Soft Options or Practical Reality?

A study of practical course options for HSC students in
Seventh-day Adventist schools in NSW

JUANITA MARIE HARDER

Presented to Avondale College
in partial fulfilment of the requirements of:
Bachelor of Education (Honours)
Home Economics and Design Technology.

3rd November, 2003

Copyright© 2003 Avondale College

DECLARATION

I declare that all material contained in this thesis submitted to Avondale College is my own work, or fully and specifically acknowledged wherever it is adapted from other sources. I understand that if at any time it is shown that I have significantly misrepresented material presented to the College, and degree or credits awarded to me on the basis of that material may be revoked.

_____

Juanita Marie Harder

Supervisor: C. Sonter

DEDICATION

Dedicated to my parents James H. & Ethel M. Watson
for the love, care and support they have given me throughout my life.
They were my first teachers and
they dedicated their lives to the education of their children.



Thank you for always encouraging me to “finish what you start.”

ACKNOWLEDGEMENTS

I would sincerely like to express my appreciation for the assistance given to me by the following:

God for giving me the ability to love, laugh and learn.

To my supervisors, Cheryl Sonter for her guidance throughout the study.

To Mr. Cedric Greive for his guidance, statistical knowledge and support.

To Mr. Malcolm Coulson for his support, guidance and direction throughout the Honours program.

To my mum and dad, James and Ethel Watson for the selfless way they have invested in my education. They were my first teachers and I thank them for all the love, care and support they have given me throughout my life.

To my peers, for their kindness and understanding.

To my husband, Karl for his love and encouragement. For his unselfish support throughout the Honours program.

Juanita Harder, 2003

TABLE OF CONTENTS

Title Page	i
Declaration	ii
Dedication	iii
Acknowledgements	iv
Table Of Contents	v-vi
List of Tables	vii
List of Figures	viii
List of Appendices	x
Abstract	xi
CHAPTER 1: Introduction To The Study	**1**
Introduction	1
Statement of the Problem	1
Aim of the Study	2
Research Questions	3
Significance of the Study	3
Definition of Terms	4
Assumptions	5
Outline of the Thesis	5
CHAPTER 2: Review of Literature	**6**
Introduction	6
History of the Seventh-day Adventist (SDA) Church	7
Ellen G. White	7
Philosophical Backgrounds of SDA Education	10
The Ideal Adventist Secondary School	12
Does the Rhetoric Correspond with what is Practiced in SDA schools?	14
Subject Choices Available for students in SDA schools in Years 11 and 12	21
Influences on Student Subject Choices for Years 11 and 12	23
CHAPTER 3 Methodology	**38**
Introduction	38
Population Sample	38
Questionnaire Construction	38
Ethical Procedures and Protocols	39
Collection of Data	41
Analysis of Data	41
CHAPTER 4 Findings of the Study	**43**
Introduction	43
Demographic Profile of Respondents	43
Response Rates	43
Schools	43
Student Attitude Towards Subject Choices at their School	45
The Factor Analysis	45
The Scales	48

Respondents Clustered by Attitude 49
Hierarchical Cluster Analysis 49
The Cluster Members 50
Catering for Students in Seventh-day Adventist Schools with Subject Options 51
Character of the Clusters 51
Relationship Involving the Scales 57
Item Correlations 61
Summary 63
Factors Influencing Student Subject Choices in Seventh-day Adventist Schools 64
Factors Influencing Subject Choices 64
Item Correlation 66
Relationships Involving the Scales 67
Summary 69
Student Perceptions of Affirmation and Recognition 69
Student Recognition 69
Summary 72
Differences Between Post-Secondary Aspirations of Practically and Academically oriented students 72
Post-secondary Aspirations 72
Summary 80
Conclusion 80

CHAPTER 5 Conclusions and Recommendations 81
Introduction 81
Summary 81
Conclusions and Recommendations 82
Research Questions 1 and 2 82
Research Question 3 83
Research Question 4 84
Research Question 5 84
General Observations and Recommendations that arise 85
Summary of Contributions 86
The Limitations of the Study 87
Recommendations for Further Study 88
Concluding Statement 88

REFERENCES 90

APPENDICIES 93

LIST OF TABLES

Table 2.1	A representation of the subjects offered by the schools that are involved in the study	21
Table 4.1	The frequency of student respondents within each year level at each school	44
Table 4.2	Student Cross tabulation of school attended, age in years and gender	44
Table 4.3	The results of factor analysis of the attitudinal items concerning student subject choice for years 11 and 12	47
Table 4.4 (a)	Frequencies of respondents by gender, cluster and school	50
Table 4.4 (b)	Frequencies of respondents by gender, cluster and age	51
Table 4.5	Cluster responses to items which differentiate in relation to academic orientation	52
Table 4.6	Cluster responses to items, which differentiate in relation to practical orientation	54
Table 4.7	Correlation of items from the questionnaire	63
Table 4.8	Correlation of various items from the questionnaire identifying factors that influence subject choice	67

LIST OF FIGURES

Figure 2.1	George Knights diagram of factors that impact upon educational practice	10
Figure 4.1	Scree Plot indicating the presence of four distinct factors	45
Figure 4.2 (a-d)	Box plots representing the scales 'Limited choice, Vocational, Coercion, and Practical'	49
Figure 4.3 (a-c)	Graphs displaying the percentage cluster responses to items which differentiate in relation to academic and practical orientation	53
Figure 4.4 (a-d)	Cluster responses to items, which differentiate in relation to practical orientation	55
Figure 4.5	Representation of practical inclination of students according to their age	58
Figure 4.6	Representation of practical inclination of students according to their Year of schooling	58
Figure 4.7	Mean scores of Clusters 1 and 2 in relation to the practical Scale	59
Figure 4.8	Limited choice scale in relation to school attended	60
Figure 4.9	Mean scores of Clusters 1 and 2 in relation to the limited choice scale	61
Figure 4.10	Box plots examining the frequencies of items associated with factors that influence student subject choice	65
Figure 4.11 (a-b)	The Coercion Scale in relation to Year of schooling	68
Figure 4.12	Graph indicating cluster responses to perceptions of recognition	70
Figure 4.13	Graph indicating cluster responses to perceptions of recognition	70
Figure 4.14	Graph indicating cluster responses to perceptions of reward	71
Figure 4.15	Graph indicating cluster responses to perceptions of the worth of practical subjects as opposed to academic subjects	71
Figure 4.16	Graph indicating cluster responses to perceptions of ease related to subjects	72
Figure 4.17	Graph displaying post secondary aspirations of practical and academic students	73
Figure 4.18	Graph displaying post secondary aspirations of practical and academic students	74

Figure 4.19 (a-c)	Graphs displaying relationship between subject choice and post secondary aspirations of practical and academic students	75
Figure 4.20	Cluster feelings about whether they know what their post secondary aspirations are	77
Figure 4.21 (a-b)	Graphs indicating students satisfaction with subjects in relation to future aspirations and needs	78
Figure 4.22	Vocational scale in relation to Year of schooling	79

LIST OF APPENDICIES

Appendix 2.1	Seventh-day Adventist Philosophy of Education.
Appendix 2.2	The subject options available within the four schools involved in this study and their line-up.
Appendix 2.3	The Hobart Declaration (1989)
Appendix 2.4	National Goals of Adelaide Declaration (1999)
Appendix 2.5	Seventh-day Adventist Educations Systems Goals and Objectives
Appendix 3.1	Student Questionnaire
Appendix 3.2	Teacher Questionnaire
Appendix 3.3	Research Questions
Appendix 3.4	Avondale College Human Research Ethics Committee Principles of Ethical Conduct.
Appendix 3.5	Avondale College Human Research Ethics Committee. Letter of Approval.
Appendix 3.6	Permission letter from Seventh-day Adventist NNSW Conference Education Director.
Appendix 3.7	Letter requesting permission to distribute the Questionnaires
Appendix 3.8	Letters requesting numbers of students within schools to be surveyed.
Appendix 3.9	Instructions for Administering the Student Questionnaire
Appendix 4.1	Hierarchical Cluster Analysis

ABSTRACT

This study examines the perceptions of senior students in four Seventh-day Adventist schools in New South Wales toward the range of subject options available at their school. In particular the study focuses upon students' perceived levels of satisfaction in relation to the availability of practical subjects. It also examines the nature of the factors involved in influencing students' choice of subjects and their perceptions of the relative status of practical versus academic subjects. Finally, the study examines student choices in relation to their post-secondary aspirations. These aspects of subject options are examined in the light of the Seventh-day Adventist philosophy of education to establish whether there is consistency between their philosophy of a holistic approach to education and the options that are available to senior students.

A questionnaire involving attitudinal items set against a 5-point Likert scale was used to generate data about their sense of satisfaction with the subject options at their school, about their feelings in relation to the status of practical versus academic subjects and their choice of subjects in relation to their future aspirations. These data were analysed using the SPSS statistical package.

The results indicated that most students reported that they were adequately catered for in relation to subject offerings. However, there were pockets of concern about the limited subject options for practically oriented students for the HSC. A large number of students indicated that they chose their own subjects for the HSC and that they chose them with the aim of attending university. Student responses also indicated that there was a pervasive belief among the students that academic subjects were of greater worth than practical subjects and received higher recognition from the school. Hence, the recommendation was made that there is a need for more balanced approach in providing commendation and affirmation of student choice and performance in practical and academic subjects within Seventh-day Adventist schools. Finally,

it is recommended that students' satisfaction levels in relation to their subject options be constantly monitored to ensure student needs and desires are being met throughout the HSC.

CHAPTER 1

INTRODUCTION TO THE STUDY

Introduction

For many students the Higher School Certificate (HSC) is the determining factor for their future study and career aspirations. Government, universities, industry, school communities, school administrations, teachers, and parents all place high expectations upon students to perform well. It is in the interest of all these groups that their students do well in the HSC. Certainly, students, family and society in general benefit when students schooling is successful. It is for this reason that there is a large emphasis placed on Years 11 and 12. Attention is directed at the array of subjects offered within schools and upon the nature of subject choices made by students.

Statement of the Problem

Presently within the Seventh-day Adventist (SDA) Education system and throughout the Australian education systems as a whole, there is concern expressed about the importance of holistic education, and education that meets the needs of the complete individual (The Adelaide Declaration, 1999; The Seventh-day Adventist Philosophy of Education Policy FE05, FE10 2003;Roy, 2003). Holistic education has been a key feature of the Seventh-day Adventist school system since its initiation by Ellen G. White. In her words holistic development strives for the "harmonious development of the physical, the mental and the spiritual powers" (White, 1903, p. 13) of each individual student. The development of the whole person is essential if students are to gain sufficient knowledge, skills and abilities necessary to function within society. This in turn, ensures the well-being of students. The aim of such education is a competent and able person, who is at ease in their community and who contributes to its physical and spiritual well-being.

Educational philosophy directs a school's goals, which in turn impact upon all aspects of the educational practice of that school. For the purpose of this study the impact of philosophy upon curricular choice will be focused upon (Knight, 1989). As a communities' values and beliefs are evident within a school's educational philosophy and educational practice, a study of the Seventh-day Adventist system is appropriate. The Seventh-day Adventist church established their schools on a framework that revolves around God and Christianity, and upon the holistic development of students. Thus, the question may be asked: Is the philosophical ideal of the Seventh-day Adventist Church evident in their schools' educational practice, and particularly in its curricular emphasis? Or is there a hint of influence from society and from the Premier of New South Wales (NSW), Bob Carr in his "bid to rid the HSC of 'soft options'? (Doherty, 2002, p 2). This suggests that within society academic subjects are valued over more practical subjects within NSW today. This is one of many factors that impact upon the subject selection offered to students and their ultimate subject choices. Other factors include: government, industry, universities, the school community, the school administration, the teachers, parents, students and peers (Whiteley & Porter, 1999, p. 11) The difficulty for Bob Carr and everyone else associated with education is that these 'soft options' may well be a practical reality for many students who are practically oriented, and for those who struggle with an academic focus.

Aim of the Study

This study aims to establish the extent to which Seventh-day Adventist schools within NSW acknowledge and implement the physical/practical aspect of holistic education in their subject offerings to Years 11 and 12. As subject options within a school will impact on students' post-secondary aspirations, their subject choices, their desire to stay at their school of attendance and their feeling of recognition to establish and maintain a level of satisfaction amongst students. By establishing the level of satisfaction as reported by students, the schools will be able to gain a better understanding of how they may improve

their subject offerings within their school in order to better cater for students needs for the HSC.

Research Questions

In order to satisfy the main aim, the research questions of this study were:

1. Do students seeking academically oriented subjects report that they are adequately catered for in terms of subject options in Seventh-day Adventist schools?

2. Do students seeking practically oriented subjects report that they are adequately catered for in terms of subject options in Seventh-day Adventist schools?

3. What factors influence student subject choices in Seventh-day Adventist schools for the HSC?

4. Do students who take practical subjects in the HSC report the same sense of recognition as students taking academic subjects?

5. Are there any differences between the post secondary aspirations of the academically oriented and the practically inclined students?

Significance of the Study

This study is relevant, as it will provide insights into the levels of student satisfaction in regards to their subject options in Seventh-day Adventist schools, in New South Wales. It will also seek to establish whether academically and practically oriented students feel that they are adequately catered for in terms of subject choice, and whether the subject options offered at their school cater for post-secondary aspirations. It will also provide insights into whether students feel

rewarded and recognised at their school for studying within either the practical or academic subject areas. In establishing the answers to these questions, the Seventh-day Adventist schools will gain insights into the factors they need to consider and reflect upon in their current subject offerings, their current practice and what recommendations they may wish to consider for the future.

Definition of Terms

For the purpose of this study it is necessary to define and differentiate between practically oriented education and academically oriented education.

- *Academically oriented education* involves learning with a high emphasis on the refinement of the intellect rather than the learning of skills. An example of an academic subject would be Chemistry.

- *Holistic education* is concerned with the growth of every person's intellectual, emotional, social, physical, artistic, creative and spiritual potentials. … It also recognises the innate potential of every student…" (Holistic Education Network of Tasmania. 2003 p. 1)

- *Practically oriented education* involves learning practical skills aimed at providing the individual with life and work-related skills that apply to real life situations or to future employment. An example of a practical subject offered for the HSC is Design & Technology.

Assumptions

The assumption was made by the researcher that the responses received would be a representative sample of the total number of students taking the HSC in Seventh-day Adventist schools in NSW. It was also assumed that the respondents to the questionnaire interpreted questions according to the researchers intentions. Finally, it was also assumed that academically and practically oriented students could be identified as two distinctly separate groups.

Outline of the thesis

The main aim of this study was to establish whether Seventh-day Adventist schools within NSW acknowledged the physical/practical aspect of holistic education in their subject offerings to HSC students, and the students' sense of satisfaction with these subject options. The thesis firstly assesses the available literature, in Chapter 2 in regards to the philosophy of Seventh-day education, the factors that impact upon their ability to offer various subjects, the subjects that Seventh-day Adventist schools do offer, and the factors that impact on student subject choices. Chapter 3 discusses the methodology used for data collection and data analysis. The findings of the study are then drawn together for the discussion of the results in Chapter 4. Finally, a conclusion is provided in Chapter 5, which summarises the major findings of the study and outlines recommendations for future studies. A list of references follows Chapter 5, along with the appendices.

CHAPTER 2

LITERATURE REVIEW

Introduction

To address the issues of subject options for the Higher School Certificate (HSC) in Seventh-day Adventist (SDA) schools it is important to establish what education is, the underlying philosophy of education in the Seventh-day Adventist education system, the various aspects which influence the subjects that are offered for the HSC in Seventh-day Adventist schools, and lastly what influences a student's subject choices for the HSC. The perception of students concerning various subjects and the recognition they anticipate are also areas of interest. For the purpose of this study we will specifically concentrate on secondary education within New South Wales (NSW) and specifically the HSC which is often characterised by a competitive emphasis.

In order to discuss education, it is important to establish what education is. Education is "a social institution charged with the responsibility for preparatory socialisation designed to assist students in making the transition from dependence to independence" (Earl and Fopp, 1999, p.216). John A Laska defined education as " the deliberate attempt by the learner or by someone else to control (or guide, or direct, or influence, or manage) a learning situation in order to bring about the attainment of a desired learning outcome (goal)" (Knight, 1989, p.11). From these two definitions it may be established that education is a socialisation process that is designed so that students learn knowledge and gain skills to meet the desired goal of the educator.

"The emphasis in the secondary system across Australia remains on an academic, competitive curriculum, and much of the focus, especially in the later years of schooling, is directed towards performance in the final credentialing examination" (Bowes and Hayes, 2002, p.109). Is this emphasis in the later years of schooling appropriate, and do Seventh-day Adventists schools

offer a more holistic approach which would cater for the wider range of students? Matriculation from the HSC signifies the completion of secondary education, and for many students signifies their movement towards independence and their move towards a future career. To achieve this however, it is inevitable that most students will have to complete some form of tertiary education. A student's ability to achieve at this level is judged by the mark/score they receive on completion of the HSC. Hence it may be said that, "Matriculation performs a screening role by deeming students eligible or not [eligible] for tertiary education and the most desired tertiary courses" (Earl and Fopp, 1999, p.229). Today there are many subjects available to students for HSC. However, only a selection of these subjects are offered at any particular school. Hence this study will focus on the selection of subjects offered within Seventh-day Adventist schools in NSW for the HSC.

History of the Seventh-day Adventist Church

The Seventh-day Adventist church has an extensive history associated with education. "…The Seventh-day Adventist School System is now the most extensive unified church-related educational network in the world operating in 145 countries with over 6,000 educational institutions, – primary, secondary and tertiary – with around 56,000 teachers and approximately 1.1 million students" (Roy, 2003, p. 2). This school system was established to reflect the values and beliefs of the Seventh-day Adventist Church. These values and beliefs were largely expressed by E.G White in her writings to members of the church.

Ellen G. White

"Ellen G. White was recognized as the 'prophetic thought leader of Adventist education from its inception until her death in 1915 … It is impossible to comprehend Adventist education either currently or historically without understanding the role and impact of Ellen White upon its development'" (Knight, 1983, p.3 cited in Education/1, 2003, p. 1). Her writings "… give

Adventist education a special character that reflects the reasons, the vision, the aspirations and the values that are important to Adventist educators" (Roy. 2003. p. 2).

E. G. White recognised that a balanced education was important to the development of young people. She stated that "Education is but a preparation of the physical, intellectual, and spiritual powers for the best performance of all the duties of life." – White (Cadwallader, 1951, p.39). "True education means more than the pursual of a certain course of study. It means more than a preparation for the life that now is. It has to do with the whole being, and with the whole period of existence possible to man. It is the harmonious development of the physical, the mental and the spiritual powers" (White, 1903, p 13). "To neglect any one of these aspects of education, or to emphasize one at the expense of the others, … is inimical to the rounding out of a balanced personality" (Tippett, 1952, p.49). While acknowledging that every aspect of balanced education is as important as the other, the ability of Seventh-day Adventist schools to meet the physical and practical side of education is the focus of this research. In doing this however, it is important not to forget that the emphasis of E. G White was on the holistic education and development of young people in preparation for the work of God.

In Cadwallader's book, which examines E. G. Whites writings in education, he states that "Education is to be more than book knowledge, i.e. more than academic learning" (Cadwallader, 1951, p.87). E. G. White outlines the benefits of manual (or practical/ or vocational) training:

> "a man may have a brilliant mind; he may be quick to catch ideas; his knowledge and skill may secure for his admission to his chosen calling; yet he may still be far from possessing a fitness for its duties. An education derived chiefly from books leads to superficial thinking. Practical work encourages close observation and independent thought. Rightly performed, it tends to develop that practical wisdom which we call common sense. It develops

> ability to plan and execute, strengthens courage and perseverance, and calls for the exercise of tact and skill" (White, 1903, p.220).

This outlines the importance of practical education for all students. Hence, it is evident that Ellen White felt that education should be for the whole person, in order that individuals would reach their full potential using all areas of the curriculum.

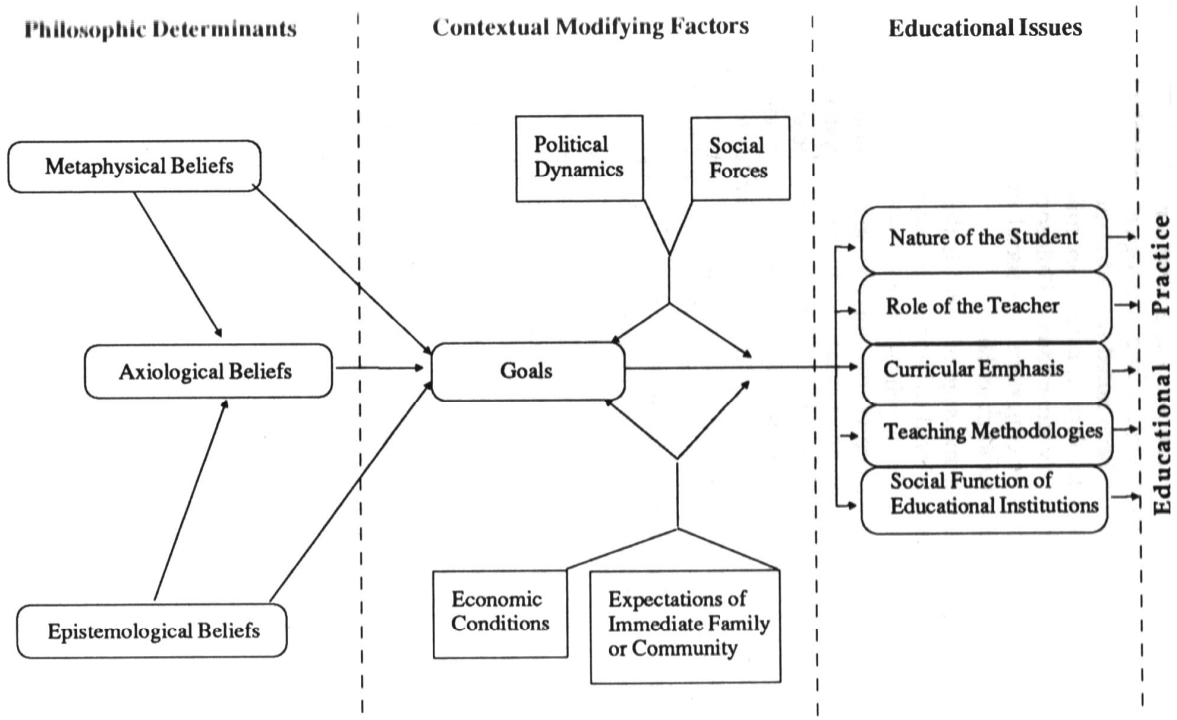
Seventh-day Adventist schools of today are strongly influenced by E. G White and her writings. This may be seen in the Seventh-day Adventist Philosophy of Education Policy FE05, FE10, which states: "The distinctive characteristics of Adventist education – [are] derived from the Bible and the writings of Ellen G. White…" (Seventh-day Adventist Philosophy Of Education. Policy FE05, FE10. General Conference Policy Manual, 2003, p 221 – 228) White's strong belief in holistic education is further emphasised in this same policy, which states: "Adventist education imparts more than academic knowledge. It fosters a balanced development of the whole person – spiritually, intellectually, physically, and socially." Thus it may be deduced that in theory, the Seventh-day Adventist school system holds the ideal of holistic education. However, in Seventh-day Adventist schools there seems to be a strong push towards a very competitive academic curriculum for the HSC, which does not fit with White's ideal for Seventh-day Adventist education. The question is, how is holistic education implemented in practice? And how are the physical skills valued in this curriculum?

Ellen White's beliefs are still very influential today. The philosophy of education, namely "True Education", that she established in her book *Education,* is considered the 'Blueprint of Seventh-day Adventist education'. In analysing the philosophy of the Seventh-day Adventist school system it is possible to clearly see her motivations displayed within the documents.

Philosophical Background Of Seventh-day Adventist Education

What is a philosophy of education? "A philosophy of education is an interpretation of the meaning of education in the light of the origin, nature, and destiny of man and his world" (Wood, 1957, p.8). George Knight points out the importance of philosophy, as it is "a basic constituent in the foundation of educational practice" (Knight, 1989, p.35). Hence a schools' educational philosophy is displayed in their educational practice (see Figure 2.1 below).

Figure 2.1 George Knights diagram of factors that impact upon educational practice.



The Relationship of Philosophy to Educational Practice

(Knight, 1989, p. 37)

Philosophy revolves around epistemological, axiological, and metaphysical beliefs. These are central to the understanding of values, beliefs and perceptions of truth. "Value systems are not universally agreed upon, and different positions on the questions of metaphysics and

epistemology determine different systems of value, because axiological systems are built upon conceptions of reality and truth" (Knight, 1989, p.29). To understand the values, beliefs, and the perceptions of truth that affect the Seventh-day Adventist school systems educational practice, it is important to establish what their 'philosophy of education is, the contextual modifying factors that affect their goals and educational practice in order to focus on the educational issue of Curricular emphasis' as outlined in Knights' diagram Figure 2.1 (Knight, 1989, p.37).

The Seventh-day Adventist school system has adapted the philosophy of education outlined on page 13 in Ellen White's book *Education*, known as the 'Blueprint for education' for many years. There have been several philosophy documents (concerning education) produced by the Seventh-day Adventist church in recent years, however the most recent one developed by the General Conference of the Seventh-day Adventist Church document Policy FE05, FE10, outlines the current Seventh-day Adventist Philosophy of Education: (Appendix 2.1)

> "Philosophy
>
> The Seventh-day Adventist philosophy of education is Christ-centred. Adventists believe that, under the guidance of the Holy Spirit, God's character and purposes can be understood as revealed in the Bible, in Jesus Christ, and in nature. The distinctive characteristics of Adventist education – derived from the Bible and the writings of Ellen G. White – point to the redemptive aim of true education: to restore human beings into the image of their Maker.
>
> Seventh-day Adventists believe that God is infinitely loving, wise, and powerful. He relates to human beings on a personal level, presenting His character as the ultimate norm for human conduct and His grace as the means of restoration.

> Adventists recognize however, that human motives, thinking, and behaviour have fallen short of God's ideal. Education in its broadest sense is a means of restoring human beings to their original relationship with God. Working together, homes, schools, and churches co-operate with divine agencies in preparing learners for responsible citizenship in this world and in the world to come.
>
> Adventist education imparts more than academic knowledge. It fosters a balanced development of the whole person – spiritually, intellectually, physically, and socially. Its time dimensions span eternity. It seeks to develop a life of faith in God and respect for the dignity of all human beings; to build character akin to that of the Creator; to nurture thinkers rather than mere reflectors of others' thoughts; to promote loving service rather than selfish ambition; to ensure maximum development of each individual's potential; and to embrace all that is true, good, and beautiful" (Seventh-day Adventist Philosophy of Education policy, FE05, FE10, 2003, p.221).

If Seventh-day Adventist schools were to follow this philosophy in every detail, letting it guide their every action, then the ideal Adventist secondary school would result. This is outlined by Roy below:

The Ideal Adventist Secondary School

"The Adventist secondary school builds on what has been achieved at the primary level with a focus on values, choices, and Christ-like character development. It offers students

- A formal and informal curriculum in which academic study, spiritual values and daily life are integrated;

- A broad academic and vocational program leading to productive living and satisfying career choices;
- Avenues whereby Christian faith is made relevant to their emerging needs, relationships with others and with God.
- An opportunity to develop a Christian lifestyle of values, service and witness" (Roy, 2003, p.5).

This philosophy outlines the beliefs, values and perceptions that are unique to the Seventh-day Adventist school system. Knight believes that

> There is a direct relationship between peoples' basic beliefs, [values and perceptions] and how they view such educational components as the nature of the student, the role of the teacher, the best curricular emphasis, the most efficient instructional methods, and the social function of the school (Knight, 1989, p.41).

When examining philosophy statements it is possible to gain an understanding of the goals of a specific school and it is possible to draw conclusions about the focus of the curriculum within that school. In order to do this, it is necessary to examine the philosophical statement in terms of metaphysics, epistemology and axiology.

The examining of philosophy is a highly involved process that analyses in depth various aspects of philosophy, so for the purpose of this thesis, epistemology, metaphysics and axiology, will be looked at briefly to identify how values and beliefs in these areas affect curriculum. Epistemology is the study of knowledge and revolves around the question: what is true. Therefore an education system will centre largely around what the particular community views as true. In the context of this research this is the Seventh-day Adventist education system. "Epistemology makes a direct impact upon education; for example, assumptions about the importance of the various sources of knowledge will certainly be reflected in curricular emphases." (Knight, 1989, p.27). Thus, it may be said that if a school values specific areas of

curriculum over other areas, then more resources, time and effort will be put into those areas at the expense of other areas. An example of this in the Seventh-day Adventist school system is the offering of the subject 'Bible', which is valued highly.

The next area of philosophy, the metaphysical beliefs, examines the question, what is real and what can be believed? Hence it examines the realms of reality (Knight, 1989). This may be seen in the way Seventh-day Adventist schools deal with the subject matter that they teach. For example, the way they approach the topics of evolution versus creation. Axiological beliefs examine the question, what is of value? This focuses on ethics and aesthetics. (Knight, 1989) This may be reflected in the recognition given to various subject areas and different activities within the school setting. Hence it may be seen that the various areas of philosophy impact on many aspects of the school curriculum.

Does the Rhetoric Correspond with what is Practiced in Seventh-day Adventist Schools?

"Schools do not begin by accident. They are established for particular reasons, and the way they are organised and operated is an expression of the values and assumptions held by their sponsors and supporters. This is especially true of Seventh-day Adventist education." (Roy, 2003, p.2) These assumptions and values are often evident in many areas, but especially in the curriculum of the school and are also displayed in the subject options for their students. Seventh-day Adventist Philosophy of Education makes this clear in Policy FE05, FE10. It states:

> "the curriculum will promote academic excellence and will include a core of general studies needed for responsible citizenship in a given culture along with spiritual insights that inform Christian living and building community. …A balanced curriculum will address the major developmental needs in the spiritual, intellectual, physical, social, emotional, and vocational realms"

(Seventh-day Adventist Philosophy of Education, Policy FE05,

FE1,0General Conference Policy Manual, 2003. p 221 – 228).

This statement focuses on the whole development of the student and is holistic in its approach and also emphasises the spiritual realm. This reflects the conscious values and beliefs of the Seventh-day Adventist Church and school system.

It is evident from the examination of educational philosophy that "different philosophic positions lead to variations in educational emphases and practices" (Knight, 1989, p.67). This is so for the Seventh-day Adventist education system. Roy states "Excellence is encouraged and facilitated in all areas [in Seventh-day Adventist schools]" (Roy, 2003, p.5). This however, is a point of controversy as the question may be asked, are all subject areas facilitated and are all students encouraged in all areas? "The history of our church [the Seventh-day Adventist church] and the history of our educational development are replete with indicators of a struggle to bring our educational practice into harmony with our beliefs" (Tucker, 2001, p.181). This may be seen in the academic emphasis, which is evident in Seventh-day Adventist schools in Years 11 and 12. Many schools pride themselves on the high achievement of their students in the HSC with high (University Admission Index) UAIs. This is also the case for Seventh-day Adventist schools, however this is a standard set by society. This academic emphasis is also evident in primary school with Numeracy and Literacy testing and Means testing. These schools all strive for excellence in these areas and tend to promote their schools on this basis. Hence, this research seeks to investigate the question: Are Seventh-day Adventist schools' educational practices in accordance with their philosophy?

It is evident that Seventh-day Adventist schools have become somewhat caught up in the 'values of society and have become confused about the true impact of their philosophy on all aspects of their educational program.' (Hill, 1982, p.1-2) The norms of society have impacted heavily on the schools' educational practice. It would seem that Seventh-day Adventist schools have failed to some degree to fully implement their philosophy of education over the years.

> "The failures of systemic Adventist schools are usually framed in terms of criticisms of schools' attempts to provide harmonious student development. These criticisms focus on each of the three triadic elements of personal development advocated by Adventist educational philosophy—the education of the 'head', the 'heart', and the 'hand'" (Brown, 1980, cited in Hill, 1982, p. 2).

In most Seventh-day Adventist schools the 'head' education, as in academic knowledge, is well catered for in the curriculum. The same may be said about 'heart' education, meaning spiritual education. However, the same may not necessarily be said about 'hand' education, also known as practical/vocational subjects. These subjects are offered but with little facilitation, and often are bound by timetable constraints. Hence, it is evident that there is an inconsistency between what the Seventh-day Adventist schools offer and facilitate in practice and what they say in theory.

"From the point of view of critical theorists, no school curriculum is value-neutral, as all knowledge is socially constructed" (Bowes and Hayes, 2002, p.110). This is often portrayed in the subjects offered by a school. These values become evident when establishing what the considered values of the school are and what the unconsidered values are. It is evident that Seventh-day Adventist schools value academic achievement along with the rest of Australian society. It is also evident that they value Christ – centred education with integration of faith and learning. These are considered values. An unconsidered value is difficult to establish as it is not generally acknowledged or talked about. However, it is evident that Seventh-day Adventist schools do not value as highly the practical or vocational subjects. This would appear to be an unconsidered value stemming from the value of maintaining social status and the maintenance of Seventh-day Adventist ideals and their position within society.

This academic emphasis is not only evident in the Seventh-day Adventist school system but also throughout society from government, industry, universities, schools, the community and even within families.

> "No educational system stands apart from the society which establishes it. It has purposes that must be achieved if that society is to continue. It is embedded in that society, drawing nourishment form it and in turn contributing to its opportunities for growth and renewal" (South Australia, 1971 : 25 cited in McKenzie & Deeves. 1982. Pg 13).

Which poses the question; why does the Seventh-day Adventist church society emphasise academic achievement over other forms of achievement in their school if they truly believe E.G White's philosophy of education?

The cost and sustainability of education is a real factor that affects educational practice within Seventh-day Adventist schools. With society changing at a fast rate and the many challenges this represents, such as the economic position and developing technologies, it becomes evident that the ability of schools to maintain the competitive edge is increasingly more difficult. It may be for this reason that Seventh-day Adventist schools have chosen academic education over other focuses, as these subjects are core subjects, necessary for the classic education desired by many. This approach ensures Seventh-day Adventist schools economical viability and large enough enrolments to sustain operation. Academic subjects are valued by communities as they provide students with a basic understanding of the 'core' subject areas, which will provide them with general knowledge for life. From this academic background students may move on to universities where they can specialise in specific areas, in turn becoming professionals and therefore more valued members of society with the possibility of contributing to the church in the future. However, does this form of education cater for all students needs and how does this align with the holistic philosophy clearly stated in the Seventh-day Adventist educational philosophy?

Often knowledge is only considered valuable if it prepares for tertiary study. Knowledge for understanding of the world and the experiences students will face in it often come second place. This issue has been recognised by many education practitioners. For example the Schools

Commission, Canberra stated "Schools endeavouring to respond to the challenge are faced with the fact that students not successful in achieving tertiary entrance define themselves and are defined by others as failures, irrespective of their strengths in other community valued talents" (Schools Commission Canberra, 1980, P. 6). Students often realise that they are unsuited to what school has to offer and either endure it until Year 12 or leave early.

> "It appears that the differences in retentivity to Year 11 might have been associated with the type of curriculum offered. In those states where the Year 11 curriculum was closely tied to that at Year 12 and to future tertiary study, retentivity to Year 11 was relatively low. Where the Year 11 curriculum was broader, retentivity to that level was relatively high"(Ainley, et al, cited in Hird, Et al, 1987, p.30).

Is this academic focus responsible for students leaving school at the end of Year 10 as Year 11 and 12 have little to offer them? In many schools "students experience a curriculum unsuited to their needs or interests and from which they gain little of a positive nature" (Schools Commission Canberra, 1980, P.7). Even at the National level it is recognised that schools should be formed to cater for the whole range of students and their needs and that they have a responsibility to meet those holistic needs.

Howard Gardner's Theory of Multiple Intelligences (1984) suggests that students' intelligences may be based in different areas and hence they value different ways of learning and value various subject areas. This means that if a school maintains an academic focus then all students' needs are not catered for. People "accept that schools are more attuned to the needs of academically oriented students from educationally ambitious homes than to those of other students who constitute a majority of the age group [15 to 16 yrs]" (Schools Commission Canberra, 1980, p. 7). Schools need to be conscious of the needs of this group and provide learning experiences and more relevant subject areas for this group of students which are not present in the current schooling system.

There have been many changes recently, which have endeavoured to cater more for individual needs within curriculum. However it is evident that in smaller Seventh-day Adventist schools these changes have filtered through in small amounts, as often the core academic subjects are offered as the focus of Years 11 and 12. It is often "the traditional patterns of teacher specialisation, timetables, period allocation and subject orientation which too often are allowed to dominate and outweigh considerations of student development" (Schools Commission Canberra, 1980, p. 22). These factors have led to the focus on academic subjects in smaller schools in years 11 and 12.

In most Seventh-day Adventist schools there is a large difference between what subjects are offered in Year 10 and Year 11. Year 10 is the final year for a wide range of subject areas offered to give students a general knowledge base. Despite the academic focus at this level of schooling, there are also compulsory alternative/ technical subjects which expose students to practical skills. At the completion of Year 10 however, the students should be supplied with a wide enough range of subjects to cater for their individual needs so they can pursue an area of interest through to Year 11 or 12. A wide range of subjects are not offered in smaller schools to the same extent as larger schools in Years 11 and 12 and often limit the subject choices to more academic options. "This barrier between the junior and senior years dates back to the days when only the selected few pursued senior secondary studies and prepared to enter higher education" (Schools Commission Canberra, 1980, p. 58). With more students currently staying on through Year 11 and 12 than in previous years it would seem that the current emphasis on academics is misdirected.

Limiting Factors that Impact Upon Schools Subject offerings

Seventh-day Adventist schools face several limiting factors that contribute to the lack of practical subjects offered. These include the cost of running more practical subjects. These subjects tend to be costly due to specialised equipment that is required and also the various materials that are needed for the students to work with. Another issue is that teaching staff

required to teach in these areas also have to be specially trained, often with industry training in order to teach more practical subjects. An example of this is the Hospitality (Vocational Education and Training (VET)) program. For teachers to become qualified to teach this subject for the HSC they must complete a Hospitality TAFE course and must have industry experience in addition to their Home Economics teacher training. The limited number of staff that are trained in these areas within the Seventh-day Adventist school system reduce the availability of such personnel. Teacher workload is also a factor as most teachers within the Seventh-day Adventist system are over worked and also heavily involved in many areas of the school program. Hence administration finds it too difficult to administer these subjects and consequently these subjects are often not given priority over other areas of the school functioning. Community expectations also play a role in the subjects that are offered. The values of the establishing community are displayed in the subject selection within the school. The limited space within the timetable is often a problem as there are more subjects that fill the timetable than there is space, with the additional problem that practical subjects usually require extended blocks of time. Hence it may be seen that there are many issues that Seventh-day Adventist schools face in order to offer practical subjects within their school. This is a complex problem.

> "We believe that the time has now come to build on these experiences and search for a … [school system]…. which does not ignore differences but sees them as a resource rather than a problem, which shares differences rather than compares them, which uses differences to include rather than to exclude, which integrates rather than differentiates." (Middleton, 1986, p.50)

In their educational approach Seventh-day Adventist schools need to be all-inclusive, catering for the needs of students according to their interests, aspirations and orientations. In addition to this, it is important that the driving force behind subjects is acknowledged. Universities have a strong influence on what subjects are valued and recognised by society as they determine the

prerequisites for entering their university. Hence if a school values professional careers that require study through university, then they are more inclined to prioritise these subjects. On the other hand, industry and business strongly influence the practical subjects, such as VET subjects. Industry requires competent workers to work in their factories or businesses and so VET subjects with their competency based training establish students' competency for various jobs within industry. The reality is that these social forces play an integral part in schools' subject offerings. The question is how does this align with the Adventist philosophy of holistic education? Is not the holistic development of individuals at the heart of Seventh-day Adventist educational philosophy?

Subject Choices Available for Students In Seventh-day Adventist Schools in Years 11 and 12

In light of the apparent difference between the Seventh-day Adventist philosophy of education and their practices it is important to establish what subject options in reality, are actually available for students studying years 11 and 12 in the four selected schools in NSW. The table 2.1 below outlines the subjects offered by each school.

Table 2.1 A representation of the subjects offered by the schools that are involved in the study.

Subjects Available	School 1	School 2	School 3	School 4
Year 11				
Studies of Religion (1U)	✓	✓	✓	✓
Studies of Religion (2U)	✓		✓	
Advanced English	✓	✓	✓	✓
Standard English	✓	✓	✓	
English Extension	✓	✓		
Fundamentals of English		✓		
Mathematics	✓		✓	✓
General Mathematics	✓	✓	✓	
Advanced Mathematics		✓		✓
Extension Mathematics	✓	✓	✓	
Chemistry	✓	✓	✓	
Business Studies	✓	✓	✓	✓
Biology	✓	✓	✓	✓
Geography	✓		✓	
Physics	✓	✓	✓	✓
History	✓	✓	✓	
Design & Technology	✓		✓	
PDHPE	✓	✓	✓	✓
Hospitality	✓		✓	✓

Subjects Available	School 1	School 2	School 3	School 4
Community And Family Studies	✓	✓		
Economics		✓		
Food Technology	✓	✓		
Technics		✓		
Information Technology	✓			
TAFE		✓		
Visual Arts	✓	✓		
Information Processes & Technology	✓	✓		
Legal Studies	✓			
Aviation Studies	✓			
Computing				✓
Marine Studies				✓
Year 12				
Studies of Religion (1U)	✓	✓	✓	✓
Studies of Religion (2U)	✓		✓	
Advanced English	✓	✓	✓	
English Extension	✓	✓		
Standard English	✓	✓	✓	
Fundamentals of English		✓		
Mathematics	✓		✓	✓
Mathematics Advanced		✓		✓
General Mathematics	✓	✓	✓	
Extension Mathematics	✓	✓	✓	
Chemistry	✓	✓	✓	
Business Studies	✓	✓	✓	✓
Biology	✓	✓	✓	✓
Geography	✓		✓	
Physics	✓	✓	✓	✓
History	✓	✓	✓	
Design & Technology	✓		✓	
PDHPE	✓	✓		✓
Economics		✓		
Hospitality	✓		✓	✓
Visual Arts	✓	✓	✓	
Information Technology	✓		✓	
Legal Studies	✓			
Community & Family Studies	✓	✓		
Aviation Studies	✓			
Photography	✓			
Information Processes & Technology	✓	✓		
TAFE		✓		
Technics		✓		
Food Technology		✓		
Computing				✓
Marine Studies				✓

From the table above, it is evident that all the schools have a variety of different subjects to choose from. However, the smaller schools do offer less practical subjects than academic subjects for Years 11 and 12. The other aspect to take into consideration is that of subject line up. It is evident that often practical subject options are in line with other practical subjects, thus limiting the choice of which practical subjects a student is able to study. It is evident that this is

the case amongst the schools involved in this study as quite a large number of practical subjects are offered however, several of these are in the same subject line hence limiting the number that practically oriented students can take. This can be seen in appendix 2.2 which outlines students subject line-ups of 2003-2004.

Hence, the holistic philosophy of Seventh-day Education was examined to establish if the schools involved in this study endeavour to uphold the philosophy of education in light of all the social pressures that are imposed upon schools as outlined above. The subjects offered within the schools were examined to determine whether the rhetoric corresponded with the practice and finally the factors impacting upon student subject choices will be examined.

Influences on Schools Subject Offerings and Student Subject Choices For the HSC

There are many influences on students subject choice for Years 11 and 12. This is due to the various different groups within society who are involved in education, whether it be for personal gain, or for the students' gain. These groups include the government, industries, universities, the organisation that established the school, the community supporting the school, the staff within the school, the parents and the student. These societal factors in turn contribute to the influences that impact on subject choices which have been outlined in various "Australian studies (e.g. Ainley, Robinson, Harvey-Beavis, Elsworth & Fleming, 1994) [which] have identified a range of external factors which constrain subject selection including diminished subject availability, limited timeframe for subject selection, timetabling restrictions, compulsory subjects, tertiary prerequisites, and eligibility for entry to tertiary courses" (Whiteley & Porter, 1999, p. 2).

Government/Industry

Education in Australia has changed a great deal in the last 20 years as a result of significant social, economic and technological changes. These changes have been characterized by the development of key competencies and key learning areas, which have impacted on every school

and school system. The apparent need for these changes in education have resulted in the development of the Adelaide Declaration, which is a national guide for education. Ultimately the national goals of education are a guide for each individual education system to provide good quality education to prepare their students for flexible and adaptable life pathways, and each individuals well–being through to the end of a students schooling life. These goals have impacted on many areas within schools but they have impacted most heavily on the subjects offered at schools.

National directions in education and training

The development of documented national goals for education (The Hobart Declaration 1989) resulted in a decade of constant reforms and proposals, which would change the emphasis of education for the new millennium. With the realisation that education needed to be more relevant to students' needs to ensure a holistic education, came the development of three different reports which, contributed to the Adelaide Declaration in 1999. The first of these reports was the Finn report (1991), which proposed that all young people should be "competent in six key areas by the time they leave school, in preparation for their employment" (Australian Council For Educational Research, 2002, p.3). The Mayer report (1992) followed and continued the work of the Finn report. This report proposed that all young Australians should be competent in seven generic qualities required in the work place called Key Competencies in preparation for each students' future. Another report, which greatly contributed to the changes in education, was the Carmichael Report (1992). The Carmichael Report established a system by which prior learning is recognised and so that students can be assessed on what they can do rather than what they know. The Committee refined the proposals from the Finn report hence reforming vocational education and training. All these developments resulted in the formation of the Adelaide Declaration (national goals for education), which focused more on the needs of students and proposed a more holistic approach to education.

National Goals of Education in Australia

Since the 1980's there have been many driving forces for change in Australia's Education system.

> "During the 1980's the emergence of a global economy brought with it a recognition of Australia's need to increase international competitiveness through a range of strategies including the adoption of new forms of work organisation. This in turn led to a recognition that increased levels of education and training were required to accompany workplace change" (MACQT, 2002, p.1).

This in a sense exposed the economic driving force behind education in the eighties and early nineties. Along with this driving force came the recognition that the retention rates of senior students needed to be increased. With these increased curricula and program changes was the accompanying need to cater for the broad range of needs of all students in Years 11 and 12. These driving forces lead to the development of the national goals for education and many reports on education which ultimately were aimed at developing more options for students and to provide recognition of students achievements and skills for the workplace.

The Hobart Declaration formed in 1989 was developed due to the driving forces that existed during the 1980's. It was relatively economically driven, as Australia needed to effectively educate students to take part in the work place. (See Appendix 2.3)

In summary the Hobart Declaration aimed for National Curriculum and Schooling. The main areas targeted were:

- Full Potential of students according to needs
- Self-esteem
- Equality
- Economic Stability and Adaptability for future employment and life
- Life-long learning

- Academic Skills – Knowledge and curriculum
- Active and informed citizens
- Cultural heritage – Aboriginals and other ethnic groups
- Personal well-being
- Career education and place of work in society
- Developments in Education Since 1989

Following the Hobart Declaration was the Finn Report of 1990. This report was established by the Australian Education Council and their task was to review post-compulsory education and training. "The number of early school leavers not in post-compulsory schooling was a particular concern, as was provision for students with disabilities and other disadvantaged groups " (Australian Council For Educational Research, 2002, p.4). Their aim was to improve educational outcomes for all and to do this they reviewed the roles of higher education. "Finn recommended that by 2001, 955 of 19 year olds should have completed year 12 or an initial post school qualification or be participating in formally recognised education or training (Finn, 1991 cited MACQT, 2002, p.2) The report published in 1991 recommended that "all young people be competent in six key areas by the time they leave school, in preparation for their employment. These areas were:

- Language and communication
- Mathematics
- Scientific and technological understanding
- Cultural understanding
- Problem solving
- Personal and interpersonal characteristics"

(Australian Council For Educational Research, 2002, p.2).

The Mayer Report (1992) was formed to continue work on the competency concept which was established by Finn. "A 'competency-based approach' in education and training is one that

places primary emphasis on what a person can do rather than on the means by which the competencies are learnt. It is concerned with training to achieve specified outcomes rather than with an individual's achievement relative to others'. Competency involves the possession and application of both knowledge and skills. The intentions of competency-based approaches are to promote life-long learning and enhance each individual's capacity to live and work effectively and adaptively in a world which is constantly changing." (Australian Council For Educational Research, 2002, p.3). The key feature of the Mayer report is the set of seven 'Key Competencies' which are outlined below:

- "Collecting, analysing and organising information
- Communicating ideas and information
- Planning and organising activities
- Working with others and in teams
- Using mathematical ideas and techniques
- Solving problems
- Using technology"

(Australian Council For Educational Research, 2002, p.3).

More recently the Ministers of Education added an eighth competency, cultural understanding, to the seven recommended in the Mayer Report. "These competencies are regarded as essential for all young Australians 'for effective participation in the emerging patterns of work and work organisation'. The report also proposes a set of principles for assessing and reporting achievement in the competencies and proposed directions for further work." (Australian Council For Educational Research, 2002, p.6).

The Carmichael Report published in 1992 centered around a "competency-based approach to education and training – called the Australian Vocational Certificate Training System. The Committee refined the set of proposals from the Finn report with the goal of reforming

vocational education and training." (Australian Council For Educational Research, 2002, p.7). This was done in order to establish a system by which prior learning is recognised and so that students could be assessed on what they can do rather than what they know. "The system encouraged schools to:

- Become registered providers of accredited vocational education and training (VET) courses that equipped students with recognised qualifications
- Provide programs that articulated with other VET programs
- Provide different ways of learning including work based learning
- To expand opportunities for students to move into a range of pathways post school; and
- Develop more flexible organisational structures to allow for work based learning or part time work." (MACQT, 2002, p.4).

These reports were formed recognising the need for change within the Australian schooling system due to significant social, economic and technological changes since the Hobart Declaration. This push for change resulted in the formation of the Adelaide Declaration (1999). The Adelaide Declaration is a set of national agreed goals for education which is outlined in Appendix 2.4.

In summary the Adelaide Declaration utilized the developments made since the Hobart Declaration to form a set of national goals for education which reveals a more holistic approach to education than the previous Hobart Declaration. The main areas targeted are:

- Personal skills
- Potential life roles and self-esteem
- World sense and responsibility
- Students become active and informed citizens
- Students gain workplace and lifelong learning skills
- Technology

- Environmental sustainability
- Skills for healthy lifestyle – well-being
- Knowledge skills- 8 Key learning areas
- Numeracy and Literacy
- Vocational learning
- Enterprise skills
- Social development of students
- No discrimination
- Cater for disadvantaged
- Aboriginals and Torres Strait Islanders
- Value of cultures and diversity
- Education to Year 12 provides pathways to employment and training

These changes have impacted heavily upon the subjects that are now available for students to take in high school. The goals of education reflect a greater focus on learning outcomes for students which can be monitored to develop standards and benchmarks where appropriate.' (MACQT, 2002, p.5).

"The National goals represent widespread agreement about the underlying and fundamental purposes for schooling in Australia. However, it is not unusual for authorities, systems and individual schools to identify particular objectives and priorities from time to time. These priorities, usually derived from the national goals, express the particular emphases that schools and systems wish to apply during the period in question." (National Report on Schooling in Australia: 1998. Pg 7) From this it can be determined that while the Adelaide Declaration aimed generally for holistic education for all students throughout the nation, each different school system may utilise and put emphasis on different areas of the national goals.

Increased Leaving Age

The increase in age of students leaving secondary education has contributed to the issue of subject options in schools. “Increases in Year 12 completion rates are most likely the result of the compound interaction of all of these influences [“these influences being: changes in the level of economic activity, structural changes in the youth labour market, changes in government educational programs and income support schemes, changes in curriculum, increased ability to invest in education, or general effects” (Harvey – Beavis et al, 2000, p 11-12)] to produce some critical level of retention such that staying at school to complete Year 12 became the norm. This may well propel the transformation of Year 12 graduation to begin a near-universal qualification.... (Williams, Long et al, 1993, p. 15) cited in (Harvey – Beavis et al, 2000, p. 11-12) Hence if students are to remain at school through to the end of Years 11 and 12, then the subjects offered need to be more relevant, with greater options to suit all students needs.

Despite this increase in students staying until the end of year 12, according to Earl and Fopp “Approximately 50% of Australian young people choose not to stay at school beyond age 16. This means that they do not qualify for university education and therefore are ineligible for most professional and public service vocations” (Earl and Fopp, 1999, p.232). Is this due to the fact that the subjects offered at both school and university do not suit their needs?

Universities

Universities and their requirements for tertiary study have impacted heavily on subjects offered in Years 11 and 12. “Secondary schools are more curriculum-specific…. They offer a selective preparation for tertiary education and work.” (Earl and Fopp, 1999, p.239) Hence if a school deems that university is the ultimate goal for their students, then they will offer subjects that are prerequisites for university.

Community

The supporting community behind a school also impacts on the subjects offered at the school. The community, to a large degree, determine what subjects are valuable contributors to the desired knowledge base for that community. The values of the Seventh-day Adventist school system may be seen within the "Seventh-day Adventist Educations Systems Goals and Objectives" (Appendix 2.5) (Department of Education 1999. Education Handbook, p. 6-8). The Seventh-day Adventist school system approaches all curriculum from a "'Biblical world view' …As a 'balanced curriculum' that promotes an integrated perspective of faith and learning, it addresses the major developmental needs in the spiritual, intellectual, physical, social, emotional, and vocational realms. It also reflects appreciation for Christian heritage, community building and citizenship, concern for social justice, and stewardship of the environment" (Roy, 2003, p.5). The goals, objectives and philosophy of the Seventh-day Adventist school system are a reflection of Seventh-day Adventist community expectations of what a Christian based school should be.

> "Schools are social organizations, consisting of relatively stable patterns of interaction, organized around tasks. (Crowin 1965) (Hill, 1982. p 40) According to Katz and Kahn (1966), there are four functions of organizations – production, maintenance, adaptation, and management. Schools can have products such as money, and in response to the influences impinging on their curriculum, adapt their aims and practices to suit their circumstances. Katz and Kahn categorized schools as mainly serving the maintenance function, as these organizations were devoted to socializing people into the norms and values of society. The values of the Adventist Church are also crucial elements of the socialization process of Adventist schools" (Hill, 1982, p.40).

In the case of the Seventh-day Adventist education system, the church and its members are its founding community.

School

The school itself and the co-ordinators within the school also have a large impact on what subjects are offered within that school, and what value is placed on various subjects. Factors that limit student subject choice within the school setting include "the timetabling of the line or block structures [of subjects], academic standards imposed by some schools, the short time span, too few choices, and due to lack of popularity, insufficient students to offer the subject" (Whiteley & Porter, 1999, p. 14). These are all real pressures experienced by schools and students and need to be managed to ensure the best possible result for the students and their development.

Schools throughout Australia today tend to impose high academic standards on their students and the subjects they offer are a strong reflection of this. This is true of the Seventh-day Adventist school system also. In many schools it appears as though "the curriculum favours students who like a particular kind of work, done in a particular kind of way … and there is a lack of appropriate options and the flexibility to enable students to pursue their own learning needs and their preferred learning styles and direction" (Trent, 2002, p. 39). This shows a competitive emphasis within schools and between schools which should not be an issue for Seventh-day Adventist schools if they were to follow their philosophy of education. Often however, it is evident that Seventh-day Adventist schools "are more attuned to the needs of academically oriented students..." (Schools Commission Canberra. 1980, p. 7)

The overall school curriculum impacts heavily on what subjects are taught in schools hence impacting heavily on student subject choice. 'Curriculum may be used as a tool for converting values of Adventist educational philosophy into educational practice.' (Hill, 1982, p. 43) "From the point of view of critical theorists, no school curriculum is value-neutral as all knowledge is socially constructed. It is not surprising, therefore, that there are systematic differences across settings in terms of beliefs and values held." (Bowes and Hayes, 2002, p,110) The beliefs and

values held by the Seventh-day Adventist school system are very evident in their curriculum whether it be acknowledged or hidden curriculum. This however poses a problem as these values may be 'unquestioned, assumed or disguised and the acknowledged curriculum may in fact contradict the hidden curriculum and values' (Hill, 1982, p.46) "Many of the norms and values of this hidden curriculum are passed on to students via "disciplinary rules and procedures, authority structure, and distribution of rewards and punishments" (Power, 1981, p.5 cited in Hill, 1982, p.46). Hence students feel the pressure to conform and in turn may be pressured into subject choices that do not fully correspond with their desires and potential.

The subject options offered at any school impact on students' futures. They impact on future study, work, and social development. Secondary schools have a responsibility to nurture students in their pursual of their interests (Earl and Fopp, 1999). This includes students from all backgrounds with different learning styles. Hence schools with a competitive academic emphasis need to also ensure that they cater for students who would like to pursue more practical subjects. The problem faced today is the 'fracturing of curricula' (Tucker, 2001) which impacts on schools and the subjects they offer. "We study "subjects" as though they are distinct entities separated in time and space from all other subjects." (Tucker, 2001, p.173) "In school, we persist in treating disciplines as separate and, therefore, distinct, non-integrated entities." (Tucker, 2001, p.174) This can be seen between academic and practical subjects. For the sake of the students in Seventh-day Adventist schools it is important that there is a balance in their subject options and that each school follow their philosophy statement.

Teachers

Teachers have an impact on students in many ways. (Harvey- Beavis etal, 2000) state that "the two most important sources of influence on students, as reported by students, were parents and teachers" (Harvey – Beavis et al, 2000, p. xv). It is a teachers role to ensure that students gain a strong understanding about "themselves and in the process help them become more interesting

to themselves; a crucial but rarely acknowledged role. This implies that the preparation and skills of teachers in facilitating this process is fundamental to society" (Earl and Fopp, 1999, p. 232). This facilitation process in turn helps students establish the role they may fit within society, so become socially valued members of society. Hence students need to be given the opportunity within schools to pursue their interests through the guidance of trained and professional teachers.

Therefore, another factor in subject options within schools is dictated by teacher training. Many practical or vocational subjects require each teacher within these areas to be fully trained, often with industry experience, before they may teach a particular subject. Hence teachers trained in these areas may be difficult to find. Often it is easier for schools to simply offer subjects that are less difficult to staff. Time constraints, within the timetable often make it difficult to run practical subjects effectively as large blocks of time are required to complete practical projects. Teachers trained in practical subjects in turn often have heavy loads due to the demands of running practical subjects. This compounds the problem for teachers of which subjects to offer within schools as the teacher must be passionate about the subject before they will volunteer to take on the extra workload associated with running a practical subject to Year 12 level.

Parents

As noted above, parents have the most important influence on students when making subject choices (Harvey – Beavis et al, 2000, p. xv) as parents raise their children according to their beliefs and values. It may be said that the way a parent values academic subjects will be reflected in the students' choices. Tertiary study which results in a position that is socially valued will often be encouraged by parents rather than taking into consideration a students favoured practical option. This pressure may lead students to take subjects that are not their choice. Students often seek 'guidance and advice from informal channels such as parents … rather than career education or counselling resources available within the school.' (Dellar, 1994,

cited in Whiteley & Porter, 1999, p.2) Thus it can be seen that parents impact students subject choice for their HSC.

Students

Students and the influences impacting on their lives leading up to and during the selection of HSC subjects impact heavily on their subject selection. Trent (2002) points out that students may "endure pressure to achieve in areas that are not of their choosing" (Trent, 2002, p. 40). This could be due to the school environment that emphasises academic success, parental pressure, peer pressure, career aspirations or even their perceptions of their own abilities.

A student's career aspirations and how they view themselves strongly impacts on their subject choices. For all students perceptions of themselves and where they fit within society is continually evolving. However, this developmental process does not seem to be acknowledged in schools. This can be seen when considering that "many career theorists caution against making early decisions in relation to careers, [yet] institutional and societal constraints often require that a choice be made by students when they are still relatively young (eg Watson & Stead, 1994 cited in Whiteley & Porter, 1999, p.1). This implies that for a number of students this developmental process may not have been completed by the time a student is required to make choices that will impact a substantial section of their life. This is outlined by Gottfredon (1981) in his study that outlines that "the development of career aspirations is a process of developing an increasingly refined understanding both of one's self, and of the world of work. As this understanding becomes more refined, so the number of preferred occupations is reduced until a most preferred occupation, or a small number of occupations is identified as worthy of aspiration" (Harvey – Beavis et al, 2000, p. 4). Hence if a student is forced to make subject choices before they have understood oneself and the world of work, then they may not make an informed choice that will suit their needs. This in turn leaves them susceptible to all the pressures that exist during these formative years.

During these years of development, students also form opinions about the recognition a student is given when they study academic subjects or practical subjects. They are very perceptive of the emphasis placed on these subjects by teachers, parents, schools and society. These perceptions influence how students view the subjects in terms of the ease of the subjects in relation to each other. “Specifically in relation to subject selection, (Siann, Lightbody, Nicholson, Tait and Walsh 1998) observed that the majority of students in their study chose subjects that they liked, facilitated progression to future careers, were compulsory or subjects where there were no other more desirable options” (Whiteley & Porter, 1999, p.2). It is important to ensure that the perceived status of subject areas within schools remains balanced.

Peers

In Whiteley & Porters study it was “reported that family, friends, and teachers had influenced their [i.e. students] [subject] choices to varying degrees” (Whiteley & Porter, 1999, p 11). Hence peer pressure plays a part in subject choice also. Students who are susceptible to peer pressure are more likely to choose a subject to be with their peers than those students who have a firm understanding of self and the world of work. Hence there are many factors that impact upon student subject choices.

Summary

In light of the literature reviewed in this chapter it is evident that a schools philosophy impacts upon their goals for education which in turn impact upon their curricula focus, specifically subjects options. Other factors that impact upon schools in relation to subject offerings include government, industry, community expectations, and parents. The values and beliefs held by these groups within society also impact upon students subject choices for the HSC. However, it is evident that students of today in this competitive society are required to have a cutting edge education focusing largely on academic subjects to succeed in their post-secondary aspirations.

However, in light of the pressures imposed upon the schools and the students; Is an academic emphasis in keeping with the Seventh-day Adventist philosophy of holistic education and does it take into consideration the multiple intelligences of each student throughout the HSC?

The following chapters present the methodology undertaken for the study and seeks to find to what extent students are satisfied with their subject options, what factors impact upon Seventh-day Adventist students subject choices and what status and recognition students perceive they obtain in light of their subject choices.

CHAPTER 3

METHODOLOGY

Introduction

This chapter outlines the general research design for the study. It describes both the instrument employed in the study, and the manner by which the data was collected. The chapter also summarises the ethical procedures and protocols that were followed by the researcher and explains the nature of data analysis.

Population Sample

The respondents to this study were both the students in years 10 – 12 at four Seventh-day Adventist secondary schools. The schools were located in New South Wales and data was gathered by questionnaire. While a questionnaire was prepared for the teachers to complete, the data collected from the teachers was not subject to analysis.

Questionnaire Construction

The broad objective of the study was to establish student satisfaction with subject options at their school of attendance for Years 11 and 12. In order to examine the nature of these feelings and attitudes two questionnaires were constructed. The first questionnaire was directed toward students' reactions to the schools' subject offerings and the students' subsequent choices and the second questionnaire examined the attitudes of the teachers toward school subject offerings. The second questionnaire does not feature in this study.

In order to construct the questionnaires, information was gathered from handbooks from the various schools involved within this study, personal experience, the text, 'Questionnaires: Design and Use' (Berdie,Anderson & Niebuhr. 1986) and lecturers. These questionnaires (See Appendix 3.1 & 3.2) were self-constructed instruments that were refined with the assistance of

lecturers. The first section of the student questionnaire included attitudinal items set against a 5-point Likert scale. These items sought the respondents' attitudes toward their various subjects, the subject choices as offered by their schools, and their perception of the respective recognition given the practical and academic subjects. The attitudinal items also probed student feelings about the social influences that may have contributed to their individual subject choices. The second section of the first questionnaire asked specific demographic questions such as the respondents' age, sex and year of schooling.

Ethical Procedures and Protocols

All research conducted through universities must have ethics clearance before it can be conducted. In order to meet these requirements, a research project must justify the purpose of the project and assure authorities that the interests of all parties are valued and protected by the study. This is particularly so for the respondents to this study.

The aim of this study was to establish whether or not students feel that they are being adequately catered for in Seventh-day Adventist secondary schools in regards to subject choice and subject selection. The study was directed toward the determination of the main influencing factors on students subject choices and the feelings of students about the constraints on their range of choices. This thesis argues that this information will be valuable to the schools involved in the study, in that it will establish whether or not they are satisfying students needs in regards to subject choices. The study also argues that the data gathering and the results of the study will allow school administrations the opportunity to reflect on their current practice. The interests of the school will be protected in this study and the schools involved in the research will be provided with the results and findings of the study.

The respondents' interests were also protected in this study. Participation in the study was voluntary and all participants had the opportunity to withdraw from the study at any time if so

desired. The statement saying “Return of this questionnaire indicates consent to participate in this study” outlines the rights of the respondents to withhold responses should they so choose. All surveys were anonymous and the respondents had the ability to decide which questions they wanted to answer and which questions they would prefer not to answer. Hence, at all times the respondents’ freedom of choice was respected.

An initial draft of the questionnaires were developed and reviewed by fellow honours students and lecturers for consistency and for layout, correct wording of questions and for overall effectiveness of the questionnaires. The instruments were then piloted with a first year education class at Avondale College. The results of the pilot study resulted in further revisions. Several changes were made to the demographic questions and a five-point Likert scale proved to be adequate for measuring respondents’ responses to the attitudinal items. (A copy of the instrument is included in Appendix 3.1 and Appendix 3.2.)

This thesis argues that it is important for school administrations and teachers within those schools to know student reactions toward the range of subjects offered within the schools. Therefore the research questions of this study have a certain relevance within the secondary school setting. Questionnaires have had a long and successful history of use in the determination of attitudes in educational studies that are very similar to this study (Berdie,Anderson & Niebuhr. 1986) It has been argued that this method of data collection and subsequent statistical analysis is generally valid and reliable (Wilkinson 2000, Neuman. 2000). The items within the two questionnaires employed in this study are clearly directed toward the determination of the research questions (see Appendix 3.3) and therefore, this thesis argues that the use of these questionnaires is a valid procedure.

Before the questionnaires were administered to the respondents, a proposal for the study along with a copy of the questionnaire instrument was submitted to the Avondale College Human Research Ethics (HRE) Committee in order to meet set ethical criteria (See Appendix 3.4).

Approval for the study was granted by the committee (See Appendix 3.5). The Ethics Committee required that some of the questions in the demographic section be altered to protect the identity of the respondents. This had an impact on the results in that certain potentially useful data was removed from the study.

Permission to approach the principals of four schools was sought and granted from their respective educational authorities (See Appendix 3.6 & 3.7). The principals of the four schools were then approached and all consented to the collection of data within their schools from both students and teachers.

Collection of Data

Once consent was given to conduct the survey in each school, a letter requesting the number of students and teachers was faxed to each school and returned (See Appendix 3.8). This provided the researcher with the information necessary to send out the appropriate number of questionnaires for the schools to administer. The questionnaires along with instructions for administration were distributed by post with an express post envelope addressed to the researcher to facilitate the return of completed questionnaires (See Appendix 3.9). The bulk handling of questionnaires was designed to maximise efficiency and cost-effectiveness. These complete packs were sent to nominated research co-ordinators within the four participating schools. Respondents were asked to complete the questionnaire anonymously and return the completed questionnaires to the co-ordinator nominated by the school. These questionnaires were then mailed back to the researcher ready for analysis.

Analysis of Data

The questionnaires were constructed to allow for information to be coded for entry into a spreadsheet that could be analysed using the SPSS statistical package (SPSS Inc, 1990) . The analysis of the data generated by the questionnaire employed cross-tabulations with chi-square

to generate tables involving categorical data; factor analysis of the attitudinal items; bivariate correlations and analysis of variance to explore relationships. In the analysis of the attitudinal items, an eigen value – factor plot (Scree graph) was employed to determine the number of factors for each questionnaire. A second factor analysis using varimax rotation and specifying the given number of factors was conducted to produce independent factors. Statements that were loading negatively onto the factor analysis were reversed and the items were recoded. Items with a loading of less than 0.2 were removed, as were items which cross-loaded. During removal care was taken to ensure that factor reliability was maintained. Attitudinal scales were formed from the factors by averaging all item scores across the factor for each respondent. This meant that the respondents' scale scores could be compared to the 5-point Likert scale used in the questionnaires. The facility of SPSS to compute new variables using the 'if – then' condition was also employed to create a new categorical variable that permitted a series of relationships to be explored. Hierarchical cluster analysis was employed to determine clustering of students in relation to orientation toward practical or academic subjects.

The results of the analysis are to be found in the following chapter.

CHAPTER 4

FINDINGS OF THE STUDY

Introduction

Although two Questionnaires were prepared, this chapter presents the analysis of data obtained by a single research instrument that sought responses from students. Analysis of the data focused upon the attitudes of the respondents toward subjects offered within their schools and their perception of academic subjects as opposed to practical subjects. This chapter describes the response rates to the instrument and the demographic profiles of the respondents. The results of the factor analysis and resulting scale formation are described as are relationships between the scales and other pertinent measures arising from within the results. Finally, this chapter presents the discussion of the findings of the study.

Demographic Profiles of Respondents

Response Rates

A total 442 student questionnaires were distributed and a total of 295 student responses were received. That represents a response rate of 67% for the student surveys which is an acceptable response rate.

Schools

The schools were located in New South Wales (NSW) and were administered by the Seventh-day Adventist church. The schools that participated in this research were coded using a number to identify them. These numbers ranged from 1-4.

Table 4.1 summarises the number of surveys that were received from each school. It can be seen that the number of student questionnaires returned from School 1 were three to four times the number of those returned from each of the other three schools involved in the study. The responses from School 3 may have been higher had the year 10 students been permitted to

participate in the study. (See Table 4:1). The higher proportion of responses from School 1 is considered in the discussion chapter and in qualifying relevant generations.

Table 4.1 The frequency of student respondents within each year level at each school

School	School Year				
	10	11	12	Total	% Total
1	66	47	45	158	53
2	9	25	16	50	17
3	0	26	21	47	16
4	17	11	12	40	14
Total	92	109	94	295	100

%Values rounded to nearest per cent.

Table 4.2 provides the frequencies of respondents by sex, age and school. It can be seen that across the age range and between the four schools there was a fairly even representation between the genders. Since there were only three 14 year old students and two 19 year old students, the variable for age was adjusted to a four age grouping, combining the age 14 and the age 15 into a '15 Year and younger' category and the age 18 and aged 19 into an '18 +' category.

This adjustment in the age groups gives a clearer picture of the results and removes unnecessary fragments. The table also indicates that nine students did not provide their age.

Table 4.2 Student Cross tabulation of school attended, age in years and gender.

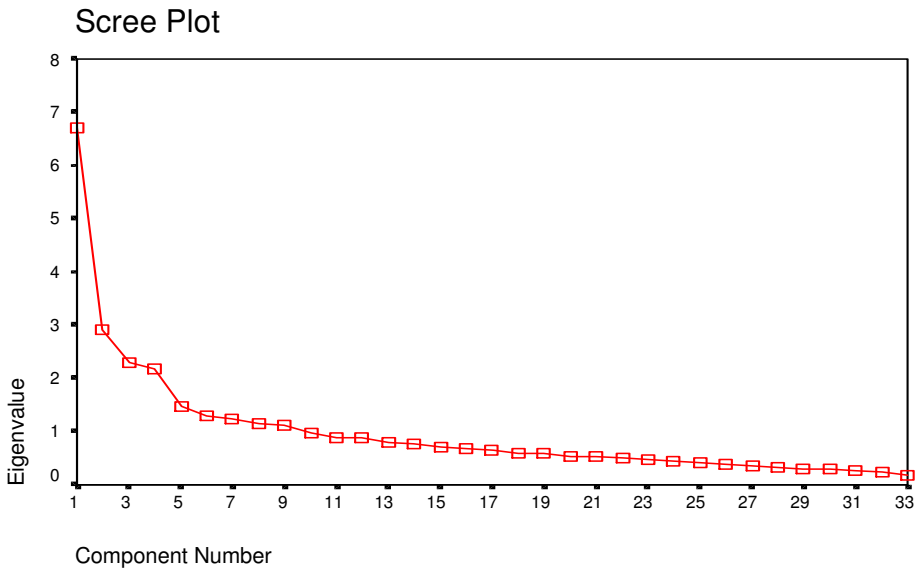
School	Age In Years									
	≤15		16		17		18+		Total	
	M	F	M	F	M	F	M	F	M	F
1	14	17	24	35	25	21	9	9	72	82
2	2	1	10	9	10	8	6	0	28	18
3	0	0	11	9	10	10	3	4	24	23
4	4	8	5	7	4	7	1	3	14	25
Total	18	25	50	60	49	46	19	16	138	148
Grand Total	43		110		95		35		286	

Student attitudes towards subject choices at their school.

The Factor Analysis

The data collected from the thirty three attitudinal items from within the questionnaires were run through an exploratory factor analysis. A scree plot (see figure 4.1) indicated the presence of four factors and in order to obtain independent scales, principal component factor analysis with varimax rotation was used (Kline, 1994; Loehlim, 1998). Items with negative loadings were recoded and the statements associated with them were reversed. The independence of each of the four scales was strengthened by removing items with loading values of less than 0.20 (Ewert & Sibthorp, 2000), however some items with a loading difference of less than 0.20 were retained because their removal would have reduced the factor reliability (Coefficient alpha). Item removal was carried out individually and the values of coefficient alpha for each scale were monitored to ensure that the removal process did not reduce factor reliabilities.

Figure 4.1 Scree Plot indicating the presence of four distinct factors.



The first factor, labelled ‘ Limited Choice’ had a coefficient alpha of 0.86 and included items that indicated an array of student beliefs to the effect that the schools which they attended offer

limited choices in subject options. These items included statements to the effect that: students need more subject options; students were limited in their range of subject choices; students remain at school even though the subjects do not suit their needs and future aspirations; and students were not able to choose the subjects they desired due to a lack of practical subject options.

The second factor, labelled 'Vocational' had a coefficient alpha of 0.72 and included items that indicated student beliefs that they did not choose their subjects in relation to their aspirations for their future study or career. These items included statements to the effect that students did not choose academic subjects to meet the requirements of their preferred career; Students did not choose their subjects with the aim of studying at university; and for tertiary study students do not plan to go the university rather than TAFE. (Table 4.3)

The third factor, labelled 'Coercion' had a coefficient alpha of 0.70 and included items indicating student beliefs who felt they were being forced to stay and study during Years 11 and 12 and were possibly pressured into studying specific subjects. These items included statements to the effect that student subject choices were chosen by their parents; Students did not choose all their subjects for the HSC; and it is not the students choice to remain at school in Years 11 and 12.

The fourth factor, labelled 'Practical' had a coefficient alpha of 0.61 and included items which indicated student beliefs that they have chosen practical subjects to meet the requirements of their preferred career; students have chosen all the practical subjects available at their school, and that if they study practical subjects they will receive high recognition.

Table 4.3 The results of factor analysis of the attitudinal items concerning student subject choice for years 11 and 12

'Limited Choice' coefficient alpha = 0.86	Factor I	Factor II	Factor III	Factor IV
I feel that I need more subject options for the HSC	0.76			
I was limited in my subject choices by the limited range of subjects offered at my school	0.73			
I would have better subject choices that suit my needs at another school which offers more practical subjects	0.72			
I was unable to choose the subjects I wanted to for the HSC due to the lack of practical subject options at this school	0.67			0.41
I am not satisfied with the subject choices I have chosen for the HSC	0.66		0.20	
I do not feel good about my choice of subjects	0.59		0.34	-0.27
I remain at school even though the subjects do not suit my needs and future aspirations	0.59	0.28	0.32	
I feel that I would rather not continue with Years 11 and 12 as the subjects that I am doing do not suit my future aspirations or needs	0.46	0.21	0.42	
'Vocational' coefficient alpha = 0.72				
I did not choose academic subjects in order to meet the requirements of my preferred career	0.27	0.70		
I did not choose my subjects for the HSC with the aim of further study at University		0.69		
For tertiary study I do not plan to go to University rather than TAFE		0.61		
I do not feel that if I study academic subjects I will receive high recognition		0.61		
Not all the subjects I study are academically oriented		0.57		0.29
I did not choose my subject choices according to my aspirations for my future career	0.32	0.57		-0.34
'Coercion' coefficient alpha = 0.70				
My HSC subjects were chosen by my parents			0.77	
I did not choose all the subjects for the HSC			0.69	
It is not my choice to remain at school in Years 11 and 12		0.30	0.63	
It is my parents' choice that I remain at school in Years 11 and 12			0.62	
I choose my subjects to remain with my friends			0.53	0.24
'Practical' coefficient alpha = 0.61				
I have chosen practical subjects in order to meet the requirements of my preferred career				0.69
I have chosen all the practical subjects available at this school		0.34	0.20	0.63
I feel that if I study practical subjects I will receive high recognition				0.56
I perceive practical subjects to be easier than academic subjects				0.50
I feel that compulsory subjects outlined for my year of schooling clash with practical subject options that I would prefer to study	0.33	0.28		0.40

The Scales

The four scales were derived from these factors by averaging student Likert-scores across the component items for each factor. Box plots representing the distribution of scale scores are to be seen in Figure 4.2. The respondents scores on the 'Limited Choice' scale were uniformly spread between each extreme of the Likert scale. There were individuals who strongly disagreed with each item and there were individuals who strongly agreed with each item that composes that scale. The median value for student scores on the Limited Choice scale was 2.9. Almost 50% of respondents agreed with the scale while slightly more than 50% disagreed with the essence of the scale. This indicates that near to 50% of the respondents conveyed feelings of varying strength to the effect that their subject choices were limited at their school of attendance. Certainly more than a quarter of the respondents clearly indicated that they felt that their subject choices were limited.

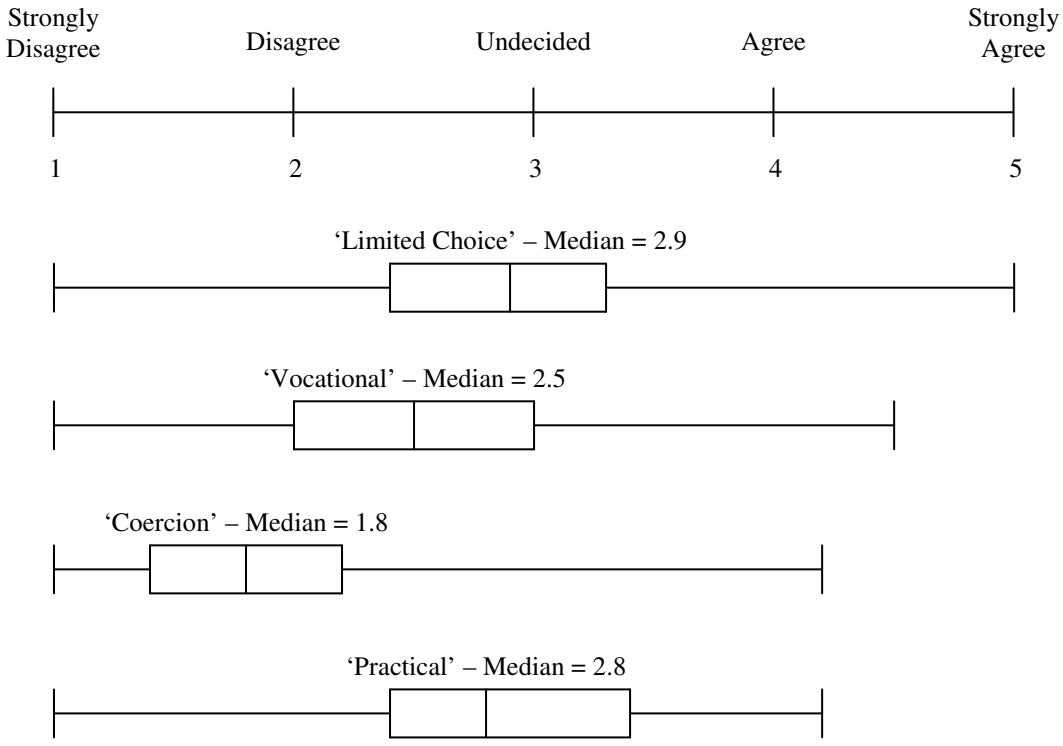
The respondents' scores on the 'Vocational' scale were less uniformly spread. The box plot indicated a distribution of responses that contributed more towards the disagree side of the Likert scale. The median value for student scores on the Vocational scale was 2.5. Approximately 75% of respondents disagreed with this scale. However, there were approximately 25% of respondents who agreed with this scale which indicates that nearly a quarter of respondents may not be satisfied with the subjects that they are taking in relation to their future aspirations.

The respondents' scores on the 'Coercion' scale reflected a strong tendency to disagree with the items that made up the scale. The median value for student scores on the Coercion scale was 1.8 and the box plot indicated that well over 75% of respondents' disagreed with the items within this scale. This indicates that most students felt that they were not coerced into staying at school or pressured by parents or peers to study subjects that were not of their choice. However, there was a minority of respondents who agreed with the items within this scale. This indicates that a

small number of students may have felt that they would rather not have stayed at school and felt that parents or peers influenced their subject choices.

The respondents' scores on the 'Practical' scale reflected less of an inclination to disagree with the items which made up the scale. The median value for student scores on the Practical scale was 2.8. From the box plot (Figure 4.2) it may be seen that a little over 50% of respondents disagreed with the scale while fewer than 50% agreed with the scale. However, no respondent strongly agreed with the scale. Hence it may be said that toward 40% of respondents felt that they were more practically oriented.

Figure 4.2 (a-d) Box plots representing the scales 'Limited choice, Vocational, Coercion, and Practical'.



Respondents Clustered by Attitude

Hierarchical Cluster Analysis

Exploratory hierarchical cluster analysis was conducted to examine possible groupings among the students in relation to the feelings about the nature of choice (Limited choice), their sense

that their choice of practical subjects contributed to their chosen vocation (Vocation), their sense of being coerced in relation to choice (Coercion) and their choice of practical subjects (Practical). In addition to these variables, two items that did not contribute to any of the factors were employed in the cluster analysis. These were items 1 and 2 from the questionnaire which specifically addressed the academic and practical inclination of the respondents. A dendogram clearly revealed 3 clusters. (See Appendix 4.1)

The Cluster Members

Table 4.4 provides the frequencies of respondents by gender, cluster and school. It can be seen that there was a fairly even representation in the number of respondents that make up cluster 1 and 2. However there is only one respondent, a year 12 male from School 2 that was found in cluster 3. The following information will ignore his presence. Table 4.4 indicates that there was also a fairly even representation between the total number of male and female respondents. Despite this however, there were significant differences between the numbers of participants within the clusters from each school. Schools 1 and 3 had proportionally more students in cluster 1 than cluster 2 and Schools 2 and 4 had proportionately more students in cluster 2 than they had in cluster 1.

Table 4.4 (a) Frequencies of respondents by gender, cluster and school

School	Cluster 1				Cluster 2				Grand Total	
	Male	Female	Total		Male	Female	Total			
1	42	45	87	57%	30	35	65	43%	152	100%
2	11	8	19	44%	14	10	24	56%	43	100%
3	15	13	28	60%	9	10	19	40%	47	100%
4	5	8	13	33%	9	17	26	67%	39	100%

Table 4.4 (b) summarises the demographic details of the respondents in relation to age, gender and which cluster they fall into. It is evident that there is a relatively even distribution of females and males in clusters 1 and 2 and that ages 16 and 17 display the largest numbers of respondents. It is important to note that there is a sudden drop in the percentage of students in

cluster 2 between ages 15 and 16 indicating that practically oriented students may leave the school between ages 15 and 16. It is also evident that there does appear to be a mild tendency for the proportions of students within cluster 1 to rise with age until age 17.

Table 4.4 (b) Frequencies of respondents by gender, cluster and age.

Age	Cluster 1				Cluster 2				Grand Total	
	Male	Female	Total		Male	Female	Total			
15	8	9	17	40%	10	16	26	60%	43	100%
16	26	30	56	52%	23	29	52	48%	108	100%
17	30	26	56	60%	18	20	38	40%	94	100%
18	7	9	16	47%	1	7	18	53%	34	100%

Catering for Students in Seventh-day Adventist Schools with Subject Options

From the analyses above it is possible to address research question 1 and 2 from the clusters, which identified the separate groups associated with this question, the scales from the factor analysis and a correlation of items to reinforce the findings.

Character of the Clusters

The three clusters identified the orientations of the respondents in relation to practical and academic subjects. Cluster 1 represented a group of 149 respondents who reported that their major interests lay with an academic selection of subjects. Cluster 2 consisted of 137 respondents who reported that their interests were divided between academically oriented subjects and practical subjects. Cluster 2 did not strongly display academic tendencies but did indicate a mild preference for practical subjects. Cluster 3 represented the one student who reported that he was highly academically oriented and who expressed very strong feelings of discontent.

From Table 4.5 it can be seen that only 1% of cluster 1 preferred practical subjects such as Food Technology or Industrial Technology over such academic subjects as Maths or English and that 93% of cluster 1 disagreed with such a choice. Further, 75% of cluster 1 indicated that they had

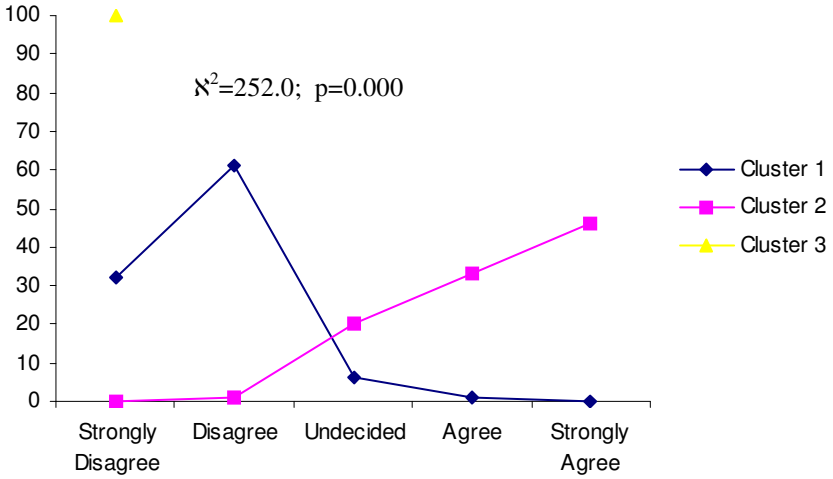
chosen subjects with the aim of preparing for university studies. In contrast to this 79% of cluster 2 preferred the practical technology subjects to their academic counterparts and only 46% indicated that they chose subjects with the view of preparing for university. Hence it can be argued that cluster 1 is a grouping of academically oriented students and cluster 2 is a mixed group with a preference for practical subjects. While most of them obviously enjoy practical subjects, they never the less see value in the academic subjects. Cluster 1 will be designated the 'academically oriented students' and cluster 2 the 'practically oriented students'. The academic/ practical orientation of the 3 clusters are summarised in the tables 4.5 and 4.6 below.

Table 4.5 Cluster responses to items which differentiate in relation to academic orientation.

Item	Likert Scale	Cluster 1		Cluster 2		Cluster 3		Total
1. If given the opportunity I would rather study Food Technology or Industrial Technology than Maths or English.	Strongly Disagree	48	32%	0	0%	1	100%	49
	Disagree	91	61%	2	1%			93
	Undecided	9	6%	27	18%			36
	Agree	1	1%	45	33%			46
	Strongly Agree	0	0%	63	46%			63
	Total	149	100%	137	100%	1	100%	287
Item	Likert Scale	Cluster 1		Cluster 2		Cluster 3		Total
2.All the subjects that I study are academically oriented.	Strongly Disagree	7	5%	8	6%			15
	Disagree	34	23%	52	38%			86
	Undecided	22	15%	29	21%	1	100%	52
	Agree	52	35%	40	29%			92
	Strongly Agree	34	23%	8	6%			42
	Total	149	100%	137	100%	1	100%	287
Item	Likert Scale	Cluster 1		Cluster 2		Cluster 3		Total
10. I chose my subjects for the HSC with the aim of further study at University.	Strongly Disagree	4	3%	10	7%			14
	Disagree	15	10%	18	13%			33
	Undecided	19	13%	40	29%	1	100%	60
	Agree	67	45%	40	29%			107
	Strongly Agree	44	30%	25	17%			69
	Total	149	100%	133	100%	1	100%	283

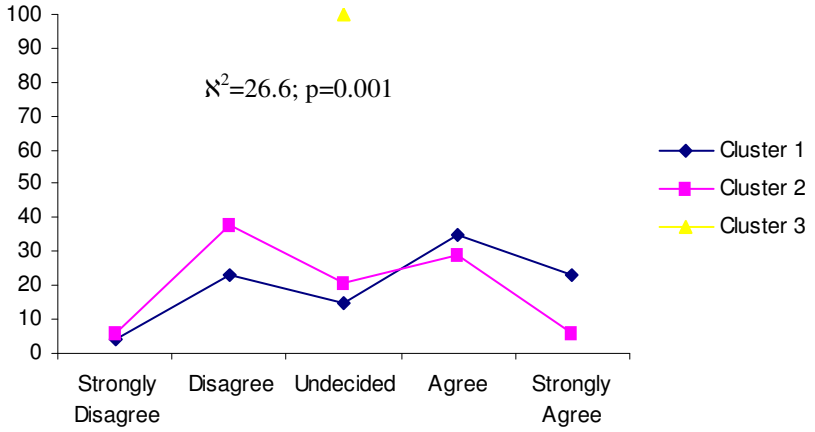
Table 4.5 and Figures 4.3 a, b and c indicate that in comparison to the students of cluster 2, the students of cluster 1 tend to indicate that their subjects were academically inclined and more likely to agree that their aim was to further their study at university. The graphs in Figures 4.3 display the percentage responses to those items which indicate the academic/practical orientation to subject choices as shown by the respondents of each cluster.

Figure 4.3 (a) Graphs displaying the percentage cluster responses to items which differentiate in relation to academic and practical orientation.



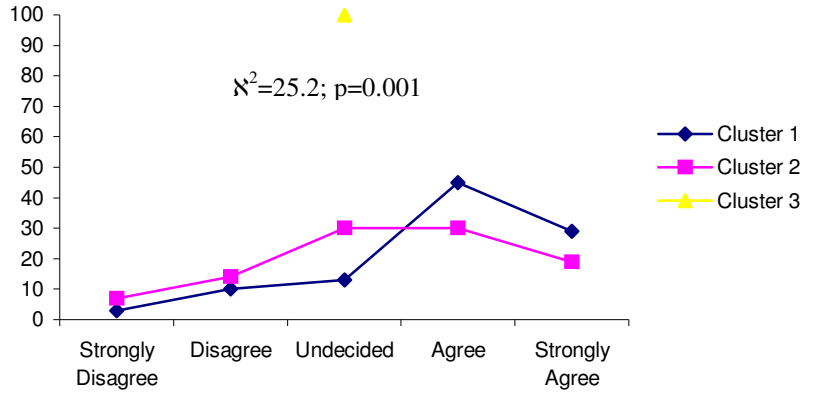
1. If given the opportunity I would rather study Food Technology or Industrial Technology than Maths or English.

Figure 4.3 (b)



2.All the subjects that I study are academically oriented.

Figure 4.3 (c)



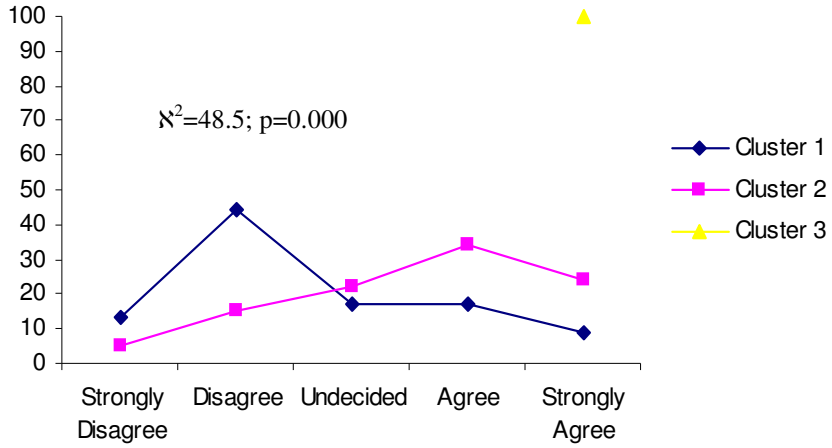
10. I chose my subjects for the HSC with the aim of further study at University.

Table 4.6 Cluster responses to items, which differentiate in relation to practical orientation.

Item	Likert Scale	Cluster 1		Cluster 2		Cluster 3		Total
5. I would have better subject choices that suit my needs at another school which offers more practical subjects	Strongly Disagree	19	13%	6	4%			25
	Disagree	65	44%	21	15%			86
	Undecided	26	17%	30	22%			56
	Agree	25	17%	47	34%			72
	Strongly Agree	14	9%	33	24%	1	100%	48
	Total	149	100%	137	100%	1	100%	287
Item	Likert Scale	Cluster 1		Cluster 2		Cluster 3		Total
11. I was unable to choose the subjects I wanted to for the HSC due to the lack of practical subject options at this school.	Strongly Disagree	19	13%	2	1%			21
	Disagree	66	44%	32	23%			98
	Undecided	34	23%	42	31%			76
	Agree	27	17%	36	26%			63
	Strongly Agree	3	1%	21	15%	1	100%	25
	Total	149	100%	133	100%	1	100%	283
Item	Likert Scale	Cluster 1		Cluster 2		Cluster 3		Total
21. I have chosen practical subjects in order to meet the requirements of my preferred career.	Strongly Disagree	25	17%	6	4%	1	100%	32
	Disagree	53	25%	34	25%			87
	Undecided	33	23%	39	28%			72
	Agree	36	24%	45	33%			81
	Strongly Agree	2	1%	13	9%			15
	Total	149	100%	137	100%	1	100%	287
Item	Likert Scale	Cluster 1		Cluster 2		Cluster 3		Total
26. I have chosen all the practical subjects available at this school.	Strongly Disagree	67	45%	23	17%	1	100%	91
	Disagree	61	41%	49	36%			110
	Undecided	16	11%	37	28%			53
	Agree	4	3%	16	12%			20
	Strongly Agree	0	0%	10	7%			10
	Total	148	100%	135	100%	1	100%	284

Item 5 in Figure 4.4 (a) and Table 4.6 indicates that most academically oriented students (57%) disagree with the contention that academically oriented students are dissatisfied with the subject choices of the school they are attending. However, a majority of practically inclined students (58%) agreed with the contention they would have better subject choices which suit their needs at another school that offers more practical subjects.

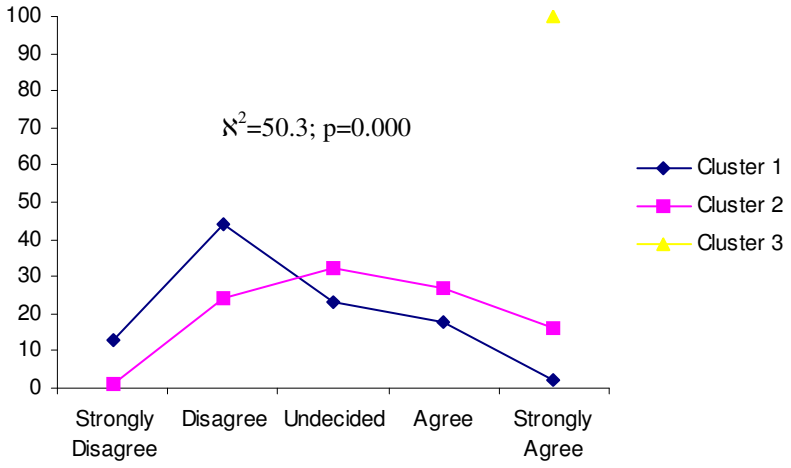
Figure 4.4 (a) Cluster responses to items, which differentiate in relation to practical orientation.



5. I would have better subject choices that suit my needs at another school which offers more practical subjects

Item 11 in Figure 4.4 (b) and Table 4.6 revealed that a majority of academically oriented students (57%) felt they were able to choose the subjects they wanted to for the HSC despite the lack of practical subject options at their school. However 41% of the practically oriented students expressed varying levels of dissatisfaction with the lack of practical subject options at their school. It must be noted that 31% of the practically oriented students were undecided on this matter.

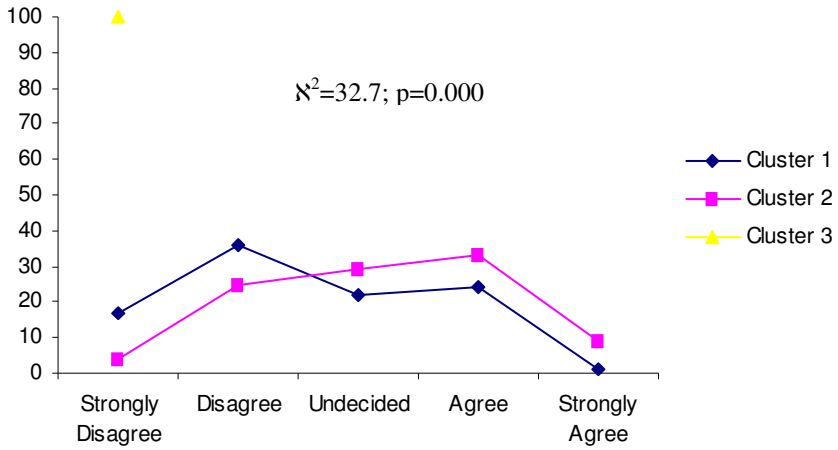
Figure 4.4 (b)



11. I was unable to choose the subjects I wanted to for the HSC due to the lack of practical subject options at this school.

Item 21 in Figure 4.4 (c) and Table 4.6 indicates that a small majority of academically oriented students (52%) have not chosen practical subjects in order to meet the requirements of their preferred career, while 25% of them indicated that a potential future career played a part in their choice of practical subjects. On the other hand, 42% of the practically oriented students indicated that a potential career influenced their choice of practical subjects and 29% indicated that career considerations played no part in their choice of subjects.

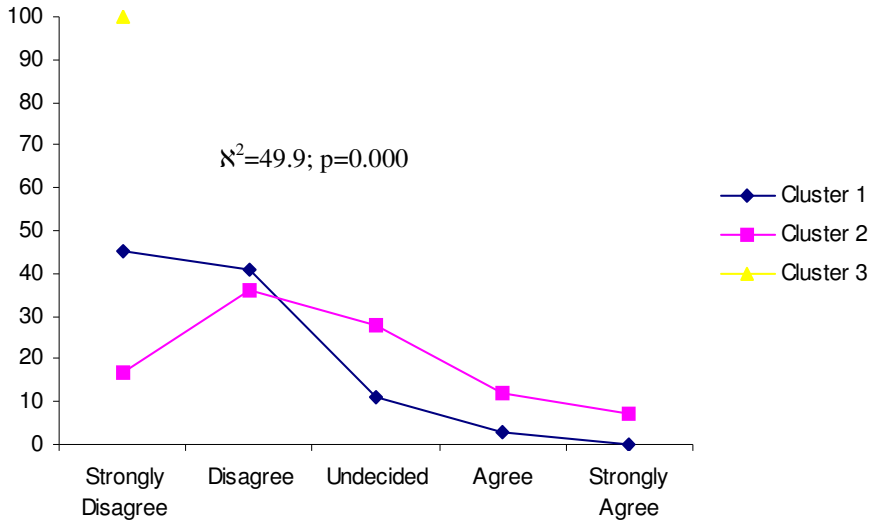
Figure 4.4 (c)



21. I have chosen practical subjects in order to meet the requirements of my preferred career.

Item 26 in Figure 4.4 (d) and Table 4.6 indicates that a majority of both clusters disagreed that they had chosen all the practical subjects available at this school. However, there is a noticeable difference with the practically inclined students. There are a number of students who feel that they have chosen all the practical subjects available at their school. This is in contrast with the academically oriented cluster that have no students displaying they strongly agree with this statement.

Figure 4.4 (d)



26. I have chosen all the practical subjects available at this school.

Hence, it may be deduced that the different clusters have very distinct characteristics. The clusters reveal to varying degrees the amount to which they feel catered for within the Seventh-day Adventist school system. It is evident that overall, the academically oriented students (Cluster 1) are displaying general satisfaction, while the practically oriented students (Cluster 2) are slightly dissatisfied. The degree to which these students feel catered for is reinforce by the relationships involving the practical and the limited choice scales.

Relationships Involving the Scales

Figure 4.5 indicates that the students inclination toward practical subjects (Practical Scale) declined with age. The graph also indicates that a sizable proportion of students aged 15 tended to be in slight agreement with the effect of the scale (The mean value of 3.1 just exceeds the undecided position of 3.0).This is consistent with the information to be found in Figure 4.6, where students inclination toward practical subjects declined with progression from Year 10 to 12. In both cases the trend was statistically significant ($F=6.8$; $p \leq 0.000$ and $F = 24.7$; $p \leq 0.000$ respectively). Figure 4.6 indicates that many year 10 students tended to be in slight agreement

with the effect of the scale; that is that students had chosen practical subjects in order to meet the requirements of their preferred career and they had chosen all available practical subjects at their school. This indicates that the practical inclination of students is higher in year 10 than in year 12.

Figure 4.5 Representation of practical inclination of students according to their age.

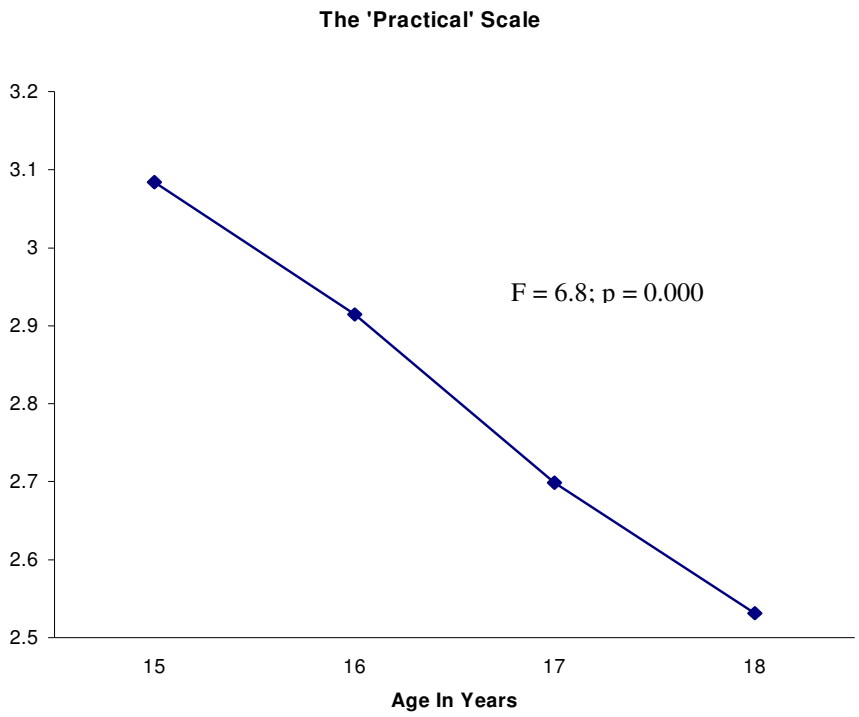
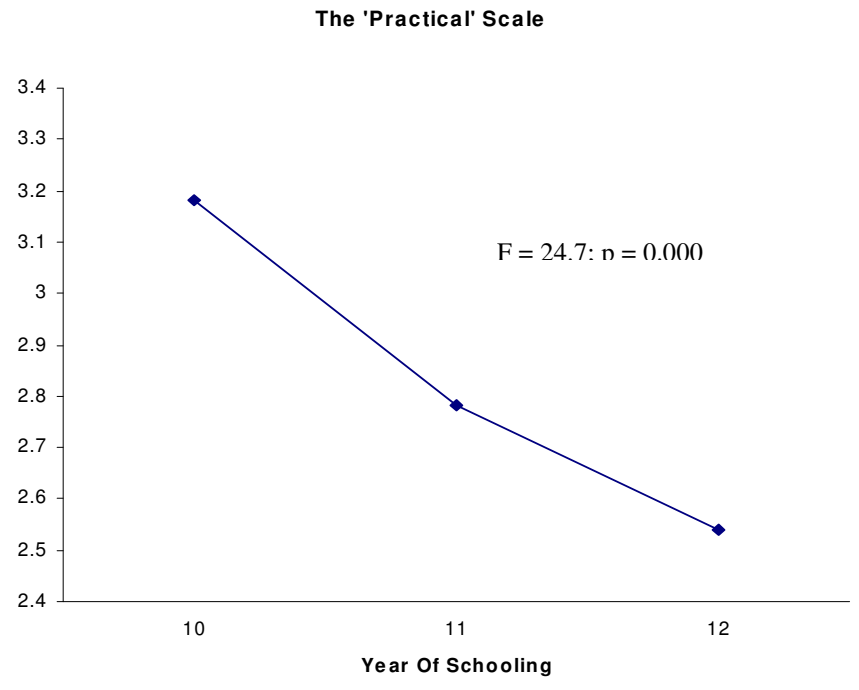
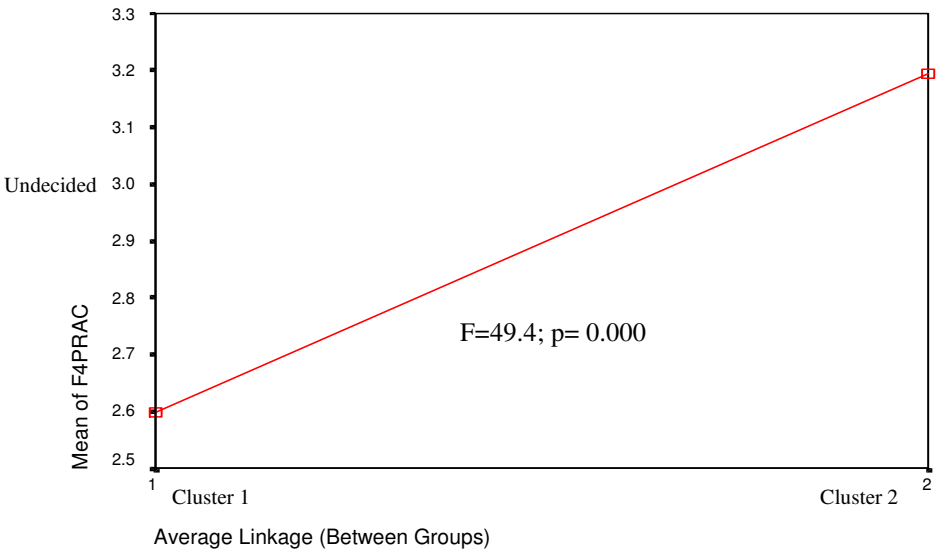


Figure 4.6 Representation of practical inclination of students according to their Year of schooling.



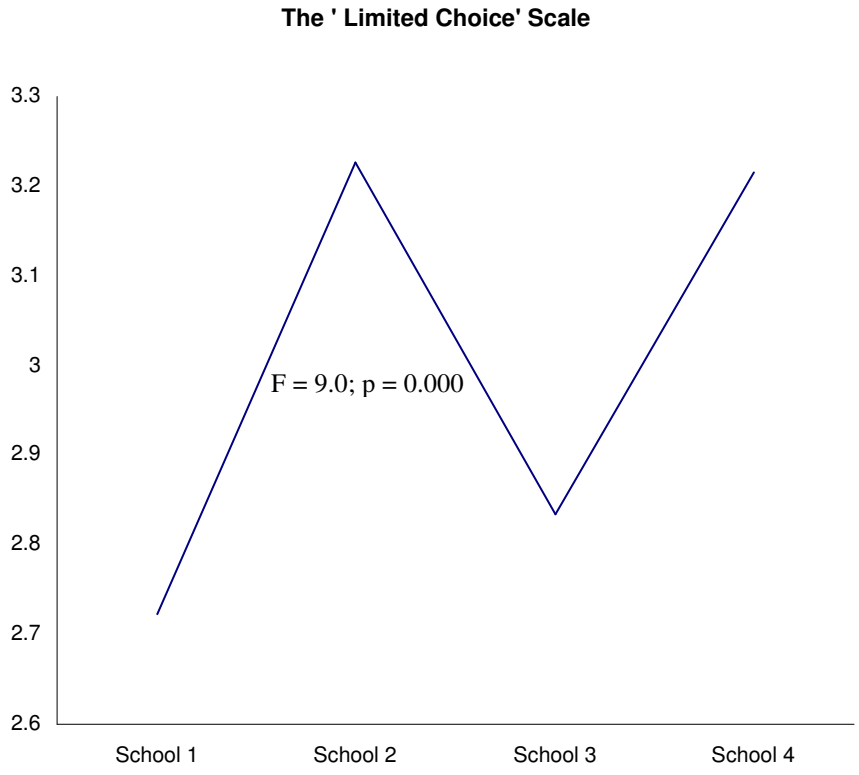
In relation to the practical scale it is evident that the academic cluster 1 is in slight disagreement with the scale indicating less of an inclination towards a practical nature while the practical cluster 2 is in slight agreement with this scale indicating a practical inclination (See Figure 4.7). The difference between the mean scores of the two clusters is significant.

Figure 4.7 Mean scores of Clusters 1 and 2 in relation to the practical scale.



The mean results on the 'Limited Choice Scale' determined by school membership produced interesting results. Figure 4.8 indicates on average that students attending schools 1 and 3 tended not to feel as though they had limited choice while students attending schools 2 and 4 showed a slight agreement with the scale indicating that many felt as though subject choice was limited at their school. This is indicated by the mean scores for schools 2 and 4 (each 3.2) exceeding the undecided value of 3.0, while the mean scores of schools 1 and 3 (at 2.7 and 2.8) are both less than the undecided value of 3.0. Again, the differences in means were significant at the 0.05 level (F= 9.0; p=0.000). Table 4.2 indicates that schools 2 and 4 have enrolments that are significantly smaller than schools 1 and 3 and Hence it is likely that their subject offerings are likely to be more limited.

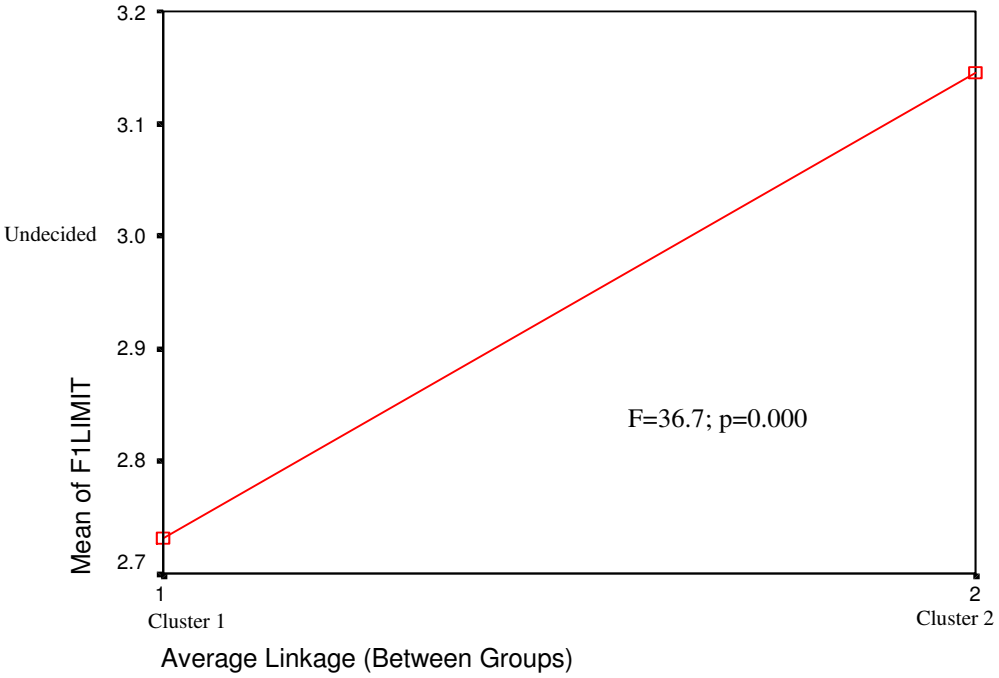
Figure 4.8 Limited choice scale in relation to school attended



In summary, there was a sense of limited choice among nearly 50% of respondents. However, this feeling was stronger in schools 2 and 4 than in schools 1 and 3. It is also evident that students in Year 10 expressed more of an agreeance with the essence of the practical scale indicating that more students within Year 10 are practically inclined. Year 10 also felt more of a sense of coercion than those students in Years 11 and 12. In relation the Limited Choice scale it is evident that the academic cluster 1 is in slight disagreement with the scale indicating that their subject choices are not so limited at their school while the practical cluster 2 is in slight agreement with this scale indicating that their subject choices are slightly limited at their school.

Figure 4.9 Mean scores of Clusters 1 and 2 in relation to the limited choice scale.

Limited Choice



Item Correlations

Table 4.7 provides an overview of the correlations between a selection of variables which examine the feelings of students towards practical and academic subjects which reveal their sense of being catered for. It is evident that there was a moderately strong tendency for those who felt that they would have a better subject choice at another school to also feel that they were unable to choose the subjects they wanted for the HSC due to the lack of practical subject options (0.59). Those who felt that they would have better subject options at another school also tended to indicate that they preferred Food Technology and Industrial Technology over Maths and English (0.35), tend to indicate that they have chosen all practical subject available at their school (0.25) and to indicate that they felt that compulsory subjects outlined for their year of schooling clashed with the practical subject options that they would prefer to study (0.28). Students indicating their practical inclinations (choosing Food Technology or Industrial Technology) tended to feel that they were unable to choose the subjects they wanted to for the HSC due to the lack of practical subject options at their school (0.28). They also indicated that

they chose practical subjects in order to meet the requirements of their preferred career (0.33). Students expressing this practical inclination also indicated that they had chosen all the practical subjects available to them at their school (0.42) and that they felt that compulsory subjects outlined for their year of schooling clashed with the practical subject options that they would have preferred (0. 38). Students who were unable to choose the subjects they wanted to for the HSC due to the lack of practical option also tended to indicate that they had chosen every practical subject available to them (0.36) and that they felt that compulsory subjects outlined for their year of schooling clashed with the practical subject options that they would prefer to study (0.39). Finally, students indicating that they have chosen practical subjects in order to meet the requirements of their preferred career also expressed that they had chosen every practical subjects available at their school (0.37) and that they felt compulsory subjects inhibited them from taking practical subject options. (0.26).

It is important to note that the square of the correlation indicates the proportion of common variance. Hence all of the correlations in Table 4.7 represent relationships between pairs of variables in which the proportion of shared variance for each relationship ranges from a mere 6% to 35%. Thus collectively the correlations represent differing patterns of perception involving different groupings of students rather than a single implacable block of attitude within the student body.

Table 4.7. Correlation of items from the questionnaire. All figures shown are significant at the 0.05 level. Correlations of less than 0.20 are not shown

Subscale	i1	i5	i11	i21	i26	i30
Students (n = 295)						
1. If given the opportunity I would rather study Food Technology or Industrial Technology than Maths or English	1-0	0.35	0.28	0.33	0.42	0.38
5. I would have better subject choices that suit my needs at another school which offers more practical subjects		1-0	0.59		0.25	0.28
11. I was unable to choose the subjects I wanted to for the HSC due to the lack of practical subjects options at this school			1-0		0.36	0.39
21 I have chosen practical subjects in order to meet the requirements of my preferred career				1-0	0.37	0.26
26. I have chosen all the practical subjects available at this school					1-0	0.36
30. I feel that compulsory subjects outlined for my year of schooling clash with the practical subject options that I would prefer to study						1-0

Summary

Thus in answering research question 1, the majority of students felt that they were more or less catered for within Seventh-day Adventist schools, however, there was a different groupings of students who indicated that there were varying aspects that did not meet their needs. Responses indicating these differing concerns are in the form of observations that there was a lack of practical subjects offered at their school, that they would have better options at another school and that some practical options were set against each other. These feelings were to be found in greater concentration among the practically oriented students of cluster two. However, disagreement of the practically oriented students was not uniform or wide spread. It was evident that there were pockets of discontent with various students feeling dissatisfied about specific localised issues related to choice. It is evident that the discontent was not widely spread and although it arose as a factor (Limited Choice). Most students indicated disagreement with the scale. The responses to items such as having a better subject selection at other schools appears more as an observation that larger schools are able to offer a wider choice of subjects.

Factors Influencing Student Subject Choices in Seventh-day Adventist Schools

Factors influencing subject choices

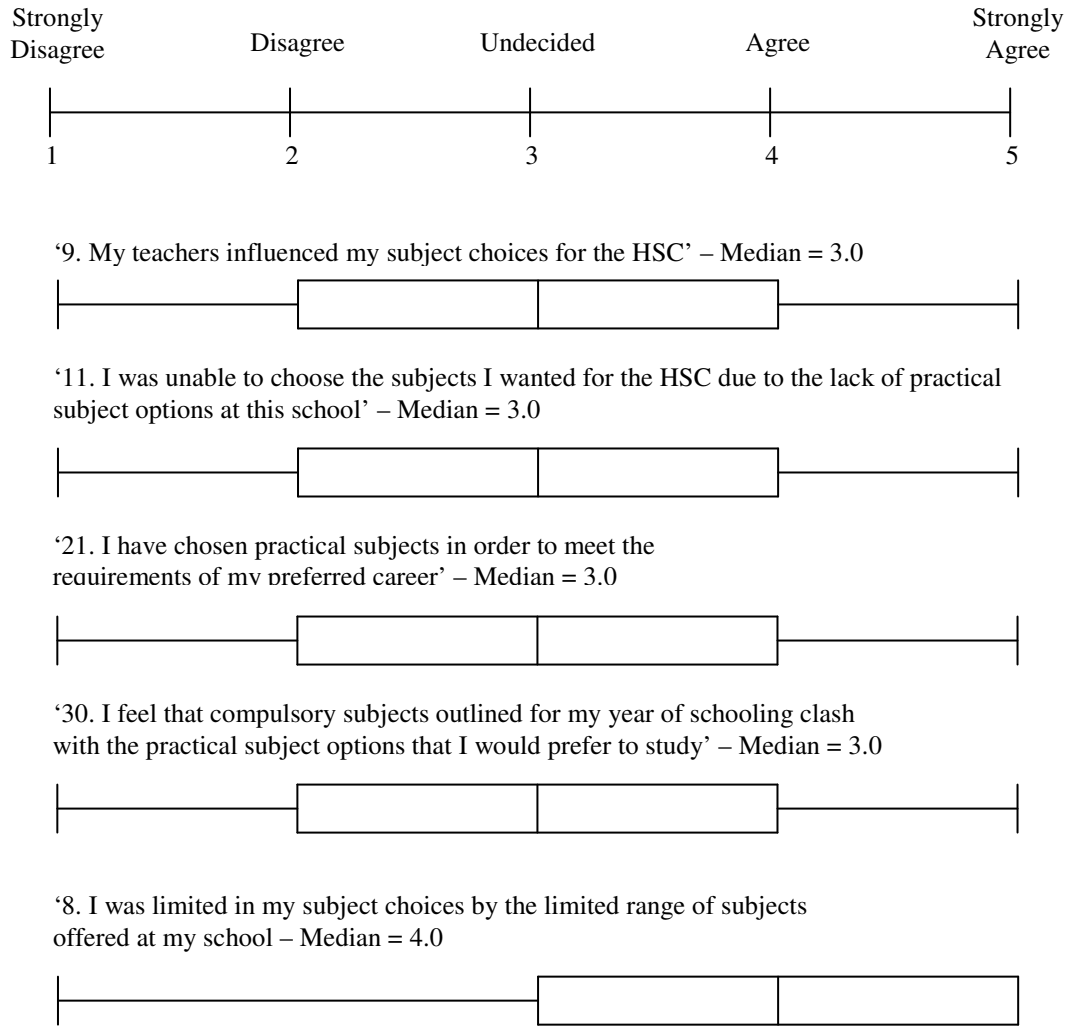
Question 3 specifically addresses the factors that influence student subject choices for the HSC in Seventh-day Adventist schools. The use of frequencies relating to the specific items addressing the factors that influence students choices, correlations, and the coercion and vocational scale from the factor analysis make it is possible to determine what factors students felt impacted upon their subject choices.

This section will refer back to the two scales 'Coercion' and 'Vocational' represented in Table 4.3 and Figure 4.2. Firstly the 'Coercion' scale indicates that toward 80% of respondents indicated that they were not pressured by either their parents or social pressure from peers in the choice of their subjects. Item 9 (See Figure 4:10) indicates that half of the respondents felt that their teachers influenced their subject choices. This may be related to 'like' or 'dislike' of various teachers or the involvement of teachers in the students' subject choices. Students also overwhelmingly indicated that the selection from available subjects was their own choice. What is more the Vocational scale indicates that at least 75% of respondents chose academic subjects with a career in mind and in order to meet specific entry requirements for university courses.

Figure 4.10 represents the box plots of the respondents responses to various items selected from the questionnaire associated with the schools influence on student subject choice that were not included in the factor analysis. Item 11 indicates that half of the respondents felt that they were unable to choose the subjects they wanted to for the HSC due to the lack of practical subject options at their school while the other half indicate that they felt that they were able to choose the subjects that they wanted to for the HSC despite the lack of practical subject option at their school (median value is 3.0). This is reminiscent of the relatively even split between practically oriented students and academically oriented students. Item 30 indicated that half of the respondents felt that compulsory subjects outlined for their year of schooling clashed with the

practical subject options that they would have preferred to study. While item 8 indicates that the majority of respondents agreed that they were limited in their subject choices by the limited range of subject offered at their school. However, it is also evident that 25% of respondents also disagreed with this item indicating that they were happy with the subject choices at their school. Thus it may be deduced that some students do feel limited in their subject option due to the limited options available at their school.

Figure 4.10 Box plots examining the frequencies of items associated with factors that influence student subject choice.



Item Correlation

Table 4.8 outlines the correlations between various items from the questionnaire identifying factors that influence subject choice. As with the correlations of Table 4.7there is a feel of consistency about this table. For example it is evident that there was a moderate to strong tendency for those few who felt that their parents influenced their subject choices to report that they themselves did not choose all of their subjects for the HSC (-0.55). There was also a tendency for those students choosing subjects according to their future career aspirations to also choose subjects according to their aim for further study at University (0.40). This indicates that students intending to go to university have a particular career in mind.

It is also evident that those students choosing academic subjects in order to meet the requirements of their preferred career tended to want to go to university (0.45) which indicates that these aspects impacted on their subject choices. Academic subjects were chosen in order to meet the requirements of respondents preferred career (0.60). Students who felt that their subject choices were limited due to a clash with compulsory subjects as outlined for their year level tended not to choose their subjects with the intention of going to university (-0.27) and those students who felt limited in their subject choices also felt there was a lack of practical subjects offered (0.39). Again the consistency of these results contribute to a sense that the results are valid.

Table 4.8 Correlation of various items from the questionnaire identifying factors that influence subject choice. Correlations of less than 0.20 are not shown . (i = item)

Subscale	i6	i7	i10	i11	i16	i21	i25
Students (n = 295)							
6. My HSC subjects were chosen by my parents.	0.1						
7. I chose all my subjects for the HSC.	-0.55	0.1					
10. I chose my subjects for the HSC with the aim of further study at University.			0.1				
11. I was unable to choose the subjects I wanted to for the HSC due to the lack of practical subject options at this school.				0.1			
16. I chose my subject choices according to my aspirations for my future career.			0.40		0.1		
25. I have chosen academic subjects in order to meet the requirements of my preferred career.			0.45	-0.22	0.60	0.1	
30. I feel that compulsory subjects outlined for my year of schooling clash with the practical subject options that I would prefer to study.			-0.27	0.39		0.25	0.1

Relationships Involving the Scales

The coercion scale is associated with students subject choices for Years 11 and 12. Students may feel coerced by parents, friends, school and teachers. It is evident from figures 4.11 (a) and (b) that students' feelings of coercion (Coercion Scale) declined with both age and their Year of schooling. The results displayed in these graphs are statistically significant ($F = 9.9$; $p = 0.000$ and $F=4.5$; $p=0.004$ respectively). Overall most students from all Year levels indicated that they were not overly coerced into staying at school or forced into choosing the subjects that they did for the HSC. They displayed a relatively strong feeling of ownership toward their choices.

Figure 4.11 (a) The Coercion Scale in relation to Year of schooling.

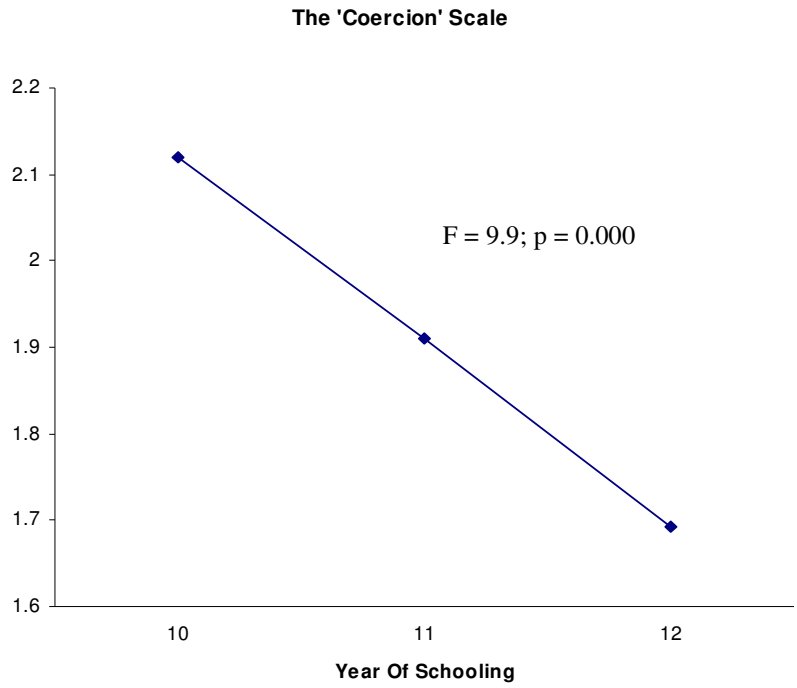
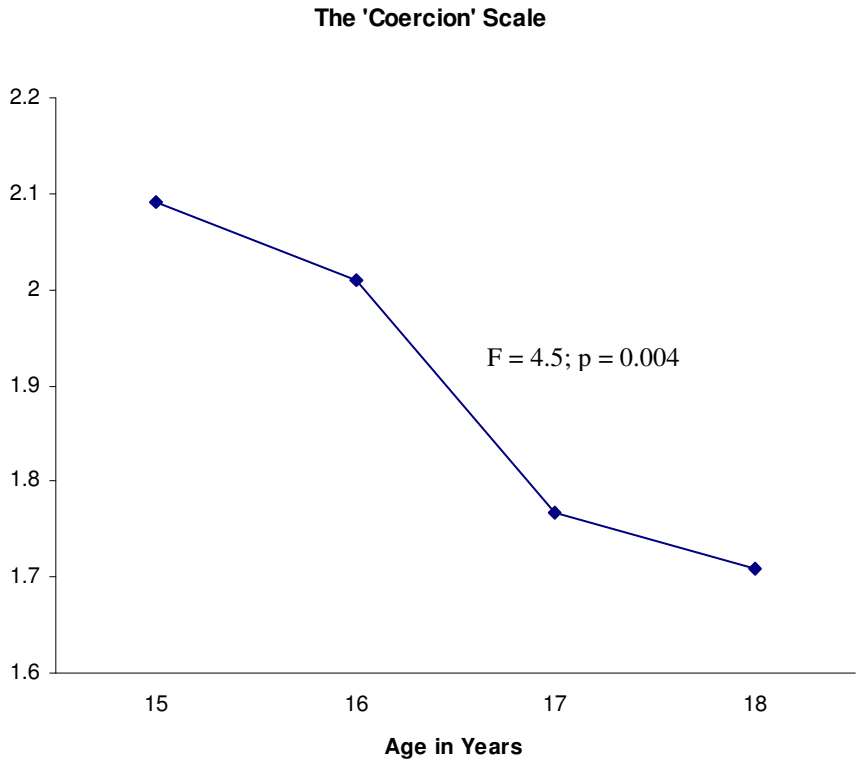


Figure 4.11 (b) Coercion scale in relation to age.



Summary

Hence, in addressing research question 3, it is evident that parents, teachers, friends, self and future aspirations such as career and study influenced students subject choices in Seventh-day Adventist schools to varying degrees. The coercion scale indicates it is evident that a small number of students reported that their parents chose their subjects for the HSC and peer influence played only a small part in choices. The apparent strong influence of teachers on decisions related to subject choices may not conflict with students' indication that they chose their own subjects. Students may make choices based on their relationships with specific teachers. The aim of students to study at university strongly influenced students' subject choices for the HSC which was strongly influenced by their desired career. Half of respondents felt that compulsory subjects outlined for their year of schooling clashed with the practical subject options that the would have preferred to study hence indicating that compulsory subjects outlined by their school impacted upon their subject choices (Figure 4.17). The limited range of subject choices at their school also was a strong factor in their subject choices (Figure 4.17). Finally, 50% of respondents felt that their subject choices were influenced by their teachers while the other half did not feel that their subject choices were influenced by their teachers.

Student Perceptions of Affirmation and Recognition

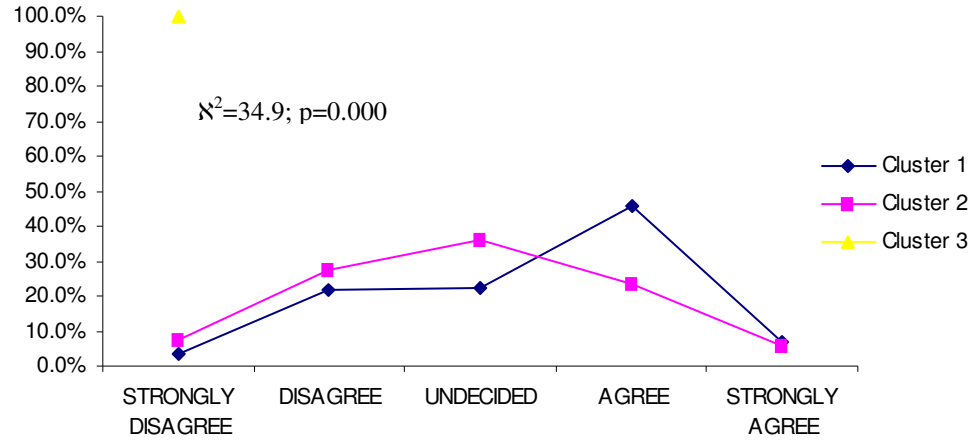
Student recognition.

Student recognition is often influenced by what is considered valuable. This section specifically examines to what extent practically inclined students and academically oriented students feel recognised, commended and affirmed in their performance in school subjects. It also analyses whether academically and practically oriented students report the same sense of recognition.

Figures 4.12, 13 indicate that in comparison to the practically oriented students (cluster 2) the students from the academic cluster (cluster 1) were more likely to feel that academic subjects will receive high recognition (52% agree while 25% disagree) and less likely to feel that

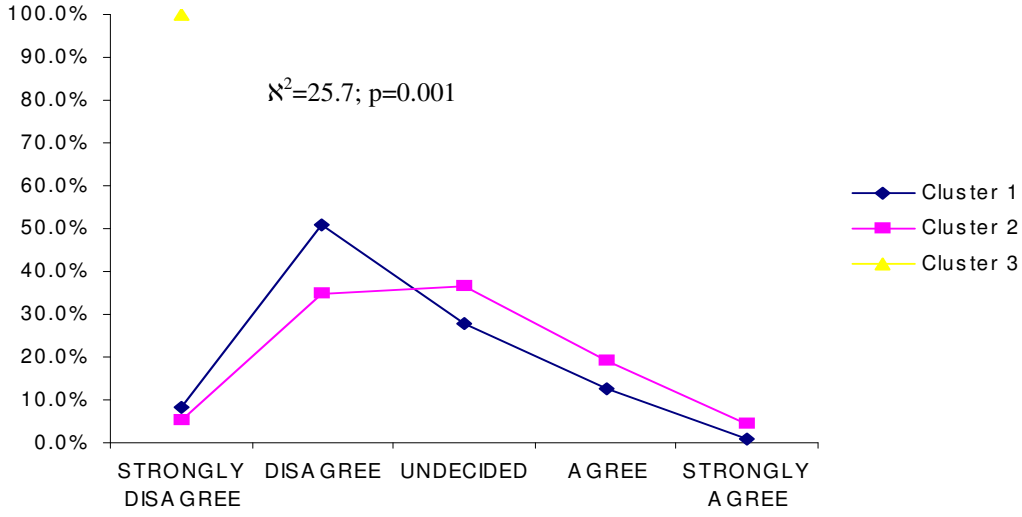
practical subjects will receive high recognition (13% agree while 59% disagree). The practically oriented students also tend to agree with the contention that academic subjects receive high recognition (35% agree and 29% disagree) and to disagree with the statement that practical subjects receive high recognition (23% agree and 40% disagree). Hence even among those who are practically oriented, there is a belief that a lesser status is assigned to practical subjects. Overall, it is evident that respondents from both cluster 1 and 2 felt that academic subjects were rewarded more than practical subjects at their school. This is indicated in the percentage of respondents from each cluster that are in agreeance with item 27 (55.4% and 52.6% respectively)(Figure 4.14).

Figure 4.12 Graph indicating cluster responses to perceptions of recognition



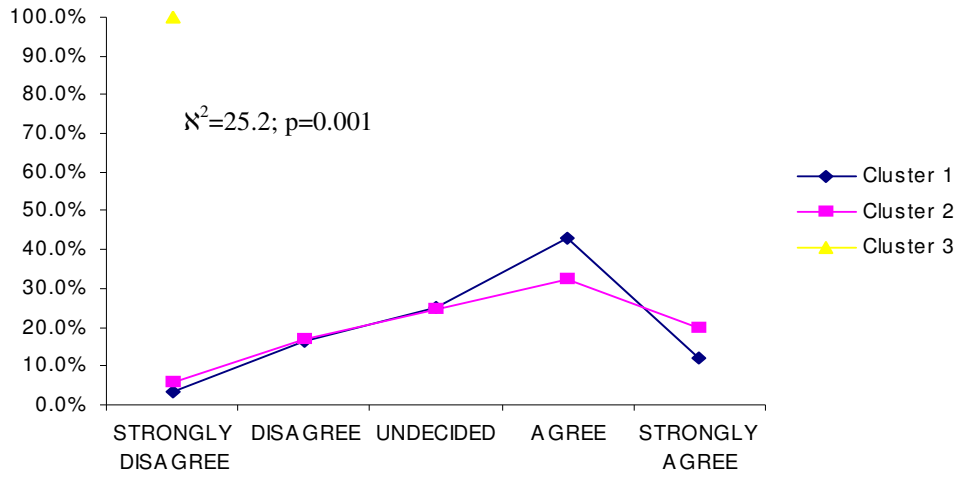
13. I feel if I study academic subjects I will receive high recognition

Figure 4.13 Graph indicating cluster responses to perceptions of recognition



14. I feel that if I study practical subjects I will receive high recognition

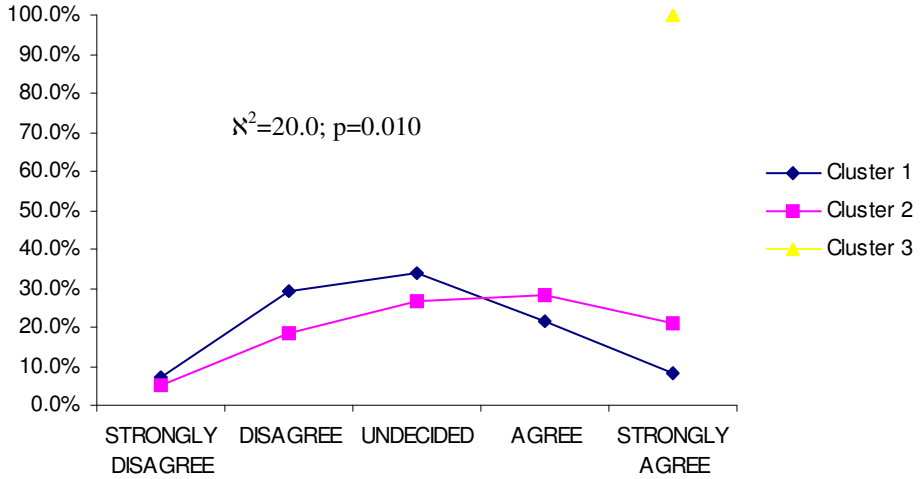
Figure 4.14 Graph indicating cluster responses to perceptions of reward.



27. I feel that academic subjects are rewarded more than practical subjects at my school

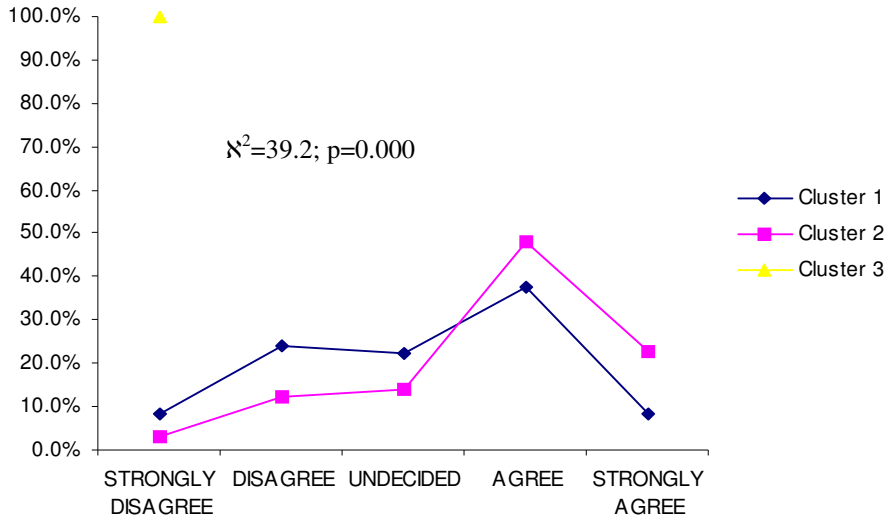
Further, figure 4.15 indicates that the academic students of cluster 1 were less likely than the practically oriented students to believe that practical subjects were of equal worth as academic subjects. Forty percent of the academic cluster disagree with the statement while only 26% agree with it. In comparison, 25% of the practically oriented students disagree with the statement and 49% agreed with it. Figure 4.16 indicates that the majority of respondents perceive practical subjects to be easier than academic subjects. This is evident in that 46% of respondents from cluster 1 indicated agreement and 71% of respondents from cluster 2 also indicated that they perceived that practical subjects were easier than academic subjects.

Figure 4.15 Graph indicating cluster responses to perceptions of the worth of practical subjects as opposed to academic subjects.



28. I feel that practical subjects are of equal worth as academic subjects

Figure 4.16 Graph indicating cluster responses to perceptions of ease related to subjects.



17. I perceive practical subjects to be easier than academic subjects

Summary

Hence, in addressing research question 4 it is evident that students feel that students studying academic subjects receive higher recognition than those students studying practical subjects. It is also evident that students perceive practical subjects to be easier than academic subjects. There are several possible reasons why the respondents responded in this manner, however it is evident that there is a pervasive culture in the schools surveyed that believes that academic subjects are of greater worth, are more rewarded and are more difficult than the practical subjects.

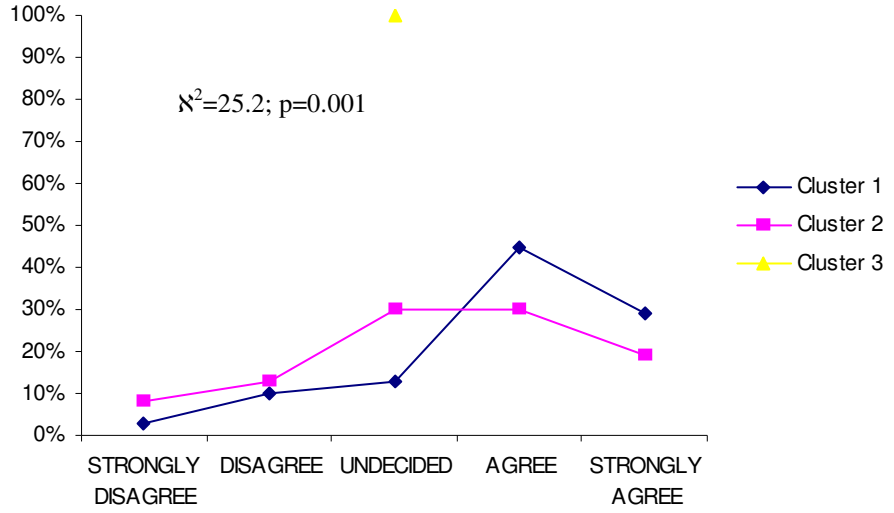
Differences between Post-Secondary Aspirations of Practically Academically Oriented Students

Post Secondary Aspirations

Post secondary aspirations influence students subject choices. This section specifically examines whether there is a difference between the post-secondary aspirations of the practically oriented students and academically oriented students.

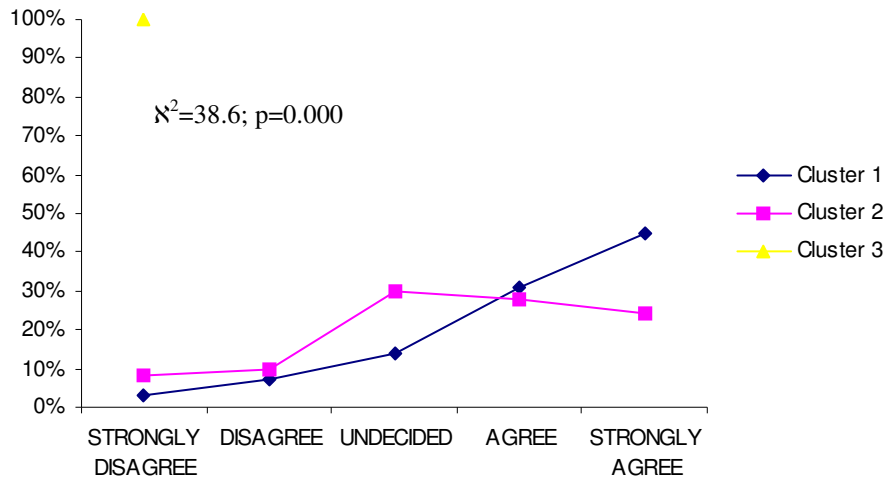
Students' aspirations for tertiary study strongly influenced their subject choices. It is evident in figure 4.17 that the majority of students from both clusters expressed that they aim for further study at university (Academic cluster 74% and practical cluster 49%). However, it is evident that 21% the practically oriented students (cluster 2) did not aim to go to university while 13% of the academically oriented students indicated that they also did not intend to go to University. Figure 4.18 indicates that 76% of respondents from cluster 1 plan to go to university rather than TAFE for tertiary study while 52% of the practically oriented cluster 2 also felt this way. Thirty percent of the respondents from cluster 2 were undecided. It is evident that students from both clusters aim to go to university.

Figure 4.17 Graph displaying post secondary aspirations of practical and academic students.



10. I chose my subjects for the HSC with the aim of further study at University

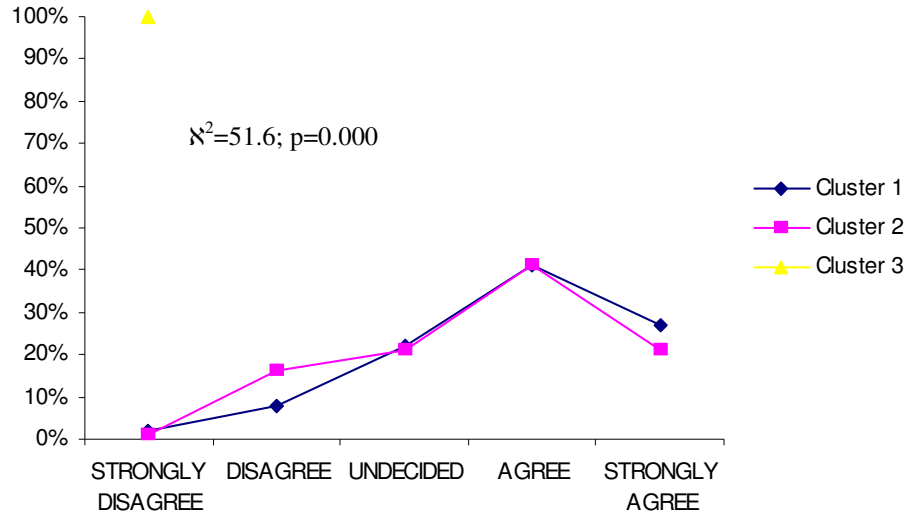
Figure 4.18 Graph displaying post secondary aspirations of practical and academic students.



31. For tertiary study I plan to go to University rather than TAFE

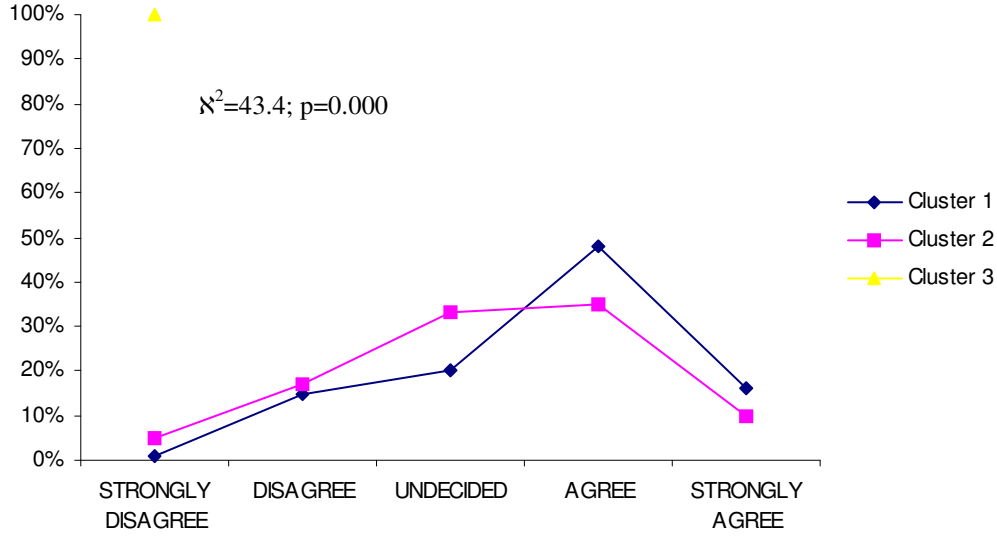
Students' aspirations for their future career also played an integral part in student subject choices. Figure 4.19 (a) indicates that the majority of student responses from both cluster 1 (68%) and cluster 2 (62%) expressed that students chose their subjects according to their aspirations for their future career. There was little difference between cluster 1 and 2. Figure 4.19 (b) indicates that 64% of cluster 1 and 45% of cluster 2 agreed that they chose academic subjects to meet the requirements of their preferred career. It is evident that fewer respondents from cluster 2 chose academic subjects to meet the requirements of their preferred career. Twenty two percent of cluster 2 did not choose academic subjects to meet the requirements of their preferred career. Figure 4.19 (c) indicates that 42% of cluster 2 (practical) and 24 % of cluster 1 (academic) chose practical subjects in order to meet the requirements of their preferred career. The majority of the academic cluster (53%) indicated that they did not choose practical subject to meet the requirements of their preferred career.

Figure 4.19 (a) Graphs displaying relationship between subject choice and post secondary aspirations of practical and academic students.



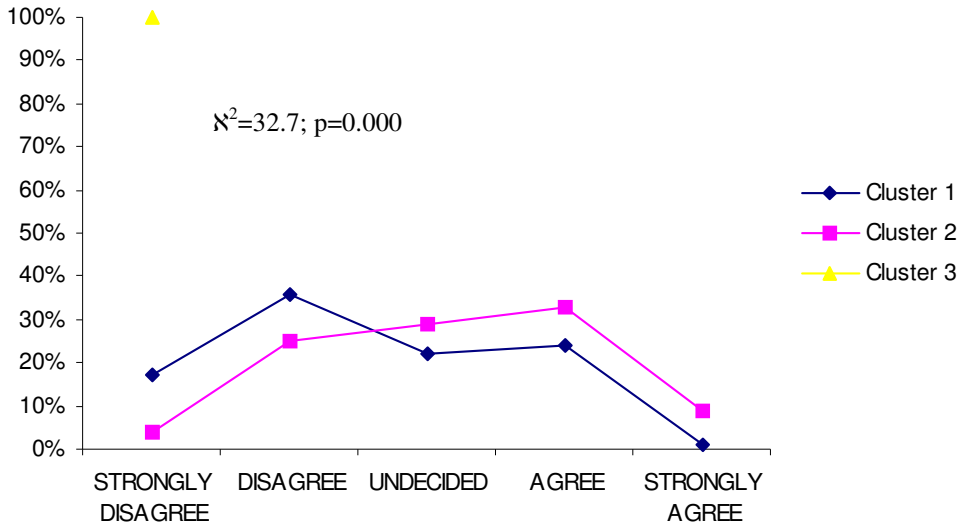
16. I chose my subjects choices according to my aspirations for my future career

Figure 4.19 (b)



25. I have chosen academic subjects in order to meet the requirements of my preferred career

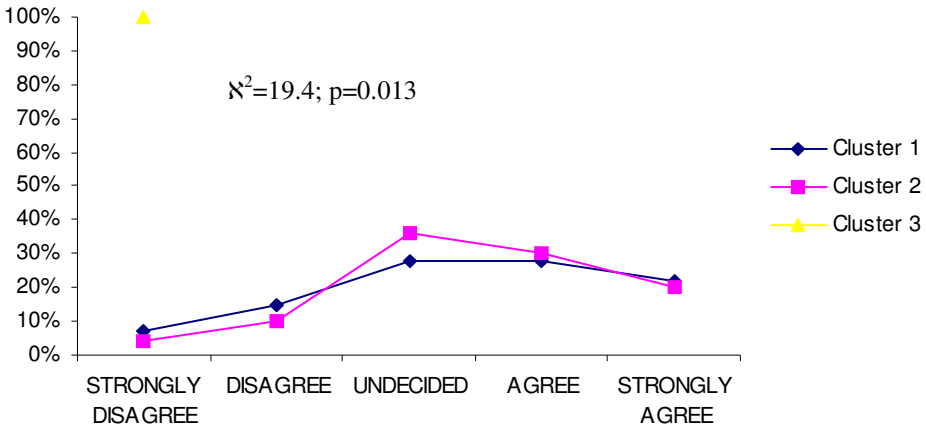
Figure 4.19 (c)



21. I have chosen practical subjects in order to meet the requirements of my preferred career

At this crucial deciding stage in a student's school life it is evident that they will need guidance and support in deciding what career they would like to pursue in order to choose subject appropriately. It is evident however, from Figure 4.20 that 22% of students from the academic cluster and 14% from the practical cluster did not know what career or further study they would pursue after leaving school and a further 28% of academically oriented students (cluster 1) and 36% of practically oriented students (cluster 2) were undecided about what career and further study they would pursue after leaving school. In other words half of the students from each cluster did not know what they would pursue for their future. This is a large group of students who need further guidance in this area. Despite this however, it is evident that 50% of respondents from clusters 1 and 2 knew what career and further study they wanted to follow after leaving school.

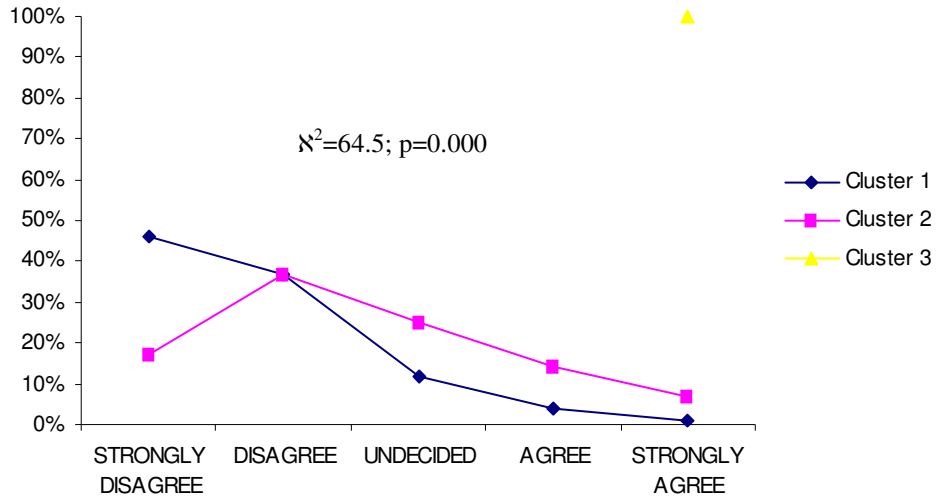
Figure 4.20 Cluster feelings about whether they know what their post secondary aspirations are.



32. I know what career and further study I want to follow after leaving school

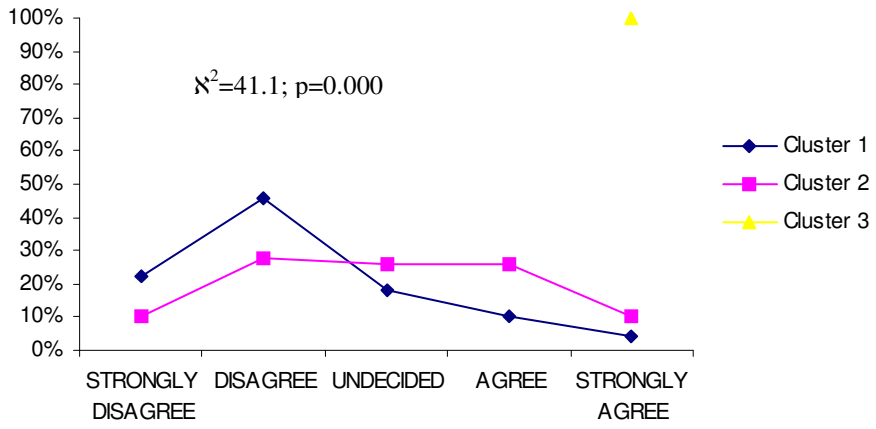
Figure 4.21 (a) displays that the majority of students from cluster 1 felt that the majority of the subjects they were studying suited their future aspirations. However it is evident that there were more students from cluster 2 (21%) who were not as happy with their subjects in light of their future aspirations compared to cluster 1 (5%). This is reinforced by figure 4.21 (b) which indicates that 68% of the academic cluster (1) remain at school because the subjects suit their needs and future aspirations while only 38% of students from the practical cluster (2) remain at school because the subjects suit their needs and future aspirations. It is evident that 36% of cluster 2 remain at school even though the subjects do not suit their needs and future aspirations as compared to Cluster 1 with 14%. Hence, it may be noted that academic students are more satisfied with the subject options at their school of attendance than the practically oriented students.

Figure 4.21 (a) Graphs indicating students satisfaction with subjects in relation to future aspirations and needs.



4. I feel that I would rather not continue with years 11 and 12 as the subjects that I am doing do not suit my future aspirations or needs

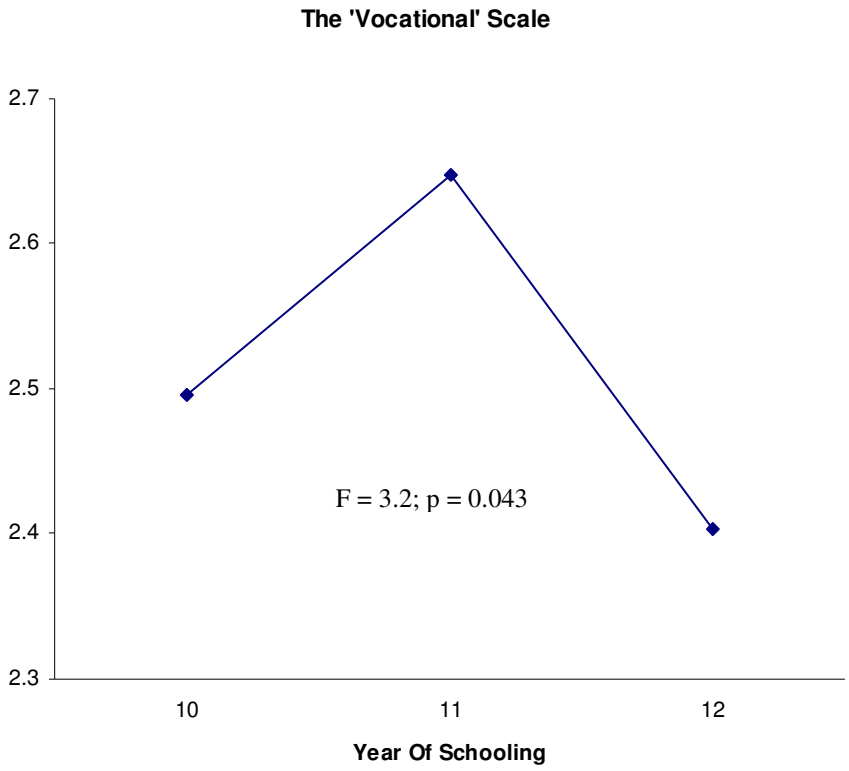
Figure 4.21(b)



18. I remain at school even though the subjects do not suit my needs and future aspirations

Students post-secondary aspirations are also displayed within the vocational scale and display consistency amongst the results. Figure 4.22 indicates that students between Years 10 and 12 mostly disagreed with the effect of the vocational scale. Thus the majority of students appeared to choose academic subjects in order to meet the requirements of their preferred career and they chose their subjects for the HSC in the aim of further study at University. However, the graph indicates more uncertainty among the Year 11 students than among those from Year 10 and 12. This relationship is significant (F=3.2 and p = 0.043) indicating that the differences in mean values from the three schools were not a chance occurrence.

Figure 4.22 Vocational scale in relation to Year of schooling



Summary

Hence, in answering research question 5 it is acknowledged that there are slight differences between the post secondary aspirations of the academically and practically oriented students. However, it is evident that the majority of students aim to go to university at the completion of their HSC. There are slightly more students from the practically oriented cluster who would prefer to go to TAFE at the completion of the HSC than from the academic cluster. However, there is a noticeable difference between the degree to which the HSC subjects meet the needs of the two clusters in light of their future aspirations. It is evident that there is a minority of the practically oriented students who report that the subjects at their school do not suit their future aspirations. Another issue raised in this are of future aspirations is that of guidance and support to help students reach a goal for their future. It is evident that half of the respondents had little knowledge of what they truly wanted to pursue at the completion of the HSC. This is an area for great concern as schools should be providing career guidance.

Conclusion

In light of the results it is evident that most students reported that they were adequately catered for in relation to subject offerings. However, there were pockets of concern about the limited subject options for practically oriented students for the HSC. A large number of students indicated that they chose their own subjects for the HSC and that they chose them with the aim of attending university. Student responses also indicated that there was a pervasive belief among the students that academic subjects were of greater worth than practical subjects and received higher recognition from the school

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

In conclusion, this chapter seeks to bring together integral parts of the study conducted to determine whether practically oriented students are catered for in Seventh-day Adventist schools within NSW, whether students are satisfied with their subject options and whether they receive recognition in the form of commendation and affirmation for their choice of subjects. The conclusions drawn from the analysis of data specifically address the research questions and lead to a summary of contributions and recommendations. Limitations of the study will also be included to give objectivity to the research and areas for further research will be identified.

Summary

In light of the emphasis that society places upon the HSC and the importance of further study at university, it is evident that academic subjects have become the focus of many schools during Years 11 and 12. This emphasis does not take into consideration Gardner's Theory of Multiple Intelligences (1984) which suggests that student's intelligences may be based in different skill areas and hence differing groups of students may value alternate ways of learning and value varied subject areas. The current approach does not appear to take the total holistic development of all students into consideration. Seventh-day Adventist schools pride themselves on providing holistic education and endeavouring to uphold the special character of their school system which is based on their philosophy of Christian education. There appears to be a clash between the stated ideals of Seventh-day Adventist education and their practice particularly in relation to the balance between practical and academic subjects. This situation results in a clash of values which contribute to the debate as to whether practical subjects are soft options or a practical reality. This contributed to the formation of the research questions which are outlined below:

1. Do students seeking academically oriented subjects report that they are adequately catered for in terms of subject options in Seventh-day Adventist schools?

2. Do students seeking practically oriented subjects report that they are adequately catered for in terms of subject options in Seventh-day Adventist schools?

3. What factors influence student subject choices in Seventh-day Adventist schools for the HSC?

4. Do students who take practical subjects in the HSC report the same sense of recognition as students taking academic subjects?

5. Are there any differences between the post secondary aspirations of the academically oriented and the practically inclined students?

Conclusions and Recommendation

The following conclusions arise out of the data analysis, the findings, and the discussion of findings as reported in chapter four.

Research Questions 1 and 2

The research found that the student bodies could be clustered into two groups. The first being an academically oriented group and the second a practically oriented group. The academically oriented students reported that they are generally adequately catered for in terms of subject options in Seventh-day Adventist schools. They tend to display satisfaction with their subject choices and do not feel limited by them. These students are also more likely to indicate that they chose their subjects with the aim of going to university and to meet the requirements of their preferred career. They also perceive that they receive high recognition for studying academic subjects. Over all, they are a cohesive group that are not overly discontent about issues relating to subject choice.

The second cluster of more practically oriented students indicate that in general they are adequately catered for in terms of subject options in Seventh-day Adventist schools. However, there are pockets of students within this group who report concern and even dissatisfaction with some of their subject options at their school. It is evident that there was a drop in number of practically oriented students between Year 10 and 11 indicating that some practically oriented students may have left the schools involved in this study after the completion of year 10 (Table

4.4). This could be related to the areas of concern of the practically oriented students. These include the limited range of practical subject options at their school, the clash between some practically oriented subjects and compulsory subjects as outlined for each year of schooling and the fact that some practical subjects are set as choices against each other, thereby limiting the number of practical subjects students can take. For those students who have remained within the schools, discontent with their subject options subsides as they progress into senior years. However, it is possible that an awareness of student needs and desires may allow minor changes to subject option and line ups to be made that heightens the satisfaction amongst practically oriented students which could contribute to their desire to stay in their school. The thesis does acknowledge that schools are limited by finances, the number of trained personnel and Government requirements in terms of the practical subjects that they can offer.

Research Question 3

In relation to research question 3, the conclusion may be drawn that there were many factors which influenced students subject choices in Seventh-day Adventist schools. The majority of students indicated they were not under any duress from parents or peers and that they chose subjects for Years 11 and 12. A large factor that impacted upon their decision was their aims for tertiary study and future careers. There was a strong relationship between student desires for a specific future career and with students aim to study at university. Only a very small minority of students indicated that their parents placed pressure on subject choices for the HSC or that peers influenced their decision. Fifty percent of respondents felt their teachers influenced their subject choices. This of course could be quite a subtle influence. Students may choose certain subjects because they like particular teachers or conversely avoid other subjects because they dislike other teachers. Of course subject options were also a contributing factor in subject choice. Compulsory subjects outlined by the schools impacted upon their subject choices in terms of the limited range of subject choices at their particular school. In light of this it is evident that multiple factors contributed to each student's subject choices for the HSC.

Research Question 4

In relation to question 4, the conclusion may be drawn that students taking practical subjects in the HSC do not report the same sense of recognition from their school as students taking academic subjects. It is evident that the majority of students felt that they would receive higher recognition and greater reward if they studied academic subjects (Figure 4.18), however the majority of students felt that if they studied practical subjects they would not receive the same recognition (Figure 4.19). This may be related to the schools attitudes towards these subject areas as indicated by figure 4.21. It is evident that there is a need for balanced commendation and affirmation between subject areas. This issue of student recognition may reflect the schools' culture in that hidden or unconsidered values may reinforce the belief among students that academic subjects are of more worth and thus deserve higher recognition.

Research Question 5

In relation to question 5, the conclusion may be drawn that the aspirations of both the academically and practically oriented students were not largely different. The majority of students from both clusters reported they aimed to go to university and wished to meet the requirements of their chosen career and that they both chose their subjects accordingly (figure 4.24). Seventy six percent of respondents from cluster 1 and 52% from cluster 2 indicated that they planned to go to university rather than TAFE. Thirty percent of cluster 2 were undecided about whether to go to university of TAFE (figure 4.30). It is also evident that subject choices were also made in light of their future career aspirations (figure 4.25). The majority of students remain at school because their subject choices suit their needs and future aspirations. However, 36% of students from cluster 2 (practically oriented students) remained at school despite the fact that their subjects do not completely fulfil their needs or future aspirations (figure 4.26). Hence, it may be seen most students from both clusters aimed to study at university. However, a large proportion of practical students felt that the subjects at their school were not fully meeting their future needs or aspirations.

General observations and recommendations that arise

Overall, the majority of respondents were relatively satisfied with their subject options at their school of attendance. There was a noticeable difference with the levels of satisfaction of the practically oriented students however, as they display levels of dissatisfaction that were not apparent within the academically oriented students. This is due to the varying pockets of concern, which were likely to be amongst practically oriented students. Despite this, these dissatisfactions were not crystallised into strong attitudes commonly held by large numbers of students. Had they been such they would have shown up more strongly in the scale scores and students sense of coercion would have been higher. These dissatisfactions were more of the nature of differing observations made by the practically oriented students. It is evident that a minority of these students do feel slightly limited in their subject options due to the apparent academic emphasis that is present in the HSC.

Hence, it may be said that Seventh-day Adventist schools endeavour to cater for their students in as many ways as possible which include the practical and physical aspects of holistic education. This has resulted in minimal levels of dissatisfaction for the majority of students. However, in light of the practically oriented students, it is recommended that schools constantly monitor student satisfaction levels in relation to subject choice. Schools need to ensure that they consult students and parents when making changes to the subjects they offer. This will help to ensure that students' levels of satisfaction in regards to subject choices at their school of attendance remain high. It is also evident that the students from the smaller schools who were involved in this study reported a higher sense of limited choice than those from the larger schools (Figure 4.8). Hence, the recommendation may be made that smaller schools in particular need to monitor student satisfaction levels more than larger schools in relation to subject options.

In light of the students perceptions that academic subjects were rewarded and recognised more highly than practical subjects it is evident that there needs to be a higher level of consistency in

regards to this issue. Hence, the recommendation may be made that students taking academic or practical subjects should be rewarded in the same manner and to the same extent within schools both formally and informally to ensure the status of practical subjects are not reduced. This will ensure the students in relation to this issue perceive no bias.

As there were more students indicating they were practically oriented within the Year 10 age range and that there was a significant drop in the number of students indicating they were practically oriented within the year 11 age range (Table 4.4 b), it is suggested that students throughout year 10 receive support and guidance in their subject choices so they may be aware of the options that are open to them. This will ensure that students will be empowered to make informed decisions which may result in heightened levels of satisfaction with their subject choices for the HSC.

Summary of Contributions

In summary, this research has revealed that Seventh-day Adventist schools need to remain alert and aware of the needs and desires of students in relation to subject choices to ensure they cater for all students in a holistic fashion. This is due to the fact that there are differences between the feelings and attitudes of the academically and practically oriented students. Schools constantly need to keep checking student feelings concerning subject choices offered at their school as minor changes may push the levels of discontent related to subject options too high which may result in students leaving school. Schools need to examine all options available to them in regards to subject options for their students; even the option of including TAFE as a connection for more practically oriented students. This research has also made it evident that students from both subject areas need to feel recognised and rewarded equally. If schools applied themselves in these areas they would ensure greater satisfaction amongst students.

The Limitations of the Study

In retrospect, it is evident that there were aspects of this study which acted as limitations. Hence, for the purpose of objectivity these are mentioned below.

Firstly, the questionnaire used to survey the respondents in this study may have included more items to gain more feelings from the respondents relating to pertinent issues. These include:

- The use of direct questions to gain a clearer picture of student feelings relating to various issues. Issues that may have been explored more include areas such as whether students would leave school over subject options and whether students actually felt pressured into taking academic subjects by their school structure or system.
- The use of a tick in the box section to investigate what subjects students were currently studying, rather than leaving it open for students to write down what individual subjects they were studying would have been beneficial. This would have ensured that there was less missing data and that students would have been more accurate and possibly more students may have responded to this section.
- Also a section could have been included for students to indicate their current sense of satisfaction with their subject choices. This would have allowed the research to determine those factors within the attitudinal items which contribute to their response to this item. This would allow for a regression analysis to be conducted.

Secondly, the length of time available for the study limited the scope of the research. It would have been beneficial to include the data obtained from the teacher surveys to compare the thoughts and feelings of the teachers in response to this issue on subject options for the HSC within their schools. Time also limited the type of research that was able to be carried out. It would have been interesting to have conducted a longitudinal study on each year level to see what students attitudes were like as they moved through the HSC and what they accomplished post secondary. From this, trends would have been seen amongst the two clusters.

Finally, the students from one school in Year 10 were not permitted to participate in the study due to concerns regarding students' current feelings and attitudes relating to subject choices. Hence, it is likely that the loss of these responses may have limited the study.

Recommendations for Further Study

After the completion of this research it is evident that these issues of subject options and subject choices for the HSC are a large issue for students and there are many areas that need addressing and analysing to ensure students are receiving the best possible guidance and support.

There are several areas that could be pursued as a result of this study. These include:

- What guidance do students in Seventh-day Adventist schools receive when choosing subjects for the HSC in light of their post-secondary aspirations?

- What are the views of Seventh-day Adventist teachers in relation to the subject options that are available at their schools for the HSC? Do teachers feel their school is meeting the philosophy of Christian education?

- What factors contribute to students leaving school prior to the HSC and during it? What can be done to cater for these students?

Concluding Statement

In light of the findings of the study, it is evident that the majority of students in Seventh-day Adventist schools are generally satisfied with their subject options and subject choices. It is understood that there are a minority of students who indicate a practical orientation and who have some concerns with the issue of subject options. Thus, schools need to make it their responsibility to ensure that they are constantly aware of student satisfaction levels in relation to subject options and choices and act accordingly. By doing this, schools will ensure they are

catering for students needs and desires in a holistic manner which is in keeping with the philosophy of Seventh-day Adventist education.

References

American Psychological Association, (2001), *Publication Manual of the American Psychological Association*. Fifth Edition. Washington, D.C. American Psychological Association.

Australian Council For Educational Research. (2002) *Literacy and the Competencies* Retrieved 22/10/02, from http://www.gu.edu.au/school/cls/clearinghouse /1995competencies/content12.html

Avondale High School. (2003). *Avondale School Prospectus 2003*. p. 9. NSW: Avondale School.

Berdie, D. Anderson, J. Niebuhr, M. (1986). *Questionnaires: Design and Use*. Second Edition. London: The Scarecrow Press, Inc.

Bowes, J. & Hayes, A. (2002). *Children, Families, and Communities: Contexts and Consequences*. Melbourne: Oxford University Press.

Brady, L. & Kennedy, K. (1999). *Curriculum Construction*. Sydney: Prentice Hall.

Cadwallader, E. (1951). *Principles of Education in the Writings of Ellen G. White.* Payson Arizona: Leaves- of- Autumn Books.

Central Coast Adventist School. (2003). *Prospectus*. (p.7). Central Coast Adventist School.

Department of Education. (1999). *Education Handbook*. Wahroonga. NSW: South Pacific Division.

Doherty, L. (2002). *HSC Pupils Get Practical and Ditch Mathematics*. Retrieved 24/6/03. http://www.Smh.com.au/articles/2002/10/20/1034561389125.html October 21 2002.

Earl, L. & Fopp, R. (1999). *Introduction to Australian Society: A Sociological Overview*. Sydney: Harcourt Brace and Co.

Education/1, (2003), Principles and Philosophy, Chapter 29. Retrieved 22/09/03 from file://A:\Chapter 29 Education-1 - Principles and Philosophy.htm

Ewert, A. & Sibthorp, J. (2000). Multivariate analysis is experiential education: exploring the possibilities. *The Journal of Experimental Education*, 23 (2), p. 108 – 117.

Fox, D. J. (1970). *The Research Process in Education*. New York: Holt, Rinehart & Winston.

Harvey-Beavis, A. et al. (2000). *Views and Influences. Tertiary education, secondary students and their advisers*. Australia: Department of Education Training and Youth Affairs.

Hill, B. (1982). *The Implementation of the Educational Philosophy of Avondale High School.* Centre for Curriculum Studies in Education.

Holistic Education Network of Tasmania. (2003).Holistic Education Network. *What is Holistic Education?* Holistic Education Network of Tasmania, Australia. Retrieved: 31/10/2003 http://members.iinet.net.au/~rstack1/intro2.htm

Kerlinger, F. (1979). *Behavioural research: A conceptual approach*. Second Edition. New York: Holt Rinehart and Winston.

Kline, P.(1994). *An easy guide to factor analysis.* London: Routledge.

Knight, G. (1989). *Philosophy & Education. An Introduction in Christian Perspective*. 2nd Edition. Berrien Springs, Michigan: Andrews University Press.

Loehlin, J. (1998). *Latent variable models: An introduction to factor, path and structural analysis*. New Jersey: Lawrence Erlbaum Associates, Publishers.

Macquarie College, (2003) *Macquarie College Handbook*. p.13. Wallsend NSW.

MACQT (2002) *Vocational Courses in NSW Schools: History. Retrieved 22/10/03* http://www.det.nsw.edu.au/reviews/macqt/voca06.htm

Middleton, M. (1986). *Making the Future: The Role of Secondary Education in Australia.* ACT. Australia: Canberra Publishing Co.

Neuman, L. (2000). *Social Research Methods: Qualitative and Quantitative Approaches*. Fourth Edition. Sydney: Allyn and Bacon..

NSW Department of Education and Training. (2002). *NSW Public Schools: Strategic Directions 2002 – 2004.* Retrieved 25/10/02. http://www.dse.nsw.edu.au/ direction/strategy2002-04.php.

Roy, D. (2003). *Towards Wholeness. The Special Character of Seventh-day Adventist Education.* Adventist Schools Australia. Australian Union Conference of the Seventh-day Adventist Church.

Schools Commission. (1980). *Schooling for 15 and 16 Year Olds*. Canberra: Union Offset Co. Pty. Ltd.

Seventh-day Adventist Philosophy of Education. Policy FE05, FE10. General Conference Policy Manual (2003). pp. 221-228. Retrieved 21/09/03 from http://circle.adventist.org/browse/?browse_node=170

South Pacific Division of the Seventh-day Adventist Church: (2000*). South Pacific Division Working Policy 2000.* Australasian Conference Association. Ltd.

SPSS Inc. (1990). *SPSS Reference Guide*. Netherlands, SPSS International B.V.

Tippet, H. (1952). *Seventh-day Adventist People of the Book*. Washington, D.C. Review and Herald Publishing Association.

Trent, Faith. (2002). Perspectives from the frontline – what do the learners say*? Journal of the HEIA*. Vol 9, No 2, 2002.

Tucker, J. (2001). Pedagogical Application of the Seventh-day Adventist Philosophy of Education. *Journal of Research on Christian Education*. Vol.10, Special Education pp. 309 – 325. Andrews University.

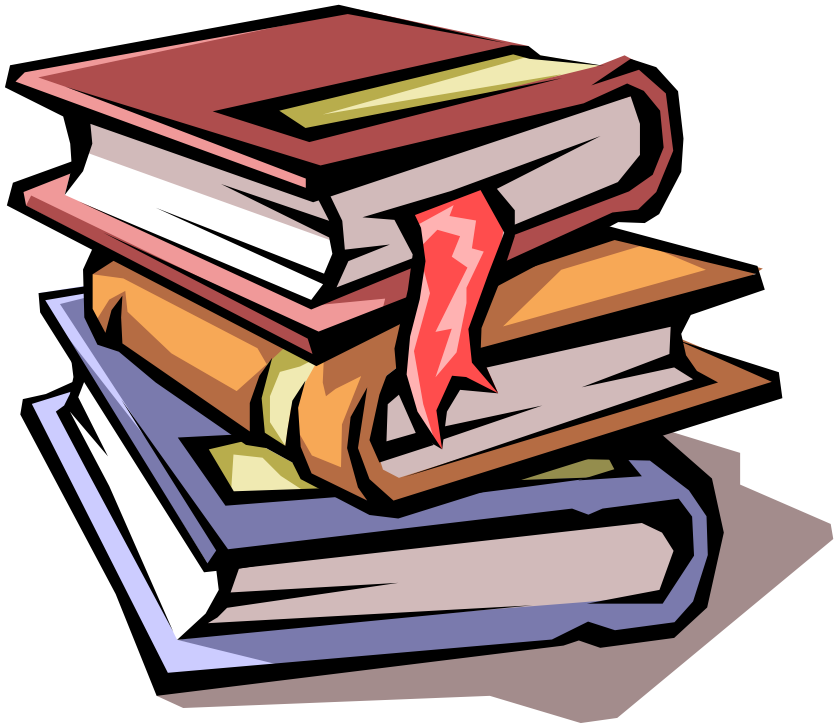
White, E.G. (1903). *Education.* Mountain View California: Pacific Press Publishing Association.

Whiteley, S & Porter, J. (1999). *Student Perceptions of Subject Selection: Longitudinal Perspectives From Queensland Schools*. Brisbane: Tertiary Entrance Procedures Authority. http://www.qsa.qld.edu.au/research/tepa/researchpubs/studperdepsub selectlongperspects.pdf

Wilkinson, D. (2000). *The Researcher's Toolkit: The Complete Guide To Practitioner Research*. London: RoutledgeFalmer.

Wood, L. (1957). *The Seventh-day Adventist System of Education in New Zealand, Its Philosophy, Background, Development and Present Position*. Auckland University College.

APPENDICIES



APPENDIX 2.1

Seventh-day Adventist Philosophy of Education

Policy FE05, FE10

Premises

Seventh-day Adventists, within the context of their basic beliefs, acknowledge that:
•God is the Creator and Sustainer of the entire universe—animate and inanimate.
•God created perfect human beings in His own image with power to think, to choose, and to do.
•God is the source of all that is true, good, and beautiful, and has chosen to reveal Himself to humankind.
•Humans, by their own choice, rebelled against God and fell into a state of sin that has separated them from God and each other, affecting the entire planet and plunging it into the cosmic conflict between good and evil. In spite of this, the world and human beings still reveal, albeit dimly, the goodness and beauty of their original condition.
•The Godhead met the problem of sin through the plan of redemption. This plan aims to restore human beings to God's image and the universe back to its original state of perfection, love, and harmony.
•God invites us to choose His plan of restoration and to relate to this world creatively and responsibly until He intervenes in history to bring about the new heavens and the new earth that is promised in His Word.

Philosophy

The Seventh-day Adventist philosophy of education is Christ-centered. Adventists believe that, under the guidance of the Holy Spirit, God's character and purposes can be understood as revealed in the Bible, in Jesus Christ, and in nature. The distinctive characteristics of Adventist education—derived from the Bible and the writings of Ellen G. White—point to the redemptive aim of true education: to restore human beings into the image of their Maker.

Seventh-day Adventists believe that God is infinitely loving, wise, and powerful. He relates to human beings on a personal level, presenting His character as the ultimate norm for human conduct and His grace as the means of restoration.

Adventists recognize, however, that human motives, thinking, and behavior have fallen short of God's ideal. Education in its broadest sense is a means of restoring human beings to their original relationship with God. Working together, homes, schools, and churches cooperate with divine agencies in preparing learners for responsible citizenship in this world and in the world to come.

Adventist education imparts more than academic knowledge. It fosters a balanced development of the whole person—spiritually, intellectually, physically, and socially. Its time dimensions span eternity. It seeks to develop a life of faith in God and respect for the dignity of all human beings; to build character akin to that of the Creator; to nurture thinkers rather than mere reflectors of others' thoughts; to promote loving service rather than selfish ambition; to ensure maximum development of each individual's potential; and to embrace all that is true, good, and beautiful.

Aim and Mission

Adventist education prepares students for a useful and joy-filled life, fostering friendship with God, whole-person development, Bible-based values, and selfless service in accordance with the Seventh-day Adventist mission to the world.

General Conference Policy Manual (2003), pp. 221-228 (Education – Departmental Policies: FE 05, FE 10).

Agencies of Education

Home

The home is society's primary and most basic educational agency. Parents are the first and most influential teachers and have the responsibility to reflect God's character to their children. Moreover, the whole familial setting shapes the values, attitudes, and worldview of the young. The church and the school, along with society's other educational agencies, build on and supplement the work of the home. It is imperative that the home, in turn, supports the educational work of the school.

Local Church

The local church also has a major assignment in the lifelong educational enterprise. The congregation as a community of faith provides an atmosphere of acceptance and love in which it disciples those within its sphere of influence in a personal faith in Jesus Christ and in a growing understanding of the Word of God. This understanding includes both an intellectual aspect and a life of conformity to God's will.

School, College, and University

All levels of Adventist schooling build on the foundation laid by the home and church. The Christian teacher functions in the classroom as God's minister in the plan of redemption. The greatest need of students is to accept Jesus Christ as personal Savior and commit to a life of Christian values and service. The formal and non-formal curricula help students reach their potential for spiritual, mental, physical, social, and vocational development. Preparing students for a life of service to their family, church, and the larger community is a primary aim of the school.

World Church

The world Church at all levels has oversight responsibility for the healthy functioning of learning in all three of the above venues, including lifelong learning. With reference to the school as an educational agency, its functions are ideally accomplished by institutions established by the Church for that purpose. The Church at large should make every effort to ensure that all Adventist children and youth have the opportunity to attend an Adventist educational institution. Realizing, however, that a large percentage of the Church's youth are not enrolled in Adventist schools, the world Church must find ways to achieve the goals of Adventist education through alternative means (e.g., after-school church-based instruction, church-sponsored centers on non-Adventist campuses, etc.).

The Role of Seventh-day Adventist Schools, Colleges and Universities

The agencies of Adventist education listed above are in place and operative. The remaining sections of this document develop implications of the Adventist philosophy of education only for schooling. Implications for other agencies remain to be developed.

Key Components

The Student

As a child of God, the student is the primary focus of the entire educational effort and should be loved and accepted. The purpose of Adventist education is to help students reach their highest potential and to fulfill God's purpose for their lives. Student outcomes constitute a significant guiding criterion in assessing the health and effectiveness of the school.

The Teacher

The teacher holds a central place of importance. Ideally, the teacher should be both a committed Adventist Christian and an exemplary role model of the Christian graces and professional competencies.

Knowledge

All learning is grounded on faith in a certain set of presuppositions or worldview. The Christian worldview recognizes a supernatural as well as a natural order. Adventists define knowledge more broadly than that which is merely intellectual or scientific. True knowledge encompasses cognitive, experiential, emotional, relational, intuitive, and spiritual elements. An acquisition of true knowledge leads to understanding, which is manifested in wisdom and appropriate action.

Curriculum

The curriculum will promote academic excellence and will include a core of general studies needed for responsible citizenship in a given culture along with spiritual insights that inform Christian living and build community. Such citizenship includes appreciation for the Christian heritage, concern for social justice, and stewardship of the environment. A balanced curriculum will address the major developmental needs in the spiritual, intellectual, physical, social, emotional, and vocational realms. All areas of study will be examined from the perspective of the biblical worldview within the context of the Great Controversy theme, as it promotes the integration of faith and learning.

Instruction

The instructional program of the classroom places appropriate emphasis on all forms of true knowledge, purposefully integrating faith and learning. Instructional methodology will actively engage the needs and abilities of each student, giving opportunity to put what is learned into practice, and be appropriate to the discipline and to the culture.

Discipline

Discipline in a Christian school is built upon the need to restore the image of God in each student and recognizes the freedom of the will and the work of the Holy Spirit. Discipline—not to be confused with punishment—seeks the development of self-control. In redemptive discipline, the student's will and intelligence are engaged.

School Life

A blended emphasis of worship, study, labor, and recreation, and relationships will characterize the total learning environment, with careful attention given to balance. The campus community will be pervaded by joyful spirituality, a spirit of cooperation, and respect for the diversity of individuals and cultures.

Assessment

The Adventist school, college, or university gives clear evidence that it subscribes to an Adventist philosophy of education. Such evidence is found in the written curriculum, in teaching and learning activity, in the campus ethos, and by the testimony of students, graduates, constituents, employees, and the community at large. Assessment-whether of individuals or institutions-is redemptive in nature and always seeks God's high ideal of excellence.

Responsibilities and Outcomes

The Seventh-day Adventist Church has made a commitment to provide a broad education and spiritual formation for its children, youth, and young adults within the context of the Christian worldview. The Church extends this same opportunity to other children and youth of the community who share similar values and ideals. Adventist education seeks to maintain academic excellence in all teaching and learning activities.

Elementary Schools

The Adventist elementary school offers students (1) a climate in which they can understand God's will, commit their lives to Him, and experience the joy of helping others; (2) an organized program leading toward spiritual, physical, mental, social, and emotional development; (3) a basic core of skills and knowledge for everyday living appropriate to their age; (4) a wholesome appreciation and respect for the home, the church, the school, and the community.

Students completing the elementary level at an Adventist school should—
•Have had the opportunity to commit their lives to God through conversion, baptism, service, and a desire to do God's will in every area of living.
•Demonstrate competence in thinking, communication, and quantitative skills, along with other academic areas foundational to schooling at the secondary level.
•Manifest interpersonal skills and emotional growth necessary for healthy relationships with their peers, family, and community.
•Know and practice basic principles of health and balanced living, including a wise use of time and entertainment media.
•Develop an appreciation for the dignity of labor along with a general awareness of career options appropriate to their interests and God-given abilities.

Secondary Schools

The Adventist secondary school builds on what has been achieved at the elementary level with a focus on values, choices, and Christ-like character. It offers students (1) a formal and informal curriculum in which academic study, spiritual values, and daily life are integrated; (2) a broad academic and vocational program leading to productive living and satisfactory career choices; (3) avenues where-by Christian faith is made relevant to their emerging needs, leading to more mature relationships with others and with God; and (4) an opportunity to develop a Christian lifestyle of values, service, and witness.

Students completing the secondary level at an Adventist school should—
•Have had an opportunity to commit their lives to God and therefore manifest a maturing faith in Him characterized by personal devotion, public worship, and service and witness to others in fulfillment of the Church's mission.
•Demonstrate competence in communication, quantitative skills, and creative thinking, along with other academic areas that are foundational to excellence in tertiary education and/or the world of work.
•Demonstrate maturity and Christ-like sensitivity within the family circle, in the choice of friendships, in preparation for marriage, and in broad anticipation within their church and community.
•Make good decisions and wise choices in ways that demonstrate their belief in the body as a temple of God. This includes careful use of time and discriminating selection of music, media, and other forms of entertainment.
•Have developed a strong work ethic, functioning competently in everyday life as well as within entry-level work experiences appropriate to their interests and God-given abilities.

Tertiary Institutions

Adventist institutions of higher education provide students a unique environment needed in pursuit of learning in the arts, humanities and religion, sciences and various professions, within the perspective of the Adventist philosophy of education and spiritual commitment. Adventist higher education (1) gives preference to careers that directly support the mission of the Church; (2) recognizes the importance of the quest for truth in all its dimensions as it affects the total development of the individual in relation both to God and to fellow human beings; (3) utilizes available resources such as revelation, reason, reflection, and research to discover truth and its implications for human life here and in the hereafter, while recognizing the limitations inherent in all human endeavors; (4) leads students to develop lives of integrity based upon principles compatible with the religious, ethical, social, and service values essential

to the Adventist worldview; (5) fosters—particularly at the graduate level—the mastery, critical evaluation, discovery and dissemination of knowledge, and the nurture of wisdom in a community of Christian scholars.

Students completing the tertiary level at an Adventist institution should—
•Have had the opportunity to commit themselves to God and therefore live a principled life in accordance with His will, with a desire to experience and support the message and mission of the Seventh-day Adventist Church.
•Exhibit proficiency in critical thinking, stewardship, creativity, appreciation of beauty and the natural environment, communication, and other forms of academic scholarship toward fulfillment of their vocations and lifelong learning.
•Manifest social sensitivity and loving concern for the well-being of others in preparation for marriage and family life, citizenship within a diverse community, and fellowship within the community of God.
•Maintain a consistent lifestyle that demonstrates a commitment to optimal health practices essential to effective adult living. This includes careful use of time and discriminating selection of music, media, and other forms of entertainment.
•Answer God's call in the selection and pursuit of their chosen careers, in selfless service to the mission of the Church, and in building a free, just, and productive society and world community.

Lifelong Learning

Education goes beyond formal schooling. Lifelong learning should meet the needs of both professionals and non-professionals. (1) Among professional responsibilities are opportunities for continuing education for certification and career enrichment for educators, clergy, business and health-care personnel, and others. (2) In the non-professional realm, opportunities exist for programs in such areas as local church leadership, family life, personal development, spirituality, Christian growth, and service to the church and the community. Programs need to be developed that utilize both traditional teaching techniques and extension learning though media technology. Formal schooling combines with the other agencies of education in preparing the student "for the joy of service in this world and the higher joy of wider service in the world to come."

2000 –2003,, Curriculum and instruction resource Center Linking Educators, http://circle.adventist.org accessed 21/9/03

APPENDIX 2.2

The subject options available within the four schools involved in this study and their line-up.

School 1

Subject Options for Year 11 and Year 12 2003

Year 11

Religious Studies

English Standard / English Advanced

Design& Technology / History / Geography

CAFS / PDHPE / IPT / Maths Extension / English Extension

Chemistry / IT / Hospitality / Visual Arts

Biology / Business Studies / Legal Studies / Physics

Maths General / Maths / Food Tech

Aviation Studies

Year 12

Religious Studies

English Standard / English Advanced

Design & Technology / Chemistry / Legal Studies / Visual Arts

Physics / Hospitality / Information Technology / Biology

Community & Family Studies / Geography / Information Processes & Technology / History

PDHPE / Business Studies / Maths and / or English Extension / Photography

Maths General / Maths

Aviation Studies

(School 1 Prospectus. 2003. p 9)

School 2

Subject Options for Year 11 and Year 12 2003

Religious Studies

English Standard/ English Advanced

Mathematics General / Mathematics Advanced / Community and Family Studies

Economics / Modern History / PDHPE / Physics
Biology / Business Studies / Food Technology / Technics

Ancient History / Chemistry / Computer Processors and Technology / Art

English Extension 1 / Maths Extension 1 / Fundamentals of English / TAFE

(School 2 Prospectus. 2003. p 7)

"Years 11 and 12 have access to a range of subjects that suit both the Tertiary bound students as well as those looking at non-university options following high school. Tuesday afternoons are set aside for years 11 and 12 students to choose one of four options that recognise the diverse academic goals students have:

Option 1: 3 Unit Maths Option 2: Extension English

Option 3: Practical Writing Skills Option 4: TAFE"

(School 2 Prosptectus 2003. p 7)

School 3

Subject Options for Year 11 and Year 12 2003

Students are required to choose one subject from each group below, making a minimum total of 12 units. The numbers in brackets indicate unit values for each subject.

Year 11 –

Studies of Religion (1 Unit) / (2 Unit)

Advanced English / Standard English

Mathematics / General Mathematics

Extension Mathematics

Chemistry / Business Studies / Design & Technology / PDHPE

Biology / Geography

Physics / History or Hospitality

Year 12-
Students are required to choose one subject from each group below, making a minimum total of 10 units. The numbers in brackets indicate unit values for each subject.

Studies of Religion (1 Unit) / (2 Unit)

Advanced English / Standard English

Mathematics / General Mathematics

Extension Mathematics

Chemistry / History / Design & Technology

Physics / Visual Arts / Business Studies

Biology / Geography / Information Technology

New subject Hospitality

(School 3. Handbook. 2003. p. 13)

School 4

Subject Options for Year 11 and Year 12 2004

Bible (1 unit)

Advanced English (2 unit)

Maths (2 Unit)

Biology/Business Studies (both 2 Unit)

Physics/PDHPE (2 Unit)

Computing/VET Hospitality (2 Unit)

Marine Studies/Advanced Maths (both 1 Unit)

Student must study 12 units in Year 11 but may drop down to 11 units in Year 12. This can be done by dropping line 7 or increasing Maths or English to 3 unit and dropping a 2 unit subject all together. (School 4, School handbook)

APPENDIX 2.3

The Hobart Declaration (1989)

Common and Agreed Goals for Schooling in Australia

Ten national goals for schooling provide a framework for cooperation between schools, states, Territories and the commonwealth. The goals are intended to assist schools and school systems to develop specific objectives and strategies, particularly in the areas of curriculum and assessment.

1. To provide an excellent education for all young people, being one which develops their talents and capacities to full potential, and is relevant to the social, cultural and economic needs of the nation.

2. To enable all students to achieve high standards of learning and to develop self-confidence, optimism, high self-esteem, respect for others and achievement of personal excellence.

3. To promote equality of education opportunities, and to provide for groups with learning requirements.

4. To respond to the current and emerging economic and social needs of the nation, and to provide those skills which will allow students maximum flexibility and adaptability in their future employment and other aspects of life.

5. To provide a foundation for further education and training, in terms of knowledge and skills, respect for learning and positive attitudes for life-long education.

6. To develop in students:
    a. The skills of English literacy, including skills in listening, speaking, reading and writing;
    b. Skills of numeracy, and other mathematical skills;
    c. Skills of analysis and problem solving;
    d. Skills of information processing and computing;
    e. An understanding of the role of science and technology in society, together with scientific and technological skills;
    f. A knowledge and understanding of Australia's historical and geographical context;
    g. A knowledge of languages other than English;
    h. An appreciation and understanding of, and confidence participating in, the creative arts;
    i. An understanding of, and concern for, balanced development and the global environment; and
    j. A capacity to exercise judgement in matters of morality, ethics and social justice

7. To develop knowledge, skills, attitudes and values which will enable students to participate as active and informed citizens in our democratic Australian society within an international context.

8. To provide students with an understanding and respect for our cultural heritage including the particular cultural background of Aboriginal and ethic groups.

9. To provide for the physical development and personal health and fitness of students, and for the creative use of leisure time.

10. To provide appropriate career education and knowledge of the world of work, including an understanding of the nature and place of work in our society.

Providing a sound basis for a collaborative effort to enhance Australian schooling, the agreed national goals will be reviewed from time to time, in response to the changing needs of Australian society.

APPENDIX 2.4

National Goals of Adelaide Declaration (1999)

1. Schooling should develop fully the talents and capacities of all students. In particular, when students leave schools they should:

- Have the capacity for, and skills in analysis and problem solving and the ability to communicate ideas and information, to plan and organise activities and to collaborate with others
- Have qualities of self-confidence, optimism, high self-esteem and a commitment to personal excellence as a basis for their potential life roles as family, community and workforce members
- Have the capacity to exercise judgement and responsibility in matters of morality, ethics and social justice, and the capacity to make sense of their world, to think about how things got to by the way they are, to make national and informed decisions about their own lives and to accept responsibility for their own actions
- Be active and informed citizens with an understanding and appreciation of Australia's system of government and civic life
- Have employed related skills and an understanding of the work environment, career options and pathways as a foundation for, and positive attitudes towards, vocational education and training, further education, employment and life-long learning
- Be confident, creative and productive users of new technologies, particularly information and communication technologies, and understand the impact of those technologies on our society
- Have an understanding of, and concern for, stewardship of the natural environment, and the knowledge and skills to contribute to ecologically sustainable development
- Have the knowledge, skills and attitudes necessary to establish and maintain a healthy lifestyle, and for the creative and satisfying use of leisure time.

2. In terms of curriculum, students should have:

Attained high standards of knowledge, skills and understanding through a comprehensive and balanced curriculum in the compulsory years of schooling encompassing the agreed eight key learning areas:

- The arts;
- English;
- Health and physical education;
- Languages other than English;
- Mathematics;
- Science;
- Studies of society and environment;
- Technology;
- And the interrelationships between them

- Attained the skills of numeracy and English literacy; such that, every student
- should be numerate, able to read, write, spell and communicate at an appropriate level.
- Participated in programs of vocational learning during the compulsory years and have access to vocational education and training programs as part of their senior secondary studies.
- Participated in programs and activities which foster and develop enterprise skills, including those skills which will allow them maximum flexibility and adaptability in the future.

3. Schooling should be socially just, so that:

- Students' outcomes from schooling are free from the effects of negative forms of discrimination based on sex, language, culture and ethnicity, religion or disability; and of differences arising from students' socio-economic background or geographic location
- The learning outcomes of eduction disadvantaged student improve and, over time, match those of other students

- Aboriginal and Torres Strait Islander students have equitable access to, and opportunities in, schooling so that their learning outcomes improve and, over time, match those of other students
- All students understand and acknowledge the value of Aboriginal and Torres Strait Islander cultures to Australian society and possess the knowledge, skills and understanding to contribute to and benefit from, reconciliation between Indigenous and non-Indigenous Australians
- All students understand and acknowledge the value of cultural and linguistic diversity, and possess the knowledge, skills and understanding to contribute to, and benefit from, such diversity in the Australian community and internationally
- All students have access to high quality education necessary to enable the completion of school education to year 12 or its vocational equivalent and that provides clear and recognised pathways to employment and further education and training.

APPENDIX 2.5

Seventh-day Adventist Educations Systems Goals and Objectives

Primary Goal

The primary goal of the Seventh-day Adventist school is to promote a redemptive relationship between each student and Jesus Christ and Facilitate spiritual growth through the provision of an environment in which Christian nurture may take place.

Objectives

The objectives of Seventh-day Adventist education are derived from its underlying philosophy and are directed toward the achievement of the primary goal. The link between the Christian world view and the objectives of the school become evident in the following statements:

1. Because we believe in a personal God who is central to the reality of the universe and who is the source of all truth and Christian values, students will be encouraged to:

    - Recognise God as the source of guidance and direction throughout life;
    - Search for knowledge and truth through the ways God has chosen to communicate to man, namely, general and special revelation;
    - Demonstrate an internalisation of Christian doctrine, faith and practice: and
    - Evaluate knowledge, concepts, ideas and standards against those expressed by God;

2. Because we believe tis world, although out of harmony with the rest of God's universe as a result of sin, will be restored to its original harmony and perfection, students will be encouraged to:

    - Recognise the need for a personal Saviour, accept the sacrifice of Christ and develop a continuing relationship with Him;
    - Develop Christian character and integrity through a conversation experience mediated by the Holy Spirit;
    - Develop spiritual sensitivity and awareness;
    - Establish the habit of daily devotions incorporating prayer and Bible study;
    - Share Jesus Christ as the solution to human problems; and
    - Strive for academic excellence and find pleasure in learning.

3. Because we believe man was originally made in God's image; a unity of body mind and spirit: endowed with intellect, emotion and the power of choice, students will be encouraged to:

    - Recognise the close relationship between body, mind and spirit
    - Recognise the love and acceptance of God as an indication of one's worth;
    - Incorporate a biblically based value system into the lifestyle;
    - Accept that the redemptive work of Jesus Christ imbues all men with infinite worth and is, therefore, the basis for healthy interpersonal relationships;
    - Develop skills and abilities to their fullest extent and search for knowledge and understanding in the basic branches of learning;
    - Establish principles of healthful living for the continuing maintenance of physical, mental and spiritual well being;
    - Nurture the ability to distinguish between right and wrong and foster the desire to choose the right at all times; and
    - Establish a healthy balance between work and recreation.

4. Because we believe that man's appreciation of beauty and his innate creativity are God given, yet marred by sin, students will be encouraged to:

    - Appreciate beauty as a portrayal of God's activity in the world;

- Improve the capacity to enjoy and create works of artistic value;
- Appreciate the creative abilities are a gift from God and as such, should contribute to harmonious personal development;
- Understand that human creativity exists to glorify God and bring peace to fellow man;
- Develop personal criteria, based on the biblical model, by which beauty may be evaluated and appreciated; and
- Accept responsibility for both the character and the consequences of what they have created.

5. Because we believe God's laws outline standards of ethical behaviour based on His character of love, students will be encouraged to:

    - Respect people of other religious and philosophical persuasions;
    - Engage in responsible citizenship as a moral obligation;
    - Demonstrate qualities such as kindness, empathy, courtesy, patience, humility, tolerance, generosity and helpfulness;
    - Recognise fair play and exhibit a positive attitude toward justice;
    - Demonstrate a commitment to Christian mission and engage in acts of service to mankind to alleviate human suffering and frustration;
    - Participate in and find fulfilment through co-operative group activity; and
    - Prepare for the responsibility of leadership in the home, church, community and the nation.

D.E.C. 5.91

Department of Education 1999. Education Handbook. South Pacific Division. Wahroonga. NSW Pg 6-8

APPENDIX 3.1

Questionnaire on Course Options for HSC Students

This questionnaire asks you to describe your view about courses offered for HSC students at your school relating to academically oriented courses and practically orientated courses. Please be honest in your responses to make the information you provide useful for research.

DO NOT WRITE YOUR NAME, your responses are confidential and anonymous.

Return of this questionnaire indicates consent to participate in this study.

On the next page you'll find questions and statements relating to course options for HSC students at your school. For each question or statement on the questionnaire circle the option you think most applies to your school.

For example:

	POSSIBLE RESPONSES				
	Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
Are practically oriented HSC students well catered for at your school?	A	B	C	D	(E)

If you think that practically oriented HSC students are always catered for at your school, circle letter E on your sheet. If you think that practically oriented HSC students are never catered for at your school, circle A. You can also choose letters B, C, or D, which are in between.

If you want to change your answer after you've circled an option please place a cross through it and circle your final choice.

PLEASE ANSWER ALL QUESTIONS!

Once you are finished please return the completed questionnaire to the supervisor for mailing.

For the purpose of this survey it is necessary to define and differentiate practically oriented education and academically oriented education.

Practically oriented education involves learning practical skills aimed at providing the individual with life and work-related skills that apply to real life situations or to future employment. An example of a practical subject offered for the HSC is Design & Technology.

Academically oriented education involves learning with a high emphasis on the refinement of the intellect rather than the learning of skills. An example of an academic subject would be Chemistry.

THANK YOU FOR YOUR ASSISTANCE

Questionnaire on Course Options for HSC Students

PLEASE BEGIN

		POSSIBLE RESPONSES				
		Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
1.	If given the opportunity I would rather study Food Technology or Industrial Technology than Maths or English.	A	B	C	D	E
2.	All the subjects that I study are academically oriented.	A	B	C	D	E
3.	I am satisfied with the subject choices I have chosen for the HSC.	A	B	C	D	E
4.	I feel that I would rather not continue with Years 11 and 12 as the subjects that I am doing do not suit my future aspirations or needs.	A	B	C	D	E
5.	I would have better subject choices that suit my needs at another school which offers more practical subjects.	A	B	C	D	E
6.	My HSC subjects were chosen by my parents.	A	B	C	D	E
7.	I chose all my subjects for the HSC.	A	B	C	D	E
8.	I was limited in my subject choices by the limited range of subjects offered at my school.	A	B	C	D	E
9.	My teachers influenced my subject choices for the HSC.	A	B	C	D	E
10.	I chose my subjects for the HSC with the aim of further study at University.	A	B	C	D	E
11.	I was unable to choose the subjects I wanted to for the HSC due to the lack of practical subject options at this school.	A	B	C	D	E
12.	The cost involved in taking a practical subject was a factor in the subject choices I made for the HSC.	A	B	C	D	E
13.	I feel that if I study academic subjects I will receive high recognition.	A	B	C	D	E
14.	I feel that if I study practical subjects I will receive high recognition.	A	B	C	D	E
15.	I feel good about my choice of subjects.	A	B	C	D	E
16.	I chose my subject choices according to my aspirations for my future career.	A	B	C	D	E
17.	I perceive practical subjects to be easier than academic subjects.	A	B	C	D	E
18.	I remain at school even though the subjects do not suit my needs and future aspirations.	A	B	C	D	E
19.	I remain at school because the subjects suit my needs and future aspirations.	A	B	C	D	E
20.	I feel that I need more subject options for the HSC.	A	B	C	D	E

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
21. I have chosen practical subjects in order to meet the requirements of my preferred career.	A	B	C	D	E
22. It is my parents' choice that I remain at school in Years 11 and 12.	A	B	C	D	E
23. I chose my subjects to remain with my friends.	A	B	C	D	E
24. It is MY choice to remain at school in Years 11 and 12.	A	B	C	D	E
25. I have chosen academic subjects in order to meet the requirements of my preferred career.	A	B	C	D	E
26. I have chosen all the practical subjects available at this school.	A	B	C	D	E
27. I feel that academic subjects are rewarded more than practical subjects at my school.	A	B	C	D	E
28. I feel that practical subjects are of equal worth as academic subjects.	A	B	C	D	E
29. If given a choice I would rather go to TAFE than school.	A	B	C	D	E
30. I feel that compulsory subjects outlined for my year of schooling clash with the practical subject options that I would prefer to study.	A	B	C	D	E
31. For tertiary study I plan to go to University rather than TAFE.	A	B	C	D	E
32. I know what career and further study I want to follow after leaving school.	A	B	C	D	E
33. I don't know what career and further study I want to follow after leaving school.	A	B	C	D	E

The information given in this section is gathered for the purpose of statistical analysis only and will not in any way be used to identify you.

Age: _____

Gender: M / F

Year/Grade of schooling: (Please Circle One) 10 11 12

Subjects that you are currently taking: _____
_____
_____
_____
_____
_____

Once you are finished please return the completed questionnaire to the supervisor for mailing.
Thank you for your participation.

APPENDIX 3.2

Questionnaire on Course Options for the HSC Teachers Questionnaire

This questionnaire asks you to describe your view about courses offered for HSC students at your school relating to academically oriented courses and practically orientated courses. Please be honest in your responses to make the information you provide useful for research.

DO NOT WRITE YOUR NAME, your responses are confidential and anonymous.

Return of this questionnaire indicates consent to participate in this study.

On the next page you'll find questions and statements relating to course options for HSC students at your school. For each question or statement on the questionnaire circle the option you think most applies to your school.

For example:

	POSSIBLE RESPONSES				
	Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
Are practically oriented HSC students well catered for at your school?	A	B	C	D	(E)

If you think that practically oriented HSC students are always catered for at your school, circle letter E on your sheet. If you think that practically oriented HSC students are never catered for at your school, circle A. You can also choose letters B, C, or D, which are in between.

If you want to change your answer after you've circled an option please place a cross through it and circle your final choice.

PLEASE ANSWER ALL QUESTIONS!

Once you are finished please return the completed questionnaire to the supervisor for mailing.

For the purpose of this survey it is necessary to define and differentiate practically oriented education and academically oriented education.

Practically oriented education involves learning practical skills aimed at providing the individual with life and work-related skills that apply to real life situations or to future employment. An example of a practical subject offered for the HSC is Design & Technology.

Academically oriented education involves learning with a high emphasis on the refinement of the intellect rather than the learning of skills. An example of an academic subject would be Chemistry.

THANK YOU FOR YOUR ASSISTANCE

Questionnaire on Course Options for the HSC (Teachers)

PLEASE BEGIN

	POSSIBLE RESPONSES				
	Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
1. This school offers a wide range of practical subjects for the HSC?	A	B	C	D	E
2. This school offers a wide range of academic subjects for the HSC?	A	B	C	D	E
3. Academically oriented HSC students are well catered for at this school.	A	B	C	D	E
4. Practically oriented HSC students are well catered for at this school.	A	B	C	D	E
5. Practically oriented HSC students at this school would be better catered for at TAFE.	A	B	C	D	E
6. Practically oriented students are given suitable recognition for their achievements.	A	B	C	D	E
7. Academically oriented students are given suitable recognition for their achievements.	A	B	C	D	E
8. Practical subject choices for the HSC are limited at this school.	A	B	C	D	E
9. Students wanting to study practical subjects should not attend another school or TAFE because they are well catered for at this school.	A	B	C	D	E
10. Students who choose an academically oriented course are supported throughout their HSC.	A	B	C	D	E
11. Students choosing a practically oriented course are supported throughout their HSC.	A	B	C	D	E
12. There are adequate resources for academic subjects at this school.	A	B	C	D	E
13. There are adequate resources for practical subjects at this school.	A	B	C	D	E
14. Parents prefer their students to have an academic education.	A	B	C	D	E
15. This school has enough qualified teachers to offer a wide variety of practical subjects for the HSC.	A	B	C	D	E
16. This school offers a strongly academic program due to the demand from the community.	A	B	C	D	E
17. This school offers a strong practical program due to the demand from the community.	A	B	C	D	E

18. I feel that students subject choices are strongly influenced by their parents.	A	B	C	D	E
19. I feel that students subject choices for the HSC are strongly influenced by their peers.	A	B	C	D	E
20. I feel that students subject choices for the HSC are strongly influenced by the range of subjects offered at this school.	A	B	C	D	E
21. I feel that students subject choices for the HSC are strongly influenced by their teachers.	A	B	C	D	E
22. I feel that students subject choices for the HSC are strongly influenced by that students future career aspirations.	A	B	C	D	E
23. I feel that students take practical course options because they view them as an easier option than academic subjects.	A	B	C	D	E
24. I feel that the lack of subject choices for some students may influence their decision to leave school before completing the HSC.	A	B	C	D	E

Once you have finished the questionnaire, please return to the supervisor for mailing.
Thank you for your participation.

APPENDIX 3.3

Research Questions

1. Do students seeking academically oriented subjects report that they are adequately catered for in SDA schools?

2. Do students seeking practically oriented subjects report that they are adequately catered for in SDA schools?

3. What factors influence student subject choices in SDA schools?

4. Do students who take practical subjects in the HSC report the same sense of recognition as students taking academic subjects?

5. Are there any differences between the post secondary aspirations of the Academically oriented and the practically inclined students?

APPENDIX 3.4

AVONDALE COLLEGE

HUMAN RESEARCH ETHICS (HRE) COMMITTEE

PRINCIPLES OF ETHICAL CONDUCT

Reference

National Health and Medical Research Council. (1999). *National Statement on Ethical Conduct in Research Involving Humans*. Canberra: (pp. 11-14).

Copies of this book are available in the libraries: Cooranbong Campus – Call No. 174.28N21; Wahroonga Campus – Call No. 18.2/NHMR/1999.

The following section is Commonwealth of Australia copyright reproduced by permission, from the above source.

The primary purpose of this Statement of ethical principles and associated guidelines for research involving humans is the protection of the welfare and rights of participants in research. The ethical and legal responsibilities which researchers have towards participants in research reflect basic ethical values of integrity, respect for persons, beneficence and justice. The responsibilities set out below accord with accepted moral and scientific principles set out in declarations, conventions and guidelines listed in Appendix 1. The principles in 1. Principles of Ethical Conduct are intended to apply to the interpretation and the use of all subsequent parts of this Statement.

INTEGRITY, RESPECT FOR PERSON, BENEFICENCE AND JUSTICE

1.1 The guiding value for researchers is integrity, which is expressed in a commitment to the search for knowledge, to recognised principles of research conduct and in the honest and ethical conduct of research and dissemination and communication of results.

1.2 When conducting research involving humans, the guiding ethical principle for researchers is respect for persons which is expressed as regard for the welfare,

rights, beliefs, perceptions, customs and cultural heritage, both individual and collective, of persons involved in research.

1.3 In research involving humans, the ethical principle of beneficence is expressed in researchers' responsibility to minimise risks of harm or discomfort to participants in research projects.

1.4 Each research protocol must be designed to ensure that respect for the dignity and well being of the participants take precedence over the expected benefits to knowledge.

1.5 The ethical value of justice requires that, within a population, there is a fair distribution of the benefits and burdens of participation in research and, for any research participant, a balance of burdens and benefits. Accordingly, a researcher must:

(a) avoid imposing on particular groups, who are likely to be subject to over researching, an unfair burden of participation in research;
(b) design research so that the selection, recruitment, exclusion and inclusion of research participants is fair, and
(c) not discriminate in the selection and recruitment of actual and future participants by including or excluding them on the grounds of race, age, sex, disability or religious or spiritual beliefs except where the exclusion or inclusion of particular groups is essential to the purpose of the research.

1.6 The proportion of burdens to benefits for any research participant will vary. In clinical research, where patient care is combined with an intent to contribute to knowledge, the risks of participation must be balanced by the possibility of intended benefits for the participants. In other research involving humans that is undertaken solely to contribute to knowledge, the absence of intended benefits to a participant should justly be balanced by the absence of all but minimal risk.

CONSENT

1.7 Before research is undertaken, whether involving individuals or collectivities, the consent of the participants must be obtained, except in specific circumstances defined elsewhere in this Statement [see paragraphs 1.11, 6.9, 14.4, 15.8, 16.13].

(a) provision to participants, at their level of comprehension, of information about the purpose, methods, demands, risks, inconveniences, discomforts, and possible outcomes of the research (including the likelihood and form of publication of research results); and

(b) the exercise of a voluntary choice to participate.

Where a participant lacks competence to consent, a person with lawful authority to decide for that participant must be provided with that information and exercise that choice.

1.8 A person may refuse to participate in a research project and need give no reasons nor justification for that decision.

1.9 Where consent to participate is required, research must be so designed that each participant's consent is clearly established, whether by a signed form, return of a survey, recorded agreement for interview or other sufficient means.

In some circumstances and some communities, consent is not only a matter of individual agreement, but involves other properly interested parties, such as formally constituted bodies of various kinds, collectivities or community elders. In such cases the research needs to obtain the consent of all properly interested parties before beginning the research.

1.10 The consent of a person to participate in research must not be subject to any coercion, or to any inducement or influence which could impair its voluntary character.

1.11 It is ethically acceptable to conduct certain types of research without obtaining consent from participants in some circumstances, for example, the use of de-identified data in epidemiological research, observational research in public places, or the use of anonymous surveys. [See 14. Epidemiological Research and

17. Research Involving Deception of Participants, Concealment or Covert Observation.]

1.12 A participant must be free at any time to withdraw consent to further involvement in the research. If any consequences may arise from such withdrawal, advice must be given to participants about these before consent to involvement in the research is obtained.

RESEARCH MERIT AND SAFETY

1.13 Every research proposal must demonstrate that the research is justifiable in terms of its potential contribution to knowledge and is based on a thorough study of current literature as well as prior observation, approved previous studies, and where relevant, laboratory and animal studies.

1.14 All research proposals must be so designed as to ensure that any risks of discomfort or harm to participants are balanced by the likely benefit to be gained.

1.15 Research must be conducted or supervised only by persons or teams with experience, qualifications and competence appropriate to the research. Research must only be conducted using facilities appropriate for the research and where there are appropriate skills and resources for dealing with any contingencies that may affect participants.

ETHICAL REVIEW AND CONDUCT OF RESEARCH

1.16 Research projects involving humans must be reviewed by a Human Research Ethics Committee (HREC) and must not be undertaken or funded unless and until approval has been granted.

1.17 A researcher must suspend or modify any research in which the risks to participants are found to be disproportionate to the benefits and stop any involvement of any participant if continuation of the research may be harmful to that person.

1.18 The results of research (whether publicly or privately funded) and the methods used should normally be published in ways which permit scrutiny and contribute to public knowledge. Normally, research results should be made available to research participants.

1.19 Where personal information about research participants or a collectivity is collected, stored, accessed, used, or disposed of, a researcher must strive to ensure that the privacy, confidentiality and cultural sensitivities of the participants and/or the collectivity are respected. Any specific agreements made with the participants or the collectivity are to be fulfilled.

1.20 Where the records and results of research contain information of clinical significance it is the responsibility of both the researcher and the institution or organisation to maintain the security and storage of records and results so as to enable any necessary follow-up studies to be carried out.

1.21 Where research is conducted in an overseas country under the aegis of an Australian institution or organisation, the research must comply with the requirements of this Statement as well as the laws and guidelines of that country.

APPENDIX 3.5

Avondale College
Human Research Ethics Committee
Letter of Approval

[redacted]

Avondale College
CHRISTIAN HIGHER EDUCATION

Avondale College
Human Research Ethics Committee

24/3/2003

Juanita Harder
Avondale College

RE: Soft Options or Practical Reality? A study of practical course options for HSC students in SDA Schools in NSW.

Dear Juanita,

Your research application was considered and discussed at a meeting of the Human Research Ethics Committee (HREC) today.

As a result of that meeting, your research proposal has been approved.

Best wishes for your research,

Ewan Ward
Secretary
Human Research Ethics Committee

582 Freemans Drive PO Box 19 Cooranbong NSW 2265 Australia Telephone 02 4980 2222 Facsimile 02 4980 2118
Australasian Conference Association Limited ACN 000 003 930

DEGREES WITH A CAREER FOCUS

APPENDIX 3.6

Permission Letter From SDA NNSW Conference Education Director

SEVENTH-DAY ADVENTIST CHURCH

North New South Wales Conference
ABN 42 885 958 158

112 Lake Road (PO Box 7)
Wallsend, NSW 2287 Australia
Telephone: (02) 4951 8088
Facsimile: (02) 4950 1102
Email: nnsw.conf@adventist.org.au

16 June 2003

Miss Juanita Harder
C/- Avondale College
P O Box 19
COORANBONG NSW 2265

Dear Juanita

Re: Honours Research – Adventist Schools in North NSW Conference

Thank you for the faxed material which was received 13 June 2003. This material was forwarded to Mrs Marilyn Hansen. She has passed the material to me for comment.

We are happy for you to go ahead and contact our four schools who have HSC students. You will need to communicate with the Principals of the schools as follows:

SCHOOL DETAILS REMOVED

I will be communicating with the Principals to inform them that you will be in contact with them with a request to conduct the research.

I would like to take this opportunity to wish you every success in your program.

Yours sincerely

Peter Michalski
Education Director

.ew

APPENDIX 3.7

Letter Requesting Permission to distribute the Questionnaires
Education Director Of The SDA NNSW Conference.

13 June 2003

Dear [redacted],

The following information is concerning the honours research that I wish to conduct on the schools in the North New South Wales conference relating to course options for HSC students. The following information is sent to you to give you an understanding of my research to gain your support and backing.

The following documents have been sent accompanying this letter for your information:

- The Application For Approval Of Research Using Human Subjects Form,
- A letter from the Avondale College Human Research Ethics Committee approving my research.
- A letter from Malcolm Coulson verifying my enrolment in the Honours program in Education at Avondale College.
- A cover letter that will be sent to the schools that participate in the research
- Instructions for administering the student and teacher questionnaire and
- Copies of the student and teacher questionnaires.

Please feel free to comment on any matter that you feel needs to be addressed. Your input is most welcome.

Thank you for your time and consideration.

Yours Sincerely

Harder

Juanita Harder

APPENDIX 3.8

Letters requesting numbers of students within schools to be surveyed.

[redacted]

Avondale College
CHRISTIAN HIGHER EDUCATION

18 June 2003

[redacted]

Dear [redacted],

Thank you for your willingness to participate in a study that investigates course options for HSC students in SDA schools in the North NSW Conference. To ensure the smooth running of the questionnaire process could you please fill in the following information and send it by fax to Juanita Harder (c/-The Avondale Education Department) Fax No. [redacted].

The number of Student Questionnaires required for Year 10: _____
The number of Student Questionnaires required for Year 11: _____
The number of Student Questionnaires required for Year 12: _____

The number of Teacher Questionnaires required for teachers who teach Years 10, 11 and 12: _____

If you feel that there is any additional information that I need to know concerning your school or the questionnaires please inform me of this in the following section:

_____
_____
_____

If you would like some feedback from this research please indicate using a tick: ___

The questionnaires should only take a maximum of 10 minutes to complete. Accompanying the questionnaires are instructions to help administer them. Could you please appoint a supervisor to administer the Year 10, 11 and 12 questionnaires, as well as the teacher questionnaire to ensure that they are carried out under controlled conditions. Please return the completed questionnaires by the 3rd of July, 2003.

I will forward the copies of the questionnaires to you as soon as I have received the faxed information as outlined above.

Thank you for your consideration in this matter. If you have any questions do not hesitate to call me on [redacted].

Yours Sincerely

JHarder

Juanita Harder

582 Freemans Drive PO Box 19 Cooranbong NSW 2265 Australia Telephone 02 4980 2222 Facsimile 02 4980 2118
Australasian Conference Association Limited ACN 000 003 930

DEGREES WITH A CAREER FOCUS

APPENDIX 3.9

Instructions for Administering the Student Questionnaire

This survey is expected to take a maximum of 10 minutes from beginning to end.

Please ensure that all students from years 10, 11 and 12 fill out the questionnaire.

The following instructions are provided to help you administer the questionnaire.

1. Read the Instructions on the front of the questionnaire to the students who will be taking part in the research.
2. Please remind students that all questions need to be answered and that they need to be honest in their responses for the information to be useful for research.
3. Ensure that students gain an understanding of the difference between practically oriented education and academically oriented education by reading the definitions on the cover sheet of the questionnaire.
4. Hand out questionnaires to all students involved.
5. Please ask the students not to talk about their answers to others while taking part in this exercise to ensure the validity of the answers.
6. Allow students to begin the questionnaire.
7. Monitor student progress and clarify any questions the students may have.
8. Collect questionnaires as students complete them and place in the envelope provided.
9. Return to administration for mailing.
10. Thank You For Your Participation. Your Effort Is Appreciated!!

Instructions for Administering the Teacher Questionnaire

This survey is expected to take a maximum of 10 minutes from beginning to end.

Please ensure that all teachers fill in the questionnaires provided.

The following instructions are provided to help you administer the questionnaire.

11. Hand out questionnaires to all teachers available.
12. Allow them to read the instructions on front of the questionnaire.
13. Please remind teachers that all questions need to be answered and that they need to be honest in their responses for the information to be useful for research.
14. Collect questionnaires as soon as the teachers have complete them and place in the envelope provided.
15. Return to administration for mailing.

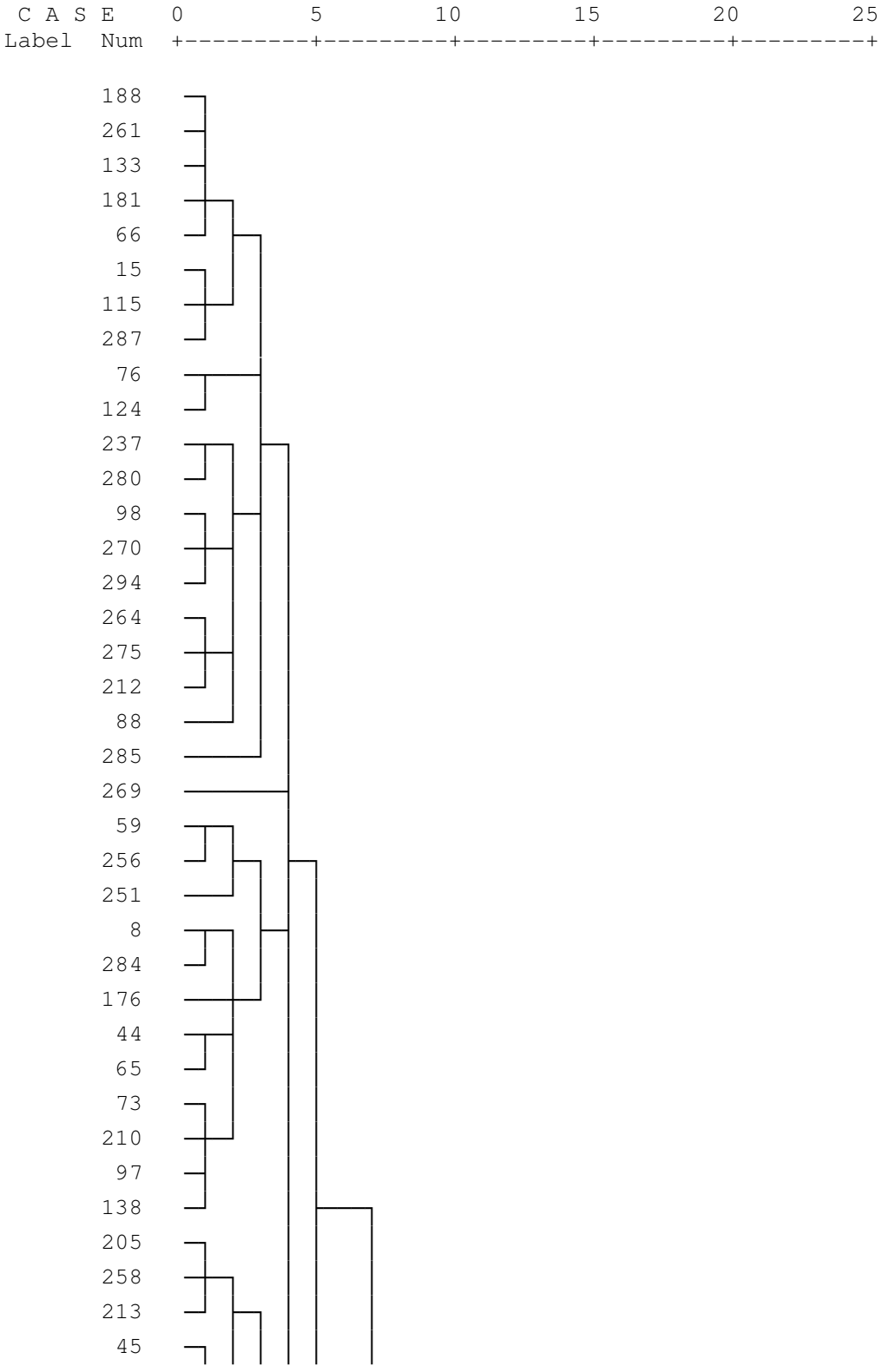
Thank You For Your Participation. Your Effort Is Appreciated!!

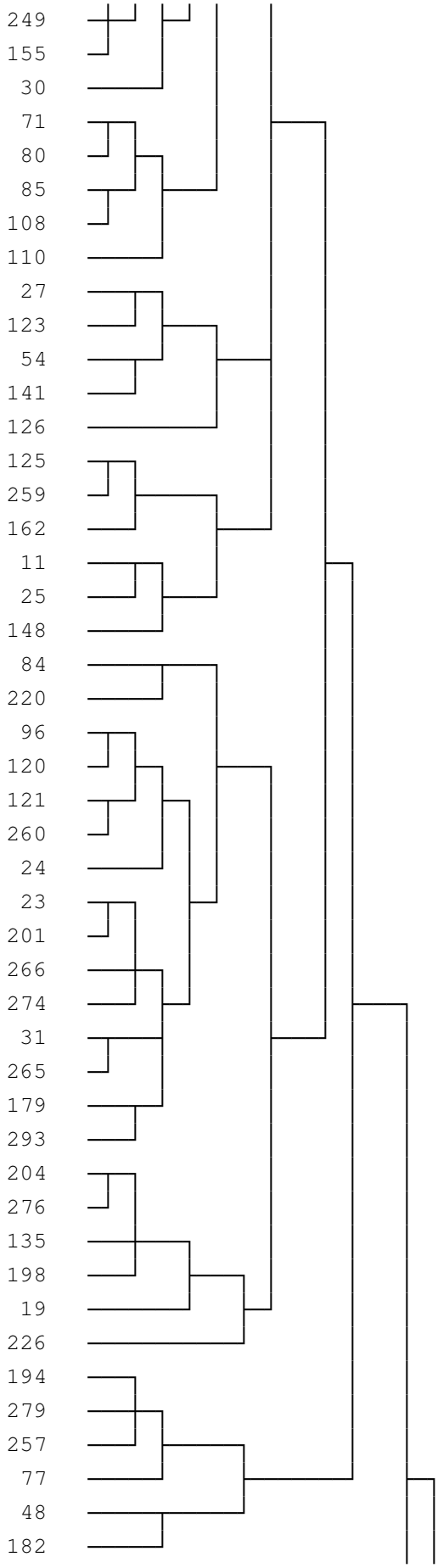
APPENDIX 4.1

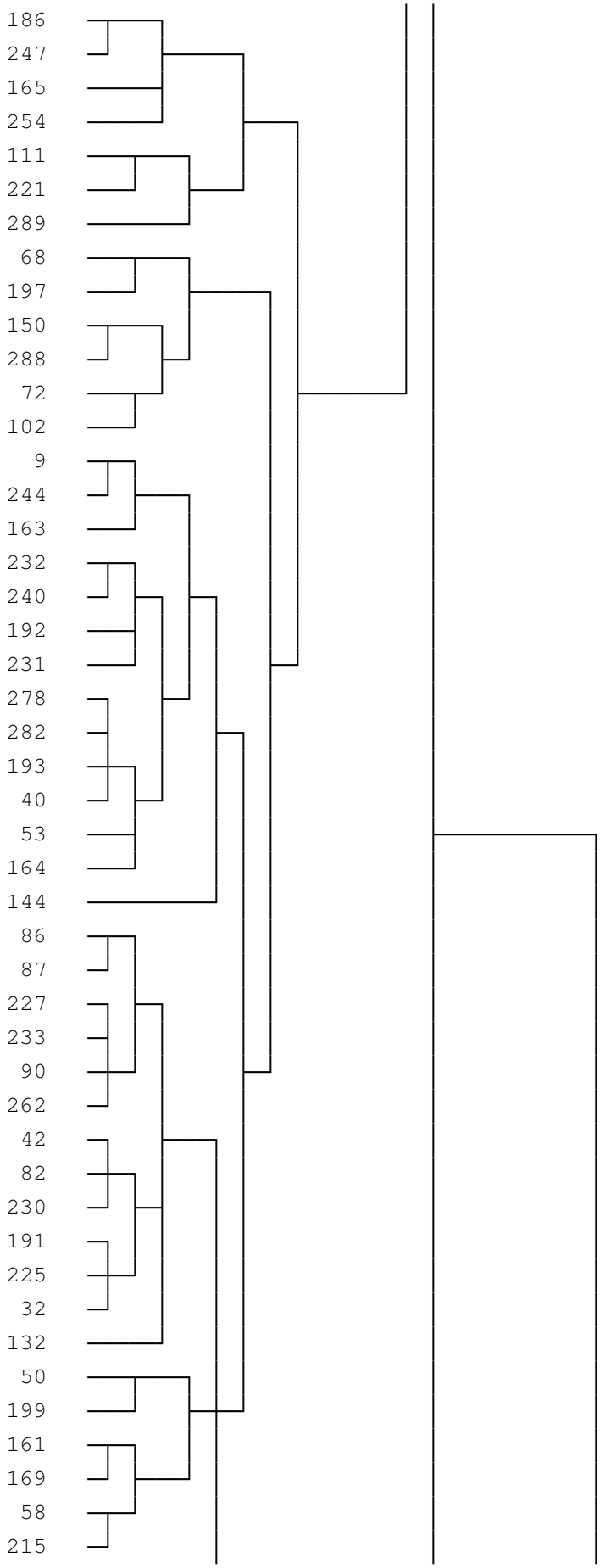
H I E R A R C H I C A L C L U S T E R A N A L Y S I S

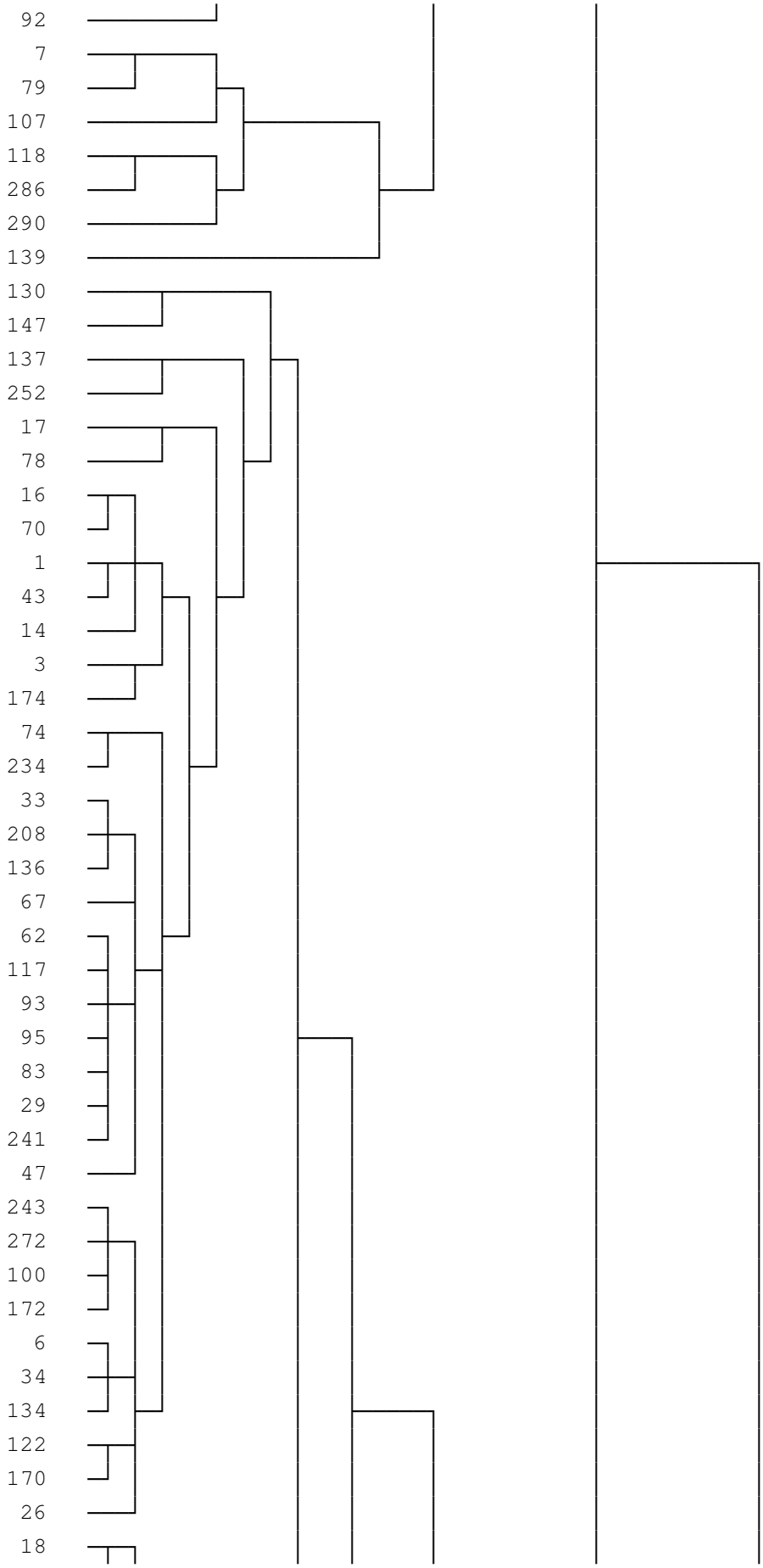
Dendrogram using Average Linkage (Between Groups)

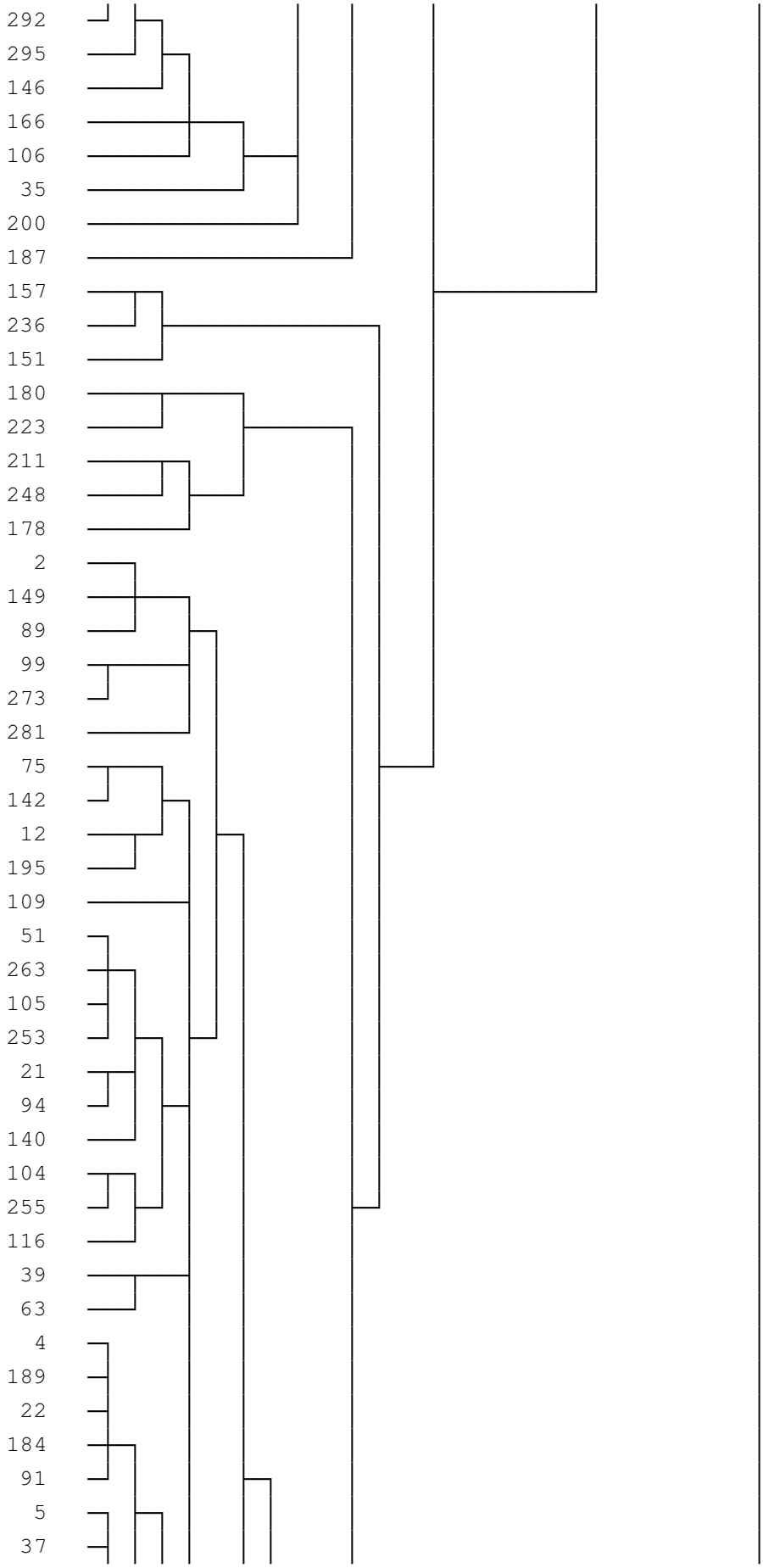
Rescaled Distance Cluster Combine

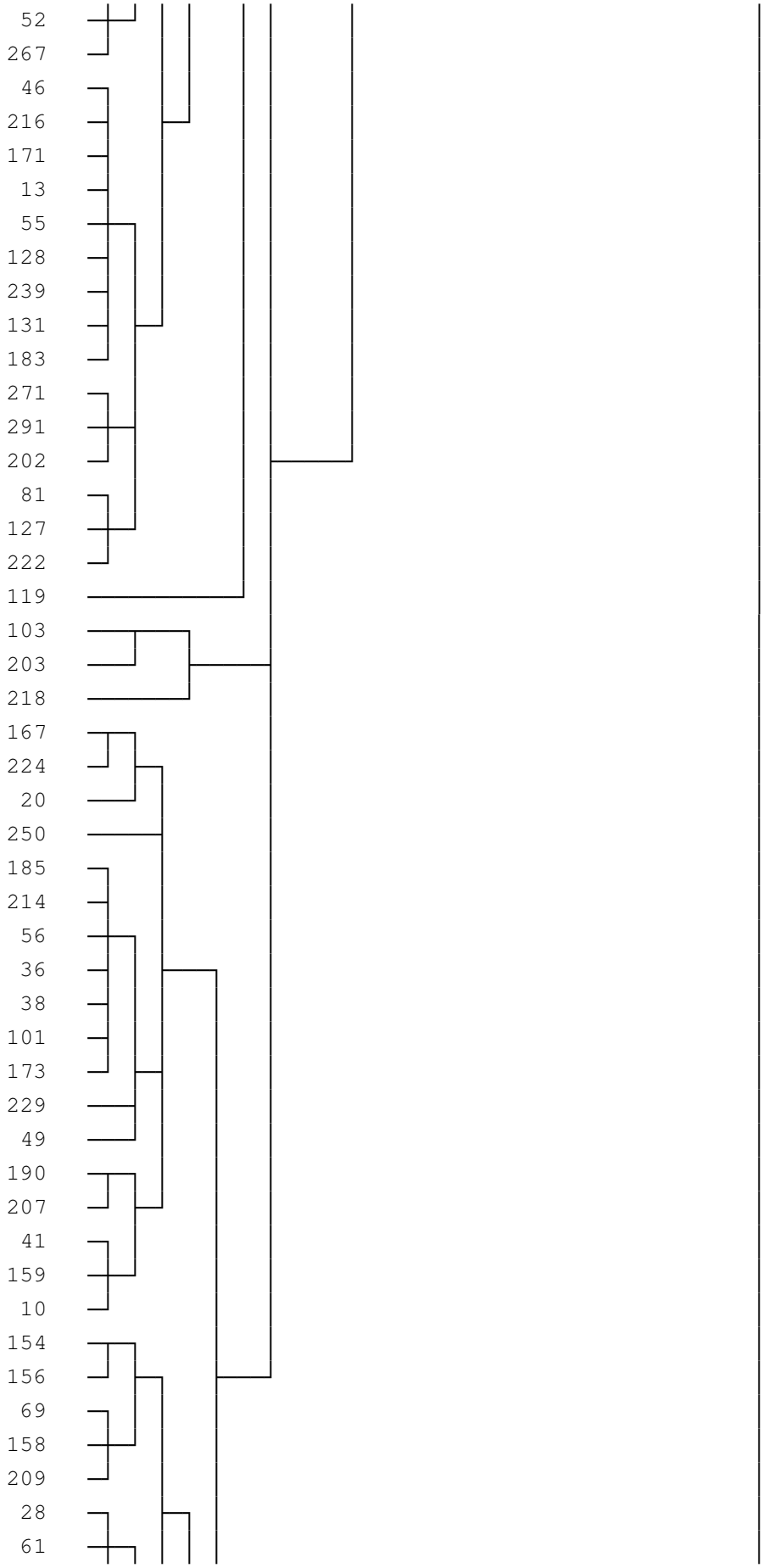


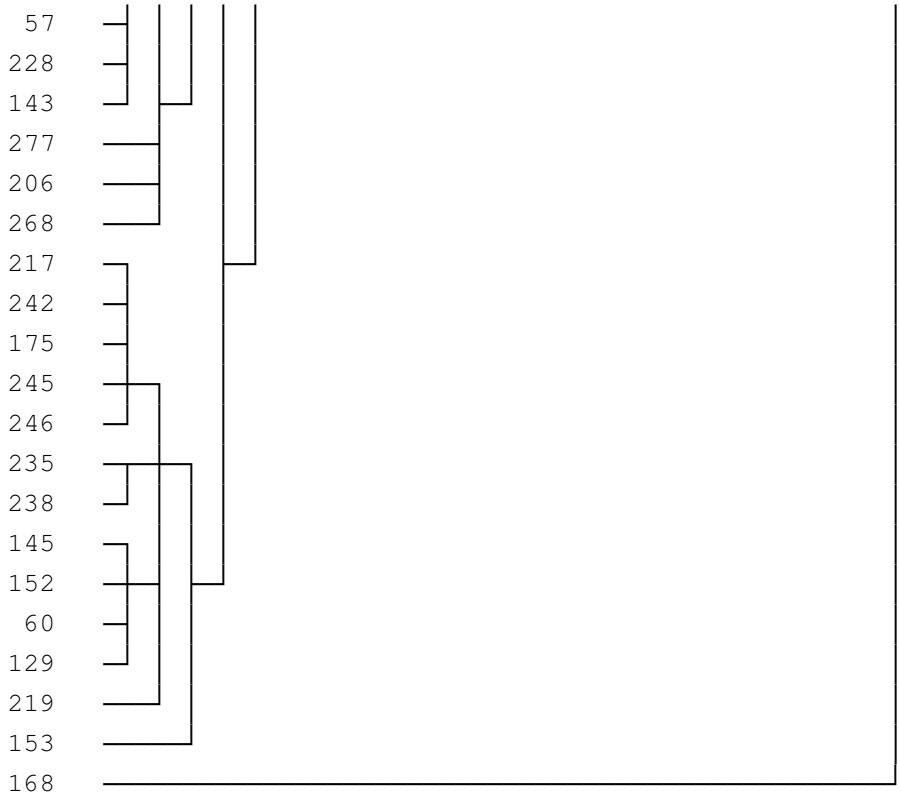

249
155
30
71
80
85
108
110
27
123
54
141
126
125
259
162
11
25
148
84
220
96
120
121
260
24
23
201
266
274
31
265
179
293
204
276
135
198
19
226
194
279
257
77
48
182


186
247
165
254
111
221
289
68
197
150
288
72
102
9
244
163
232
240
192
231
278
282
193
40
53
164
144
86
87
227
233
90
262
42
82
230
191
225
32
132
50
199
161
169
58
215


92
7
79
107
118
286
290
139
130
147
137
252
17
78
16
70
1
43
14
3
174
74
234
33
208
136
67
62
117
93
95
83
29
241
47
243
272
100
172
6
34
134
122
170
26
18


292
295
146
166
106
35
200
187
157
236
151
180
223
211
248
178
2
149
89
99
273
281
75
142
12
195
109
51
263
105
253
21
94
140
104
255
116
39
63
4
189
22
184
91
5
37


52
267
46
216
171
13
55
128
239
131
183
271
291
202
81
127
222
119
103
203
218
167
224
20
250
185
214
56
36
38
101
173
229
49
190
207
41
159
10
154
156
69
158
209
28
61


57
228
143
277
206
268
217
242
175
245
246
235
238
145
152
60
129
219
153
168