. Not unsurprisingly pedagogy at the non-classical school was largely relational with active engagement between teacher and learners, although a level of formality was observed during a Year Seven mathematics lesson.

8.5 Observations of senior secondary / rhetoric classes

There were limitations in both schools on the observations of these class levels. In the classical school, ECS, there were only 12 students at the Years 12 and 13 classes, so in some instances lessons were delivered to the groups combined. At the non-classical school, ACS, the timetable structure and staff unwillingness to be involved limited observation to one Year 13 class which comprised only four pupils.

This lesson was built around the demonstration of special physics equipment and instruction on its use. The teacher's largely didactical approach to instruction included attempts to engage the students in discussion, mostly to test their knowledge of other relevant information. Although the students were not overly active, which may have been due to the newness or difficulty of the topic being taught, they did seem to have a level of good relationship with the teacher. Towards the end of the lesson the teacher made a passing comment about science in general being an expression of the creation, which was the only suggestion of any Christian focus during the lesson.

Two of the three senior secondary classes observed in the classical school were taught by the same male teacher, who demonstrated both interactive and didactic strategies. For rhetoric with both the Year 11 students and the Years 12 and 13 combined group, students were

actively involved in all aspects of the lesson. The content of each lesson was directed towards the development of higher order thinking skills such as analysis and synthesis as is to be expected in this subject. Furthermore there was clear evidence of sound relationships between the teacher and his students. By contrast, during the apologetics class the students appeared bored and uninvolved for the entire period. The teacher virtually delivered a lecture that gave no opportunity for student participation.

As has been noted for many lessons in both schools, there was no overt expression of biblical perspectives in any of these classes, either in content or pedagogy. The choice of rhetoric and apologetics as subjects for study at this level at ECS is to be expected in the classical curriculum model. Also in accordance with that expectation was the combination of didactic and dialectical approaches in two of the three classes observed. The formal lecture style of the third ECS class was contrary to expectation, while the relative formality of the physics lesson at ACS could be due to the difficulty of the subject and the focus for this age group on examination preparation. Had more senior classes been available for observation at ACS it is very likely that similar pedagogical approaches would have been evident, given the school's involvement in external NCEA examinations.

8.6 Discussion of lessons observed in the two schools

Since both schools in this study are Christian it was anticipated that at all levels there would be clear expression of biblical perspectives as evidence of the impact of each school's philosophical underpinnings on teaching and learning. Previous chapters have recorded claims from governance, management and teaching staff as to how the respective philosophies are implemented. Responses from the questionnaire and interviews as to teachers' understanding of teaching Christianly fell into three broad categories; the subject as

an illustration of creation, commitment to the classical curriculum model and building learning relationships between teacher and learners.

Only the first of these, the subject as an illustration of creation, connects in any way with the Creation-Fall-Redemption model discussed in Chapter Three although loving relationships can realistically be expected to manifest in a Christian's life. It was expected that teachers would demonstrate in their lessons some degree of understanding of a biblical worldview framework with respect to the subjects being taught. This could be in the shape of acknowledging that a subject was an example of either the structural or the directional areas of investigation as defined by van Dyk (1981). However, the references to creation in the lessons observed fell short of that.

With a snap-shot study such as this there are limitations to the conclusions which can be drawn from observations, but it was expected that there would be reasonably clear evidence of teachers' understanding of teaching Christianly. Although the responses reported in Chapter Seven focussed on mathematics, it was anticipated that teachers would employ similar approaches in all subjects. Table 7.2 offered five possible approaches to teaching Christianly; having a short devotional at the start, finding verses to support a concept, finding Bible stories to illustrate, looking for God's attributes, and fitting the content into the full Bible metanarrative. It is not unreasonable to expect teachers to be able to demonstrate how and why they espouse these and other approaches to teaching Christianly.

Evidence of biblical approaches was sought during the class observations. Questionnaire responses had offered strong support for expressions of teaching Christianly by seeking evidence of God's attributes in a subject and helping learners understand a subject in the light

of the whole Bible story.   No consistent evidence emerged of either approach in the lessons observed.

Section 3.6.2 discussed the Bible study curriculum as a school-wide issue which reflects that school's philosophical underpinnings. Formal Bible lessons were the only feature in the classical school which could reasonably be defined as teaching Christianly. This contrasted with the situation at ACS where as well as the informal devotional time discussed above, there was one mention of the school's theme in the junior class. Surprisingly, one instance arose of biblical perspectives on curriculum content namely: God as creator the theme of a science lesson, and one instance of the demonstration of biblical perspectives on the topic being studied: discussion of biblical virtues in a health lesson. The Bible was used as teaching content in one English lesson.

In all classes observed in ECS there was clear commitment to the classical curriculum model in terms of both content and pedagogy. Lessons were largely teacher-led although there was also some evidence of involving the children in inter-active activities. Individual text book work by children and formal assessment of learning were evident.   All these features are consistent with the ACCS decision to retain the tradition features of curriculum and pedagogy rejected in reforms undertaken in both New Zealand and the USA. Lessons at ACS, the non-classical school, demonstrated a similar commitment to the chosen curriculum model. There was evidence of strong relationships between teachers and children with lessons directed towards principles of the state mandated curriculum discussed in Chapter Two.

The following chapter draws together the findings of Chapters Five to Eight.   Implications of the findings are discussed as presenting evidence to address the research questions.

Chapter Nine: Discussion and Conclusion

9.1 Introduction

This research project set out to examine the extent to which a school's philosophical stance impacts different areas of a school's life. Two Christian schools in New Zealand were involved, both with seemingly similar missions, but each with a different approach to curriculum and pedagogy. It is important to remember that this study was a parallel sample design as mentioned in Chapter Four (Wiersma & Jurs, 2009), with the aim of examining the research question in different settings, rather than being a direct comparison of the schools involved.

The research specifically addressed the question "What impact does a school's philosophical stance have on policy, procedures, perceptions and practice?" A second research question "What are the significant features of pedagogy in mathematics classrooms which reflect a school's educational philosophy?" was included as a special focus related to reported challenges teachers face in teaching mathematics Christianly.

As outlined in previous chapters, the Association of Classical and Christian Schools (ACCS) adopted the classical curriculum model because of their belief that such an approach was needed to teach Christianly and to simultaneously ensure rigorous academic achievement which they believed was missing in state schooling. The scope of this study did not allow for the latter issue to be investigated, but the results reported in Chapters Five to Eight provided evidence that refuted the former claim.

There was considerable evidence in documentation and during the interview with the principal of the New Zealand classical school (ECS) of the ACCS claims that the classical and Christian curriculum model is a better expression of teaching Christianly than models used in other Christian schools. The ECS principal was very clear that other Christian schools were simply 'Christianising' secular programs as had been the case with Augustine in the early Christian era.

The ECS mission statement and that of its parent body ACCS, both clearly claimed that Christian education involves an integration of faith and curricular perspectives on a firm foundation of Bible study. Superficially this aligns with the descriptors of teaching Christianly offered by Green (1998) and Wolters (2005). However, questionnaire and interview responses from ECS staff were relatively vague on the issue of such integration and classroom observations, as reported in Chapter Eight showed little evidence to support the claim that this is the only or a better way to teach Christianly.

By contrast, the mission statement of the non-classical school, ACS, claims to implement their interpretation of Christian education on broader perspectives of a Christian worldview and biblical principles using the national curriculum. The only specific explanation of these principles was in the directive for teacher to develop a strong relational pedagogy, which was largely in evidence in classrooms observed.   Literature discussed in Chapter Three mentioned a similar policy of other Christian groups satisfied with the academic aspects of government mandated curriculum approaches. Evidence from the documentation, interviews, questionnaire and classroom observations as reported in Chapters Five to Eight was consistent in supporting this claim.

9.2 Impact of philosophical stance on governance and management

Differences emerged between the two schools with regard to governance and management issues. Data reported in Chapter Five from documentation and interviews with governance and management staff at the classical school revealed a blurring of boundaries between governance and management. Tight control over finances, general policy and management is exercised by the Board of Trustees who understand their role to be the maintenance of the doctrinal vision.

By contrast, the evidence from ACS revealed alignment with the counsel of Preston and Norsworthy (2006) that there should be a clear separation of educational issues from church matters. Without the need to protect the integrity of a specific doctrine, the more inclusive belief system of ACS allows for wider representation on its governance boards.

Evidence emerged of some parallels in staffing and enrolment policies, with limitations on eligibility imposed by the exclusive policy at ECS as opposed to the more broadly defined, inclusive interpretation of eligibility at the non-classical school. Nevertheless it is possible to conclude that there is evidence to support the argument that the schools' philosophical stance does impact governance and management.

9.3 Impact of philosophical stance on curriculum

There was strong evidence from both schools that the philosophical stance has considerable impact on curriculum decisions and their implementation. Although both schools declared in their documentation that their aim is to provide education firmly grounded in the Bible and built on Christian principles, each school's choice of curriculum demonstrated a different

interpretation of that goal. There was no clear evidence of any metanarrative framework for curriculum such as the Creation-Fall-Redemption model discussed by Greene, (1998), van Brummelen (2002), and Wolters (2005) as might have been expected from the declarations of biblical worldview perspectives from both schools.

For the ACCS schools, the decision to adopt a classical curriculum with an academic approach to Bible study is seen as offering a sound Christian education (Wilson, 2003). In contrast to that approach, the non-classical school uses the state-mandated curriculum, comfortable that it offers no threat to the expression of Christian principles through its personnel. This could be seen as "Christianising" a fundamentally secular program.

Examination of the impact of the classical and Christian curriculum model in ACCS schools revealed that instead of the claimed integration of the two aspects, the classical perspective dominated curriculum decisions. Evidence suggests that in fact while their fundamental values are Christian, the core educational values are deeply rooted in Greek philosophy. The rationale for the establishment of ACCS and the choice of curriculum model was presented in section 5.2 (Wilson, 2003).

Apart from the formal teaching of Bible, all other subjects could be classified as secular, as none has any inherently Christian or biblical component. Rather, the study of logic, rhetoric and Latin supports the perspective of a curriculum designed to train young minds. The ECS principal had stated the school's desire to offer 'Reformed education' but the subjects unique to the classical curriculum only address the aspect of Reformed belief that Christians must be thinkers as discussed in Chapter Three.

By contrast, data from the non-classical school revealed that *The New Zealand curriculum* (2007*)* is not seen to offer any challenge to the school's vision, and indeed that the essence of the current curriculum offers unprecedented freedom for schools in their choice of subjects, pedagogy and expression of special character. Questionnaire and interview responses from ACS participants consistently reported that Christian perspectives were implemented mainly through relationships of respect and trust.

The freedom offered by the national curriculum model was seen by management and teaching staff who participated in this study to be a tool to enable the filtering of content through a Christian biblical worldview, allowing students to understand the integration of their faith into all aspects of life (Deuink & Carruthers, 2008).

There are at least two possible explanations of this approach at ACS. First, it could be that in the current educational climate in New Zealand it is difficult to maintain a strongly denominational stance. It could be that the demonstration of Christian perspectives indirectly through the practice of individual teaching staff is preferable to overt expressions, and that, as a consequence, given the staffing policy of employing only committed Christians there is therefore a consistent demonstration of this school's interpretation of Christian perspectives.

The second explanation is rather more pragmatic. To maintain their integration status, and consequently government funding, there needs to be consistent evidence of maintenance of the school's special character. In the case of ACS this was claimed to be "providing quality education for students founded on a biblical worldview and based on sound Christian principles" (ACS, 2007, p.1). Furthermore, the principal of ACS was cited in Chapter Five as saying that a very strong motivation for integrating into the state system was to make

Christian education available to a wide range of families who might otherwise not be able to afford the cost of private Christian schooling.

9.4 Impact of philosophical stance on teaching Christianly

Evidence was sought in both New Zealand schools of Christian thinking and its demonstration in pedagogy.   Sections 3.5 and 3.6 presented discussion on biblical ways of knowing and thinking and the application of those perspectives to pedagogy. Teachers' understandings in these areas were largely limited to repeating their school's vision statements, claiming a desire to teach differently along with the recognition that doing so presents challenges.

All respondents clearly acknowledged the desire to teach Christianly, agreeing that it meant at least teaching differently from in a state school and included a recognition of God's attributes, but responses lacked specificity. Questionnaire and interview data also showed that although all respondents were fully aware of Christian education involving more than the teaching of Bible lessons and devotions, almost all struggled to clearly articulate what biblical perspectives on their subjects might be. Only the ECS history teacher demonstrated any understanding of his subject in a metanarrative context. He articulated a clear rationale for the study of both history and rhetoric in line with the full Bible story and as an integral aspect of the classical approach to education.

An examination of the data reported in Chapters Five to Eight shows a clear delineation between pedagogical approaches and Christian perspectives in the classical school, as opposed to approaches at ACS more closely aligned to concepts of relationality than pedagogical perspectives which are actually biblical. There was no evidence in either school

of any depth of understanding of presenting curriculum subjects from the well known Creation-Fall-Redemption worldview framework discussed earlier.

Teaching Christianly at ECS

Interview and questionnaire responses from ECS had claimed an integration of Christian beliefs and perspectives in all subjects, but data from the questionnaire presented a divergence of understanding of this issue. All three options of full or partial embeddedness and separation were claimed by ECS staff. Even though the number of respondents represented more than half the full time ECS teaching staff, this does not suggest any definitive conclusion as to the level of understanding or implementation of the school's mission by all staff throughout the school.

Furthermore the classroom observations provided evidence only of formal Bible study classes, illustrating one of the six approaches to teaching Christianly proposed by van Brummelen (2009), namely teaching the Bible as content. There was no clear evidence of any of the other overtly Christian approaches at ECS. It was only the history teacher from ECS who was specific in expressing his understanding of both history and rhetoric unfolding the nature of humanity and the manifold dealings of God on the earth. His was the only explanation of biblical perspectives which aligned to any significant degree with a metanarrative approach to teaching Christianly.

Four aspects of teaching Christianly which affect the individual teacher were discussed in section 3.6.3, namely personal faith, relationship building out of that faith, the delivery of curriculum content and pedagogy. At ECS, there was no question as to each teacher's personal faith, and in most instances there was evidence of sound classroom relationships, although that aspect was not considered to have any special significance. It has already been

mentioned that there was no evidence of curriculum construction or presentation being aligned to anything other than the requirements of the classical approach.

Teaching Christianly at ACS

In contrast to the claims made by the classical school, data collected from the non-classical school demonstrated a different interpretation of teaching Christianly. Policies of inclusiveness suggest a willingness to engage actively with society while still retaining faithfulness to Christian principles. During classroom observations teaching from a Christian worldview perspective was evidenced in a variety of ways across a range of year groups, but was largely limited to three of the six approaches reported by van Brummelen (2009). These were teaching the Bible as content, modelling biblical qualities and applying biblical principles. Such data was consistent with that from documentation, interviews and questionnaire responses.

These findings support the writings of Fennema (2006), Lockerbie (1994) and Smitherman (2005/2006) which indicate that in many Christian schools the Christian values are to be seen more in terms of relational pedagogical styles than in any deeper understanding of curriculum subjects illustrating creation, mankind's rebellion and God's purposes in restoration. ACS data provided a clear demonstration of the aspect of relationality as an expression of the teacher' individual faith as discussed in section 3.6.3.

It can be argued that an approach which focuses on developing relationships of respect and trust can reasonably be expected of every school community. These qualities are neither specifically educational characteristics, nor exclusive to Christians, but they should be considered crucial to the expression of Christian interaction in all aspects of life. While sound relational pedagogy is an important part of teaching Christianly, there is no justification for

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arguing that it is the full expression, or even the best expression of Christian educational approaches. As mentioned above, there was no evidence of any understanding among the ACS respondents of curriculum subjects aligning with a biblical worldview framework.

In conclusion, data from observations at the classical school, ECS, all supported the questionnaire and interview data that classical methods of teaching and assessment prevailed. Results from the non-classical school, ACS, were equally consistent in demonstrating a more relational style of pedagogy. This did not exclude the use of other pedagogical approaches. In fact there was evidence of some levels of more personal approaches at the classical school and of didactic teaching methods at ACS. However, the predominant pedagogies observed as reported in Chapter Eight were more closely aligned to the classical approach in ECS classrooms and the relational approach in ACS classrooms. To that extent there is support for the argument that each school's philosophical stance impacts teacher perceptions and classroom practice.

Teaching mathematics Christianly

Data relating to teaching mathematics Christianly emerged from the interviews with participating mathematics teachers and the mathematics classes observed in the two schools. From those interviews and observations, evidence emerged to support Lundberg's (2005) belief that many Christians find it difficult to relate mathematics to faith issues. The evidence also supported Thompson's (2003) findings of challenges many Christian teachers face in teaching mathematics Christianly.

The absence of a framework summarising the full Bible metanarrative left teachers with rather superficial explanations of any connections between mathematics and the Bible. Data collected in the questionnaire and during interviews revealed that participants at both New

Zealand schools struggled to give expression to any understanding of teaching mathematics Christianly beyond the belief that the subject demonstrates certain attributes of God such as order, pattern and design.

It was no surprise, therefore, to note that no instances of overt expression of biblical perspectives in mathematics emerged in observed lessons at either New Zealand school. Data revealed awareness among teachers of the importance of mathematics as a subject as well as the belief that it should be taught "Christianly". However predictable challenges were evident in both schools as to the expression of that belief in their lessons. Mathematics lessons observed in both schools demonstrated approaches consistent with the respective school's choice of curriculum model.

The second research question "What are the significant features of pedagogy in mathematics classrooms which reflect a school's educational philosophy?" can be answered by saying that the features of mathematics pedagogy observed clearly reflected the respective school's overall curriculum approaches, but there was limited evidence of any depth of teachers' understanding of a meaning for teaching Christianly in this subject.

9.5 Limitations to the study

This research project has been constrained by several limitations due to the subject under investigation and the methodology by which that investigation could best be undertaken. One restriction arose from the difficulty in obtaining responses other than documentary evidence from the USA school. Despite initial willingness to participate in the study, eventually no teacher or administrator from KCS participated in the study. It was helpful to have access to an ACCS school in New Zealand, but its relatively small size immediately raised the risk of

presenting data from one small New Zealand school as representative of a large North America association of schools. Nonetheless, some elements of the ACCS story did emerge clearly through the data collected from the New Zealand classical school. As mentioned in Chapter Four, because a case study is more concerned with a narrative account rather than generalisations (Suter, 2006), data collected at ECS helped to tell the story of classical and Christian education in New Zealand as an illustration of the curriculum model espoused by ACCS.

Other limitations were not so much related to the relative sizes of the schools as to the lack of control by the researcher over the availability of teachers for interview and classes for observation. Data which was collected provided evidence to answer the research questions with a degree of clarity. However access to a wider range of classes across all curriculum subjects would have provided much richer data with which to evaluate the impact of each schools' philosophical underpinnings at all levels of the school. There was evidence of clear differences between the schools at governance and management levels, but little evidence of significant difference in actual classroom practice.

Another limitation arose from the software which had promised much, but in some cases confused numerical choices from the respondents as frequencies, restricting the interpretation of data. In some instances, written responses allowed identification of the respondent's school which was helpful in building a picture of each school's situation. In contrast to the snapshot nature of this research an extended study involving several schools over a longer period of time would provide evidence of more general patterns in all the issues addressed.

9.6 Issues for further research

Despite a large body of writing on Christian education and the philosophy which informs it, there is no single model and no single definitive meaning for teaching Christianly. Further research would focus on investigating the meaning and expression of integration of faith and learning in a wider range of Christian schools, including those associated with different denominational groups, those founded by specific church communities, as well as those such as ACS in this study, which have no denominational affiliation. As this study has shown limited evidence of teaching Christianly, further study would include close involvement with classroom teachers to probe more deeply into their understandings and observe their classroom practices over a longer period of time than this study allowed.

The opportunity exists for deeper investigation into the potential value of a classical approach to curriculum for both Christian and secular educators in New Zealand and elsewhere. Only an intensive long-term study would provide the level of evidence needed to justify any potential claims about either the inherent value or alternatively, the unsuitability, of a classical curriculum model for 21st century children. In particular, research would need to address the claims that it redresses the perceived academic inadequacies of current approaches.

9.7 Conclusion

The research has addressed the impact a school's philosophical underpinnings have on teaching and learning as it relates to the curriculum model adopted by the Association of Classical and Christian Schools. There is a wide body of general literature on a range of aspects of Christian education, but little research about the impact of a belief system on educational issues to support claims made about the efficacy of chosen curriculum models.

As mentioned in Chapter Three, some Christian and secular groups other than ACCS have espoused a classical approach to curriculum and others have published works declaring its value. This research project is possibly the first to be undertaken as an investigation into the classical and Christian model as adopted by ACCS.

The main conclusion which can be drawn from this study is that the philosophical stance of the two schools involved does have observable impact throughout each school, but in different ways and in different measures. Published mission statements from the schools declaring their intent to offer Christian education were similar yet the implementation of those missions was different. The claimed integration of curriculum and Christian perspectives in the classical school was not evident. However it was clear from the evidence that the classical perspective was the basis on which curriculum decisions at the classical school were made. Evidence was equally clear that at the non-classical school the curriculum model was considered a framework only, with Christian perspectives demonstrated more broadly through pedagogical approaches and relationships within the school community.

In summary, both New Zealand schools in this study claimed to offer education integrated around the Bible and founded on a biblical worldview approach, as presented in Chapter Five. However, despite individual instances of biblical perspectives in some classrooms, no evidence emerged of consistent Christian teaching in line with the vision and mission statements of these schools. Some interview responses hinted at an understanding of a metanarrative approach as discussed in Chapter Three, but observed classroom practice did not support this. It can be stated that the classical and Christian curriculum model as espoused by ACCS is one way in which Christian education can be offered, but there is little evidence to support the claim that it is better than any other way.

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APPENDIX I CONSENT FORMS

Information Letter for Principals

Project: Back to the Future. An investigation of curriculum models

You are invited to participate in a study to investigate the extent to which a school's philosophy affects policy and practice, including curriculum and pedagogy in the school. The purpose of the study is to investigate whether there are differences in the policy and practice in Christian schools which have different philosophical underpinnings. The research is being conducted by Mrs Dianne Scouller, MASTERS Institute, ph 0064 9 835 1118, to meet the requirements for the degree of Doctor of Philosophy (PhD) under the supervision of Professor George Cooney, Australian Centre for Educational Studies, Macquarie University Sydney, ph 0061 2 9850 8666.

If you decide to allow your school to participate, I will be seeking permission to:

- read the school documents that describe the school's philosophy, policies and practices, including curriculum and pedagogy
- invite staff in your school to complete a questionnaire, which will take approximately 40 -50 minutes
- observe a sample of lessons

The questionnaire asks for the perceptions of staff about your school's philosophy and how this philosophy affects what you teach and how you teach. There are no right or wrong answers; I am anxious that they are honest about their perceptions.

The classroom observation is not to evaluate teaching as such, but to gain an insight into the various teaching styles used in the school in different subjects, and to compare the pedagogies used in this school with those used in the other schools in my study.

All information and personal details gathered in the course of the study are confidential and no individual or school will be identified in the publication of the results of the research. The researcher and her supervisor will retain all information gathered. The responses of individual staff members and the record of the individual class observations will be seen only by the researcher; they will not be made available to any other member of the school staff.

If you would like to obtain details of the research findings a summary will be made available to you.
Copies of information and consent letters for staff and parents are enclosed.

If you agree to participate, please sign the consent form enclosed and return the signed copy to me. The second copy is for you to keep. Even after signing the consent form, you are free to withdraw from participation in the research at any time without having to give a reason and without consequence.

Thank you for your consideration of this invitation.

Regards

Dianne K Scouller
Dianne Scouller

Consent Form for Principals

I, _____have read and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Participant's Name:
(block letters)

Participant's Signature: Date:

Investigator's Name: DIANNE SCOULLER
(block letters)

Investigator's Signature: _*Dianne K Scouller*_   Date:

The ethical aspects of this study have been approved by the Macquarie University Ethics Review Committee (Human Research). If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Ethics Review Committee through its Secretary (telephone 9850 7854; email ethics@mq.edu.au).

If you prefer to contact someone in New Zealand you are free to contact Dr Alla Shymanska (alla.shymanska@aut.ac.nz)

Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Information Letter for School Staff

Project: Back to the Future. An investigation of curriculum models

You are invited to participate in a study of what is taught and how it is taught in Christian schools. The purpose of the study is investigate the impact of a school's philosophical underpinnings on different areas of school life.

The research is being conducted by Mrs Dianne Scouller, MASTERS Institute, ph 0064 9 835 1118, to meet the requirements for the degree of Doctor of Philosophy (PhD) under the supervision of Professor George Cooney, Australian Centre for Educational Studies, Macquarie University Sydney, ph 0061 2 9850 8666.

If you decide to participate, you will be asked to do either or both of the following: complete a questionnaire, which will take approximately 50-60 minutes ;

agree to the researcher being a non-participant observer in your classroom for a period of one to 2 hours.

The questionnaire asks for your perceptions about your school's philosophy and how this philosophy affects what you teach and how you teach. There are no right or wrong answers; I am anxious that you are honest about your perceptions.

The classroom observation is not to evaluate your teaching, but to gain an insight into the various teaching styles used in the school in different subjects, and to compare the pedagogies used in this school with those used in the other schools in my study.

All information and personal details gathered in the course of the study are confidential and no individual or school will be identified in the publication of the results of the research. The researcher and her supervisors will retain all information gathered. Your responses will be seen only by the researcher; they will not be made available to any member of the school staff or executive.

If you would like to obtain details of the research findings a summary will be made available to you.

If you agree to participate, could you please sign the consent form enclosed and return the signed copy to me. The second copy is for you to keep. Even after signing the consent form, you are free to withdraw from participation in the research at any time without having to give a reason and without consequence.

Thank you for your consideration of this invitation.

Regards

Dianne Scouller

Consent Form for School Staff

Name of Project:
Back to the Future. An investigation of the Classical and Christian curriculum model.

You are invited to participate in a study of different Christian curriculum models. The purpose of the study is investigate the impact of a school's philosophical underpinnings on different areas of school life.

The study is being conducted by Dianne Scouller, MASTERS Institute, ph 0064 9 835 1118, This research is being conducted to meet the requirements for the degree of Doctor of Philosophy (PhD) under the supervision of Professor George Cooney, Australian Centre for Educational Studies, Macquarie University, Sydney, ph 0061 2 9850 8666.

If you decide to participate, you will be asked to do either or both of the following:
complete a questionnaire, which will take approximately 50-60 minutes ;
agree to the researcher being a non-participant observer in your classroom for a period of 1 to 2 hours maximum.

Any information or personal details gathered in the course of the study are confidential. No individual will be identified in any publication of the results. The researcher and her supervisors will retain all information gathered. The principal of your school will have access to any information relevant to your school, should it be requested.
If you decide to participate, you are free to withdraw from further participation in the research at any time without having to give a reason and without consequence.

I, _____have read and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to participate in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

I would like to receive a summary of the research results. ⬚ ease √ or X

Participant's Name: _____
(block letters)

Participant's Signature: _____   Date:

Investigator's Name: DIANNE SCOULLER
(block letters)

Investigator's Signature: __*Dianne K Scouller*__ Date:

The ethical aspects of this study have been approved by the Macquarie University Ethics
Review Committee (Human Research). If you have any complaints or reservations about any
ethical aspect of your participation in this research, you may contact the Ethics Review
Committee through its Secretary (telephone 9850 7854; email ethics@mq.edu.au).
If you prefer to contact someone in New Zealand you are free to contact Dr Alla
Shymanska (alla.shymanska@aut.ac.nz)
Any complaint you make will be treated in confidence and investigated, and you will be
informed of the outcome.

Information Letter for Parents

Project: Back to the Future. An investigation of curriculum models

This invitation seeks your permission for your child to be part of a study of what is taught and how it is taught in Christian schools. The purpose of the study is to investigate the impact of a school's philosophical underpinnings on different areas of school life. The research is being conducted by Mrs Dianne Scouller, MASTERS Institute, ph 0064 9 835 1118, to meet the requirements for the degree of Doctor of Philosophy (PhD) under the supervision of Professor George Cooney, Australian Centre for Educational Studies, Macquarie University Sydney, ph 0061 2 9850 8666.

If you grant permission, your child will not be actively involved in any aspect of the research, other than as a member of a class being observed. The researcher will be noting only the style of teaching being employed, and the content of the lesson involved. No specific or personal details identifying the school, the teacher or your child will be recorded.

If you grant permission for your child to be present in a classroom where the researcher is stationed, you are still free to withdraw him/her from further participation in the research at any time without having to give a reason and without consequence.

All information and personal details gathered in the course of the study are confidential and no individual or school will be identified in the publication of the results of the research. The researcher and her supervisors will retain all information gathered. Details of the class observation will be seen only by the researcher; they will not be made available to any member of the school staff or executive.

If you would like to obtain details of the research findings a summary will be made available to you.
If you do decide to give your permission please sign the following consent form and return it to your child's teacher in the envelope provided. There is a second consent form for you to keep. Even after signing the consent form, you are free to withdraw your child from participation in the research at any time without having to give a reason and without consequence.

Thank you for your consideration of this matter.
Regards

Dianne Scouller

Consent Form for Parents

I, _____have read and understand the information above and any questions I have asked have been answered to my satisfaction. I agree for my child to be involved in this research to the extent outlined above, knowing that I can withdraw him/her from further participation in the research at any time without consequence. I have been given a copy of this form to keep.

Parent's Name:
(block letters)

Parent's Signature: Date:

Investigator's Name: DIANNE SCOULLER
(block letters)

Investigator's Signature: ___*Dianne K Scouller*___ Date:

The ethical aspects of this study have been approved by the Macquarie University Ethics Review Committee (Human Research). If you have any complaints or reservations about any ethical aspect of your child's participation in this research, you may contact the Ethics Review Committee through its Secretary (telephone 9850 7854; email ethics@mq.edu.au).

If you prefer to contact someone in New Zealand you are free to contact Dr Alla Shymanska (alla.shymanska@aut.ac.nz)

Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

This questionnaire has been prepared by Mrs Dianne Scouller as part of a doctoral research degree from Macquarie University, Sydney. The research seeks to investigate impact of a school's philosophical underpinnings on different areas of school life.

Please complete this section before answering the questions which follow
Male / Female   Age; under 20 / 20-29 / 30-39 / 40-49 / 50 or over
Number of years teaching_____   No of years in your current position_____
Have you taught in a government school?   Yes/No   If Yes For how long?_____
What is your highest academic qualification? _____
Did you receive your teacher training in a government institution?   Yes /No
If Yes, please name the institution_____
If No, please explain briefly_____

Please offer a response to all questions

Section 1   The impact of school philosophy on administration issues

(i). Which of these best describes your school? Circle one
Private   State controlled   Integrated
Other (Please clarify)_____

(ii)
 What do you understand is the philosophical stance of your school?
_____
_____
_____
(iii). What do you consider is the defining distinctive of your school?
_____
_____
_____
(iv). When you appoint staff, what qualifications or characteristics do you look for
academically
_____

personally_____

(v) How much impact do you believe the philosophy of your school has on each of the following?
 1. Teacher appointment
Very great   great   some   a little   none

2. Student enrolment selection
Very great   great   some   a little   none

3. Structure of governance roles
Very great   great   some   a little   none

4. Structure of management roles

Very great   great   some   a little   none
5. Relationships between management and staff
Very great   great   some   a little   none

How are these roles outworked within the school community?

_____

6. Relationships between staff and students
Very great   great   some   a little   none
How are these roles outworked within the school community?

_____

7. Relationships between the school and families
Very great   great   some   a little   none
How are these roles outworked within the school community?

_____

Section 2. The graduate profile

(i) What is the highest academic qualification available to students in your school?
_____
(ii) Is this a   nation-wide qualification   particular to your school   (Please circle one)
Other (please explain)
_____
(iii) Is it expected that all students aim to successfully complete this qualification? Yes / No
(Please circle one)

(iv) What are the 4 most important spiritual qualities or attributes you expect to see in a graduate of your school? Please list them in order -1 being the most important

Academic	Physical	Social	Spiritual
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4

(v) How do you evaluate these qualities?

Academic	
Physical	
Social	
Spiritual	

(vi) Do you keep records of where your graduates go after leaving your school? Yes/No
If Yes, please indicate which of the following 'destinations' are most common for graduates
of your school;
Tertiary study: approx %_____
Professional training: approx %_____
Non-academic training e.g. apprenticeships: approx %_____
Other:
_____

Section 3. The curriculum model

Is the model of curriculum used in your school based around the educational philosophy of

Piaget?   Vygotsky?   Constructivism?   State-
mandated model?
Yes / No   Yes/No   Yes / No   Yes
/ No
Other? Please clarify_____
_____
(ii)To what extent do you believe the curriculum model in your school encourages students in
their spiritual growth?
Very greatly   greatly   somewhat   a little   not at all
Explain briefly how you believe this happens
_____

(iii) To what extent do you believe the curriculum model in your school encourages students
to meet the graduate profile?
Very greatly   greatly   somewhat   a little   not at all

Briefly explain how you think this actually happens

_____

Section 4 Curriculum subject choices.
(i)To what extent is the choice of subjects taught in your school determined by government authorities?

Totally   a great deal   somewhat   a little   not at all

(ii) To what extent is the choice of subjects taught in your school determined by your school's philosophy?

Totally   a great deal   somewhat   a little   not at all

(iii)Which subjects taught in your school are unique to your school, or to schools who share your school's philosophy?

_____
_____

(iv) Were these subjects decided on because of
        the school's philosophy   Yes/No
        the requests of families in your school?   Yes/No
        availability of staff   Yes/No
        some other factor(s)   Yes/No

You may wish to comment briefly

_____

(v) At what year level or grade level are students able to choose the subjects they study?
    _____

(vi)Which subjects are compulsory for all students?
    _____

(vii) At what year level or grade level are they no longer compulsory?
    _____

(viii) Are these subjects compulsory because of
government policy?   Yes/No
your school's policy?   Yes/No

(ix) Does your school have a separate subject for Christian studies?Yes/No
Please describe the curriculum briefly

_____
_____

(x) To what extent is this Christian studies curriculum embedded in other areas? (Please circle one)
fully embedded   totally stand alone   a blend of embedded and stand alone

Section 5. Teaching methods

(i)Is there a formal policy in your school for the method of teaching to be used? Yes/No
Please explain briefly
_____
(ii)Do teaching methods differ noticeably across different age levels or grade levels? Yes/No
Please explain briefly with respect to the following broad age groupings:
4 - 10 years old_____
11- 15 years old_____
16 – 18 year old _____

Section 6 Assessment

(i) Does your school have a formal assessment policy?   Yes/No

(ii)To what extent is the assessment policy in your school determined by your school's philosophy?

Totally   a great deal   somewhat   a little   not at all

Explain briefly_____

(iii) To what extent is the assessment policy in your school determined by preparation for external examinations in the senior school?

Totally   a great deal   somewhat   a little   not at all

(iv) Using the chart below, please put a √ in the appropriate box to indicate whether or not each type of assessment task is used in each of these broad age groups

Type of assessment task	4 - 10 years	11- 15 years	16 – 18 year
Public examination			
Formal school-based examination			
Written tests			
Multi-choice tests			
Oral tests			
Essays			
Story writing			
Practical activities			
Presentations			
Competitions			

Please list any other types of assessment frequently used and identify the age group.

_____
_____

Section 7 Mathematics

For junior and middle school teachers (ages 4 to approximately 13 years), please answer the following questions with respect to **mathematics** specifically.
For senior class teachers, please answer the following questions as they relate to your subject.
[name of subject ---------------------------]

(i) How important is the teaching and learning of [mathematics] for your school?
Essential   very important   important   quite important   not important

(ii) How differently do you believe a Christian school should teach [mathematics] from the way it may be taught elsewhere?
Totally   a great deal   somewhat   a little   no differently at all

(iii)Which of the following do you think best describes teaching [mathematics] biblically? (circle the letter at the front of the statement you select)
    A - having a short devotion or prayer before the lesson starts
    B - finding verses to match the content
    C - finding Bible stories to illustrate the context or topic
    D - looking for attributes of God illustrated in the topic
    E – helping students understand the place of [mathematics] in the full Bible story
    F Other… please explain briefly
_____

(iv) The following is a list of different aspects related to learning [mathematics]. Please indicate at what age you consider it is appropriate to introduce them into lessons

Aspect	Basic facts	Problem solving	[mathematical] thinking	Understanding of concepts	Application of knowledge
Age for introduction					

(v) Please indicate at what age you consider it is appropriate these aspects be considered of less importance than other aspects in your lessons

Aspect	Basic facts	Problem solving	[mathematical] thinking	Understanding of concepts	Application of knowledge
Age for reducing impact					

(vi)) Mathematics teachers only
Please put a √ in the appropriate box to indicate which method of teaching mathematics you consider most appropriate for the age group(s) you teach

Teaching method	4 - 10 years old	11- 15 years old	16 – 18 year old
Direct instruction			
Rote learning			
Text book exercises			
Revision			
Group work			
Discussion			
Practical activities			

Please list any other type of teaching method frequently used and identify the age group.

_____

(vii) All teachers
Considering the above list of teaching methods, and any other appropriate for you, please list in order, up to three teaching methods you most frequently employ in your classroom.

1.(Most frequently used)

2.

3

You may wish to identify a teaching method you never use.

_____

Thank you for your co-operation.
Signed. *Dunne K Scoullar*

Thank you for being willing to spend time being interviewed. Feel free to not answer any question you are unwilling or unable to respond to.

Board of Trustees members and senior management
What was the principal reason your school was established?
What need was perceived to exist that developing the school would meet?
Did the community which built this school believe that public schools were not meeting this need at all, or meeting it poorly?
What particular aspect of your school has been established to meet this need?
What has been established in your school to ensure the protection of its distinctive nature?
What issues is the school facing with respect to its constituency?
What specific features of your school do you believe distinguish it from other schools?
- Christian schools
- state schools
How do you see the school working out its commitment to its declared purpose?
Does the Board believe the school is in fact fulfilling its role?
How is this evaluated and how often?
What do you see as the key elements in the school's role? [e.g faith; academic; social aspects]
Why are these considered to be important?
Why is it considered to be the school's responsibility to fulfil this role- as opposed to family, church or even other schools?
What part does the school's philosophy have in determining selection of staff? selection of students?

Senior management and teachers
How do you believe this school's philosophy is implemented through its choice of curriculum? ..choice of curriculum subjects?
What special advantages are there for students and/or teachers in this choice of curriculum model / subjects?
What challenges does the school face in presenting this curriculum?
What challenges do the teachers and students face in this respect?

How does the school's philosophy affect each teacher's pedagogical style?
How do the school's assessment and evaluation procedures reflect the school's philosophy of learning? What aspects are different from those in any other school? Why is it considered necessary that they be different?

What criteria are used to evaluate the school's academic success? How frequently is an 'audit of success' undertaken? How are the success criteria evaluated?
To what do you attribute this success?

 In the teaching of **mathematics** particularly, what do you consider to be the most important goal?
How are you able to determine whether or not all staff have this same goal?
As far as you are able to ascertain, does your staff have a clear understanding of what a biblical approach to teaching mathematics means? How are you able to evaluate this?

If you have any concerns about the teaching of mathematics in your school, what are those concerns?

With regard to the teaching of mathematics in your school, would you describe the pedagogy in the three major areas of the school as largely based on textbook work; based on the development of skills or based on the development of strategies and mathematical thinking?

Primary/grammar	Intermediate/logic	Secondary/rhetoric
Based on textbook work		
Based on the development of skills		
Based on the development of strategies and mathematical thinking		

Do you have any further comment regarding the teaching and learning of mathematics in your school?

Have there been any changes, small or significant, in the teaching of mathematics in your school, in the last 5 years? Please describe these changes.

Why were these changes made? What advantages have been achieved from the changes?

Would you like to add any further comment about your school?

Thank you very much for your time. Your willingness I greatly appreciated.

Main type of pedagogy used

Teacher: M / F	year level of class	subject being taught	time of the day	direct instruction	rote learning	text book exercises	revision	discussion	group work	practical activities	assessment tasks used	children's response

Content of lessons

Teacher: M / F	year level of class	subject being taught	time of the day	basic facts	problem solving	[mathematical] thinking	general thinking skills	understanding of concepts	synthesis and integration of knowledge	clear evidence of biblical perspectives

Sample of a Completed Lesson Observation .

Main type of pedagogy used

Teacher: M / F	year level of class	subject being taught	time of the day	direct instruction	rote learning	text book exercises	revision	discussion	group work	practical activities	assessment tasks used	children's response
F	NE – Yr3	Soc studs [topic]	1:45-2:30	√			√	√			√ Informal present/n of stories	Very positive - involved

1: 45 - 1:50 children get soc.studs books from desks – T gives a worksheet with diagram of forest levels .   children copy titles from B/B onto worksheet   All engaged willingly.
1:50 – 1:55 T leads Q & A session about levels in forest as review of what taught in previous lessons – water cycle / air cycle   ideas of predator/ prey mentioned.
1:55 - 2:00   Q & A session continues – children willing to offer ideas
2:00 - 2:05   Children given 5 mins to decorate their worksheets. T walks around chatting to individuals. All chn seem to be happily engaged in their task.
2:05- 2:10 T calls class to attn – redirects them to writing activity. Reads a sample story – about 2 paragraphs - creative writing – chn to write as if they were either a predator or another animal's prey – chn excited . Brief discussion of ideas
2:10-2:15 Chn start to write in books – T circulates & chats to individuals
2:15-2:20 This continues. Some chn show signs of finishing. T checks and makes suggestions
2:20-2:25 Class called to attention- some straggle to be finished- T allows short time for this. Chn asked to volunteer to read their story to the class.
2:25 -2:30 Volunteers and some chn chosen by T to read story to class. No peer evaluation offered- T makes positive comments to each reader.   Chn instructed to put work away and prepare for last class of the afternoon.

Content of lessons

Teacher: M / F	year level of class	subject being taught	time of the day	basic facts	problem solving	[mathematical] thinking	general thinking skills	understanding of concepts	synthesis and integration of knowledge	clear evidence of biblical perspectives
F	NE – Yr3	Soc studs [topic]	1:45-2:30	√			√	[√]		

Basic facts -Knowledge re rain forest addressed and reviewed; as above Creative thinking skills – Chn encouraged to think re forest in terms of being predator/prey – creative writing Concepts – chn very young for depth of conceptual understanding, but encouraged to think about the interplay of air/water/light/ animals/ plants etc.