CHAPTER FOUR - CASE STUDY: CONTEXT

Introduction

The research literature in Chapter two details some important influences as to why students select the subjects they do for the senior years of schooling. Findings suggest that students stay at school longer, choose a wider selection of courses than ever, are constrained by the system in which the school operates and are influenced directly and indirectly by a number of inter-related factors such as gender, ethnicity, future options, and the entry requirements for tertiary institutions. This research seeks to gain a further understanding of these variables through the study of a particular cohort of students in a comprehensive state high school. It is in the context of the school that the complexity of subject choice is best addressed. In case study research the findings can be used to assist in developing and guiding future policy and practice within the school. It is for these reasons that the case study was chosen as it provides a depth of understanding of the school and the students it serves. The focus for the case study is the process of subject selection for the senior years of schooling by a particular cohort of students. The case study was undertaken in a comprehensive high school which has, in recent years, attempted to respond in a proactive manner to the various policy directions mentioned in Chapter two (see pp. 22-26). The following details the nature of the school, how it has responded to policy changes and the process the school uses in supporting student subject selection for the senior school.

Background

The school is located in Northern NSW and having been established for a considerable time has built up a strong tradition and pride in promoting excellence, its comprehensive nature and its ability to serve the needs of its students and the wider school community. The school is one of a number of secondary schools in the town.

Staff and Student Profile

The majority of the staff at the school are very experienced. There is also an increasing number of younger teachers coming into the school as the school grows,

staff leave to take transfers or promotion and staff retire. The annual turnover of staff is low which means that there is a great deal of continuity, for example with the process of curriculum development and subject selection and timetabling. The staff are self critical of their practice and seek to develop new and better strategies for their teaching. This has been evident in the number of staff training and development days devoted to teaching and learning practices and curriculum development.

In 1996 there were 950 students enrolled in the school. This was the largest student population that the school has had for fifteen years. Enrolments in the mid 800's had been typical. The student population is reasonably stable, although through the years 7-12, there appears to be quite large changes to the cohorts in terms of individual students but the overall number in each year doesn't change very much. For example, of the 25 students enrolled in year 10 in 1996, which constituted the research group, in the first 14 weeks of the 1997 year 13 students had left and 11 newly enrolled. These changes reflect the mobility of the student population with students changing schools, both within the town and coming to town from outlying areas. This has traditionally been the major inflow of extra students into the senior school as the smaller outlying schools have not been able to provide the curriculum breath of a larger school. Secondly, students leave to get work, take up apprenticeships and/or go to TAFE. As a number of students work part time while at school the attraction of full time employment and independence can take them away from school. A more detailed profile of the research group is presented in Chapter Five.

The traditional view of the school has been where students start at 9:00 am and finish at 3:30 pm, children live in a home that is caring and supportive until they finish school at the end of year 12 and that the school will provide the necessary information for students to get work or get into further education and/or training. That view has changed dramatically. The school day starts at 8:00 am and goes to 5:00 pm for a number of senior students. More students work part time, some because they want the pocket money, some because of the experience, and some because they have to support themselves as they are not living at home. Some

students are working up to 20 hours per week. A noticeable consequence of students working part-time is that a number leave during year 11, as mentioned above (Executive minutes, 1997). A concern is that the amount of part time work can have an affect on the quality of HSC that a student may receive. This concern was expressed publicly for the first time by the school Principal in 1997 to senior students and their parents (HSC Without Tears, 1997).

Response to Government and Education Policy

The release of *Excellence and Equity* (MEYA, 1989), the Carrick Report (Carrick, 1989) and the Scott Report (1989) in NSW and the Finn (1991), Mayer (1992) and Carmichael (1992) Reports at a federal level have influenced the process of change at the school in recent years. The influence of policy documents and the needs of the community have been carefully considered by the school through executive and staff meetings before decisions were made as to which way to proceed. The school has attempted to embrace the intention of the recent federal reports as well as making sure that the mandatory requirements of the curriculum are met as determined by the Board of Studies (1996) and the Department of School Education (MEYA, 1989). The following questions arose from discussions on the reports and the school, through various staff forums, reflected on them in an attempt to make the practice of education in the school better.

1. What is the most appropriate curriculum that the school can provide in order to cater for the needs of all students?
2. How should teaching and learning practices be organised to meet these needs?
3. What resources are necessary to cater for the needs of students and the community?
4. How should the school be organised to cater for the increasing diversity of students entering the senior years of schooling?

A major aim of the school is to provide for the needs of *all* students (Staff Handbook, 1993, 7). At present the school has a retention of 95% into the senior school from year 10 (School records, 1996-7). With the high retention rate of

students into the senior school it is necessary to provide courses that are relevant to the diverse student population and that provide articulation to further education, training and work. The school offered 58 different courses (Appendix C) for year 10 students to select from in the senior school (School A, 1996). These included courses offered through the JSST program, Vocational Education and TRAC in addition those offered through the NSW Board of Studies. Not all of these courses finally became part of the curriculum for 1997 but offering them was an attempt to cater for the changing needs of students in the senior school. Of the 58 courses offered, 39 became part of the formal lines of the school with another 3 courses offered through Distance Education and the Open High School and another one available through the Saturday Community School. School A was not able to run some courses because not enough students chose the course. The cut off is eight students in the class in the senior school. This final decision rests with the Principal.

The curriculum offered to students for their selection doesn't come without a degree of contestation between heads of faculties as to which courses are to be given approval to run. This tends to be more pronounced for the Content Endorsed Courses (CEC's) which are considered, by some staff, to be of lesser importance in the overall curriculum package that students can choose. The thought that academic courses should or could suffer as a consequence of student choice causes some debate among the executive of the school. The reasoning is that the expertise for the academic courses is already within the school and that expertise should not be lost at the expense of other courses. On the other hand students are given a free choice of subject selection and with a growing diverse student population a broad selection of courses needs to be available to cater for the range of needs of students. Students can choose a traditional academic curriculum or a combination of courses from TAFE, Vocational Education, Open High School or Distance Education to cater for the post school pathway they believe is most appropriate for them. Certainly this is not an either/or decision for the students. Of the 1996 year 12, over 50% of the students were offered places at university after completion the of the HSC (UAC, 1996) suggesting that for a considerable number the traditional pathway is very important. Of the present year 12, 1997, all those seeking a TER (87.5% compared to 91.7% state wide in 1995, McGaw, 1997) indicated they

wanted a TER above 50. The perception is that 50 is a pass and is regarded as a percentage rather than a score. This is despite many years of discussing this with students, parents and the wider community through information evenings, written correspondence and the local media. The perception and the reality of the TER appear to be quite different.

Since 1991 there has been a concerted focus on teaching and learning practices within the school that relates to the policies developed by the Department of School Education in the early 1990's. The reorganisation of the Key Learning Areas as recommended by the Carrick Report (Carrick, 1989) and finally implemented under *Excellence and Equity* (MEYA, 1989: 17) required the school to rethink the way it structured the curriculum and how that curriculum was to be delivered. The reorganisation before and after 1992 is listed in Table 1 compared to the structure detailed in the *Excellence and Equity* (MEYA, 1989) report.

Table 1

Faculty and KLA organisation in the School

Pre 1992 - School	**Post 1992 - School**	**State KLA model**
English	English	English
Maths	Maths	Maths
Science	Science	Science
Social Science	Social Science	Human Society & its Environment
History	Cultural Studies (Incorporating Languages)	Modern & Classical Languages
Industrial Arts	Technology & Applied Studies	Technology & Applied Studies
Home Economics	Creative & Performing Arts (include. Art & Music)	Creative Arts
Administration (include. PE, Art and Music)	Life Studies (PE)	Personal Development, Health and Physical Education
	Special Education	

A major problem for School A with this new KLA structure and organisation is that it doesn't resemble the way the Department of School Education staffs its schools. This too is a major source of contention within the system as courses are developed using the statutory Board of Studies KLA's but the Department of School education still uses an older system for staffing. For example, the Home Economics faculty which is part of the Technology and Applied Studies KLA and doesn't exist for subject provision still exists for staffing purposes.

The implementation of the new KLA's into the school organisation was relatively easy and created little tension. In fact it allowed smaller faculty areas to have an equal say in the administration of the school through the executive. Previous to 1992 areas such as Art, Music and Physical Education which came under Administration did not have a specific 'voice' in the executive of the school. The post 1992 organisation seemed to be better for morale in these smaller departments. It has been suggested that this present structure has helped in the creation of positive school tone (Executive, 1997).

A second significant change in 1993 occurred in the school with the reorganisation of the timetable structure from a six day cyclic timetable to a ten day fixed timetable and extended the length of lessons to 50 minutes each. This served two purposes. The first was to assist in the delivery of a diverse range of courses that meant that the school started for some seniors at 8:00 am and finished at 5:00 pm. Three unit courses and courses, including JSST courses, that could not be organised on the timetable were timetabled outside normal school hours to cater for individual student needs. The second purpose was to assist in the change process of the teaching strategies within the school. A number of staff development days had been set aside to promote quality teaching, the recognition of different learning styles and the need to develop different teaching strategies to cater for the diverse range of students entering the senior school. By lengthening the lesson time it meant that different teaching strategies needed to be employed to maintain student interest and learning (Middelton, 1992).

This change to the timetable structure in the school did not come without considerable debate and the examination of alternative proposals. Within the ten day cycle alternative lesson lengths were explored such as 40 and 60 minute lessons and the implications for these on practical classes. Consideration was given to developing tutorials for senior students to support them in their learning and a partnership between the University of New England and the school saw the establishment of a Learning Centre for students to undertake private study, conduct small group discussions and tutorials and where students undertaking Distance Education courses could do their work. A vertical timetable structure was also considered by the Curriculum Committee (Cohen and Maxwell, 1985), staff at the school and the P & C Association. A major advantage of the structure was that it provided for greater flexibility of subject choice in the junior school (Middelton, 1992). The major disadvantage seen by staff, other than the monitoring of student progress, was that the senior curriculum was constrained by the rules governing the HSC by the Board of Studies. The school had to prepare students for the HSC. It was felt by staff that a vertical timetable reorganisation in the junior school, which gave a great deal of curriculum choice to students could not be easily continued into the senior curriculum and still meet all the Board of Studies mandatory requirements. Further, with the development of different pathways under the *Directions* (MEYA, 1993) document it was decided by the school staff that a vertical timetable was inappropriate for the school at that time.

Since then the various developments in JSST, vocational education, acceleration and Distance Education warranted looking at different structures. However, that has to be balanced against the amount of change that has already has happened in school A in the last few years. The staff, during faculty and staff meetings, had a long debate about a change to extending the lesson length from 40 to 50 minutes and fixing the days in the timetable (Executive and staff minutes, 1993). It was mentioned in passing by several staff members that any consideration of a further change would not be welcomed unless some very positive benefits could be proven to come from such a change. That doesn't mean that more flexibility can't be developed with that structure, but the structure is unlikely to change unless the McGaw (1997) recommendations forced the change to occur. In the intervening

time since the change in the timetable new subjects have been offered and fitted into the structure. These include Drama, Industry Studies - Hospitality and Metals / Engineering and Photography with discussions occurring about the inclusions of others such as Marine Studies. The junior school has an elective shared between years 7 & 8 that goes some way in supporting the philosophy of the vertical semester timetable proposal.

Although most staff have been willing to change, the feeling was that some did so begrudgingly because of the comments made at informal meetings of staff or at faculty meetings. Comments were made that they didn't want any further changes for a long time. Certainly many staff felt that the nature and job of teaching has changed and believed the role was more difficult. The reasons, mentioned by a number of teachers were the increased expectations from the community and the greater workload associated with the new education policies and practices, such as global budgeting. Further, with a changing student clientele in the senior school, there were more challenges for teachers to develop new strategies to provide a positive educational outcome for students. Over the past five years the staff at the school have reviewed, and made changes to the timetable and its philosophical approach to education with a view to finding ways of 'opening - up' the school to better serve the needs of students.

A review of the philosophical approach to education at School A came as a result of a discussion paper *Schools As Learning Communities* (DSE, 1995). The basis for the discussion was the suggestion that the fundamental and rapid changes occurring in society due to the explosion in information forces a reconsideration of the organisation of schools. Our images or mental models of schools may need to change if schools are to meet the challenges of the knowledge society of the 1990's (DSE, 1995: 2). The work of Costa (1987), Fullan (1993), Senge (1990) and Issacson and Bamburg (1992) and the arguments they presented were significant to prompt discussion on the direction that the school should be heading. The paper, *Schools As Learning Communities* (DSE, 1995) proposed a model depicting the key features of a learning community (Appendix F). This model became the focus for discussion at the executive level in the school to reassess core values and

beliefs, purposes, roles, organisation and practice (Executive minutes, 1995). At times this discussion was difficult but it paved the way for changes in practices that reflected the changing nature of the senior student population. One of the changes was to allow year 12 students to leave the school during non contact lessons.

To facilitate the change for students to leave the school during the day a model developed by Oxley Senior College in Brisbane was examined. Oxley College was established with a major purpose being to attract back to the education system students who were identified as being 'at risk' of failing to complete school and not find employment. They developed a process where students were given the opportunity to leave the school when they didn't have contact lessons in order to give the students some flexibility and independence in their schooling. It was also seen to be a crucial aid in teaching students to take responsibility for their own learning. In parallel to this process was a welfare related program of support for students who had problems meeting their commitments for their senior studies.

These factors were considered by the school and incorporated into the organisation of the senior program, that is, more flexibility with time in school and welfare support for students with concerns and problems. This was a major shift in emphasis for the school from the previous situation where students were expected to remain at school from 9:00 am to 3:30 pm.. However, it was realised by the staff and executive of the school that as the nature of the senior school population changed so the school had to reassess its values, purposes, organisation and practice within the school (Executive minutes, 1995). The changed organisation of the senior school catered for the various needs of students in relation to study and part time work and it also reinforced a belief that students needed to take responsibility for their own learning but the school had a responsibility to teach them how to do so effectively (Executive minutes, 1995).

Process of Subject Selection for the Senior School in 1996

The process for selecting subjects and setting timetable lines for the senior years of schooling that is undertaken within the school is very time consuming and requires the involvement of a lot of people in order to achieve the best possible outcome for

students. The structure of the process has developed over a number of years due to changes in education policy and Board of Studies rules, as well as an evaluation of the process by those people involved in an attempt to make the process more purposeful for students. Many of the factors in the process are similar to the model for subject choice that Johnston and Spooner (1992: 83-84) suggest. The school has developed a time line for the selection process which takes the whole of term three. The following details the process that takes place and some of the contestation that occurs at the time.

The first part of the process is to decide which subjects are to be offered to students. This can be a difficult process for the implementation of new courses as it attempts to maintain the expertise of particular teachers in their faculty areas while providing the most diverse curriculum as possible to meet the needs of all students. Considerations of staffing, rooming and resourcing the course are taken into account at this early stage. In the majority of cases the process is straight forward as preliminary discussions at a faculty level have generated the interest in developing the course. For instance, the introduction of Personal Development, Health and Physical Education in 1992 met all the above criteria and its inclusion has proved to be very popular. In 1996 it had the largest enrolment of any subject except English and Maths.

However, at times the decisions are not as straight forward. The following two examples illustrate some of the difficulties associated with the process of subject selection even before it becomes a choice of the students. Firstly, there was considerable discussion about the inclusion of 3/4 unit Science as well as providing Physics and Chemistry. The Science faculty argued that the course suited the needs of certain students, but with both Physics and Chemistry, staffing resources were limited and the decision finally made by the Principal was that 3/4 unit Science was not to be offered.

A second area that generated some debate was in relation to the inclusion of Industry Studies - Metals. This course is part of the vocational education curriculum and School A wanted to become increasingly involved in providing

such curriculum for its students A teacher was trained to teach the Industry Studies - Metals course but believed the standard of the course was too low, even though it is nationally accredited through VETAB (Vocational Education and Training Board) and decided he didn't want to teach the course any more. At the same time a non accredited course, Industrial Technology, was proposed by the same faculty and this course was promoted more vigorously to the students.

Associated with this problem at the school level is a directive from the Vocational Education Directorate of the Department of School Education for schools to promote Vocational Education courses. Further, School A has a significant commitment to the JSST program at TAFE. Therefore on one side is the push from the school with a philosophy to develop vocational education, opposed on the other side, by a faculty with vested interests in proposing courses they feel comfortable in teaching. It is not an easy problem for the school to solve as the teachers concerned have considerable influence over making the decision between one subject or other in that department.

The inclusion of Content Endorsed Courses (CEC's) has been difficult in the past but seems to becoming easier as staff see their popularity increase among the students and as CEC's are becoming more diversified around the various faculty groups. In the early stages they were seen as 'vegie' courses and 'add - ons' to the curriculum that students picked up as an extra unit to give them an easy interest subject. To some extent this is still seen as the case among some staff and students. Since their inclusion in 1989 their popularity has increased to a point where 17% of the year 10 students chose to undertake at least one unit of CEC's (School A, 1996). A further 23% of students chose a JSST course for 1997 (School A, 1996). The growing diversity of students in the senior school has seen the growth in the range of CEC's that suit the needs of those students not wishing to pursue a traditional academic curriculum.

The major concern was expressed by staff in relation to the JSST courses that the school offers during a Quality Assurance review (QA Report, 1993). To undertake JSST courses the students have to attend TAFE one session per week. Because the

courses are run in conjunction with other schools the students from School A have to miss classes to attend. The teachers found then and still find this difficult to accept, even after ten years of operation and other positive comments about the programme from the Quality Assurance team in 1993.

The decision about which courses to offer is discussed by the school. Once the decision is made faculties supply detail of the courses such as course content, and these are typed and printed, along with the Board of Studies rules governing the HSC, and given to year 10 students at the beginning of term three; six months before the senior course starts (see Appendix G). Thus the second phase of the process begins; supplying information and counselling.

Within this phase there is a number of inter-related factors. Firstly, the rules and details concerning prerequisite subjects for entry to tertiary courses are explained, along with the TER and its implications for students. This is done within Careers Education classes so students have an opportunity to ask questions and to look up courses they may be interested in following to gain a better insight into the subjects required. At this time the various pathways that students may follow are explained with examples given on how to achieve a similar outcome taking different education/training directions. Credit transfer provisions to TAFE are explained with examples so students, who have ideas about particular traineeships, can choose appropriate courses for themselves.

Previous to this, at the end of term two when year 10 students receive their mid year report, parents receive a letter informing them of an information evening to be held in the school to explain the senior years so they are better informed to assist their children. Also in this letter is an invitation to the parents and the students to make a time with the Careers Adviser to discuss subject choices. Less than twenty parents made specific interview times to discuss subjects and future course options.

Once students have had time to read, discuss and ask questions concerning the content and nature of the senior years they are then given an opportunity to meet with the heads of each faculty so the specific subjects can be explained or specific

questions can be answered. This is a source of contention in that some of the heads of faculties use this time to emphasise the prerequisite nature of the courses for tertiary study. The problem has occurred in the past where some of the information given to students is misleading such as in relation to prerequisite requirements for tertiary study. The concern was raised at a meeting of the school executive and for the current subject selection process the same problem has not occurred again.

The third phase of the process begins around week six of term three and is where students start to make initial choices. Students are given a list (Appendix C) of all the courses that are available to them for the following year, except English which is compulsory. In year 11 students have to choose courses to the value of either 10 or 11 units from this list giving them a total of 12 or 13 units including English of 2 units. Although the Board of Studies indicates that 11 units is the minimum required for the final two years of secondary school, the school has students select either 12 or 13 units in year 11. The reason is that the student has a greater flexibility with their final subject selection for year 12 or their HSC year. In choosing from this free choice students have to make sure that they fulfil the Board of Studies requirements of taking a course from KLA group 1 (Maths, Science or Technology) and from KLA group 2 (HSIE, LOTE, PDHPE, Creative Arts). Once this choice is completed the subjects and student names are processed by TTBLOKER (Buddle, 1985), a computer program, where a clash matrix of the subjects is generated. This matrix indicates how many students want to do particular courses and how they clash with other courses. At this point other decisions have to be made. The major one is which courses are going to be allowed to run given the result of the free choice of the students. In most cases the cut off number of students to run a class is eight but that has varied due to the nature of the subject, having the expertise in the school or the desire, by the school executive, to promote the course. The decision making process associated with which courses are to run is conducted in relation to the overall staffing operation and possible student enrolment for the whole school. This can take some time as the choices of subjects in the other years, namely 9 and 12, will have a bearing on the final outcome. Ultimately, the ability to run a course depends largely on the

staffing formula that the school is provided from the Department of School Education which is calculated on student enrolment.

From the clash matrix a draft set of lines for the timetable are developed based on minimising the number of students with courses clashing. For this school it is 6 full lines and one half line. The reason is that each 2 unit course has 8 lessons per 10 day cycle and 1 unit courses have 4 lessons in a cycle and this means that a student with 12 units has 48 lessons per cycle out of a possible 60. Out of that 60 lessons, 4 are allocated to sport and 2 are staff meetings. The maximum number of lessons available is 54. Therefore a student doing 13 units has a load of 52 lessons per cycle and 2 for private study. The reason that 2 unit courses have 8 lessons per cycle is based on the requirement from the Board of Studies (1996) that courses for 1997 be allocated 240 indicative hours over years 11 and 12. The consequence for students in the school is that the maximum number of units a student can study on the timetable is 13.

The development of the draft set of lines creates a time of discussion and negotiation with students concerning their subject preferences. The aim of the exercise is to come to some agreement, through negotiation and compromise, as to the best fit of the subjects on the lines. For some students this means changing some choices. For example, for the first time in 1996 economics was only selected by three students and therefore was not placed in the final set of lines. Those students had to choose again to find the necessary number of units they needed to fulfil HSC requirements. From the draft lines and discussion the final lines are developed (Appendix D). This usually means that line 1 is English, line 2 is Maths, line 3 has Physics in the line and line 4 has Chemistry in the line. It is very difficult for the school not to offer courses in this way when the universities still insist on prerequisite subjects for the study of certain courses at their institutions. This insistence, in recent years, has declined and in the school the impact of Physics and Chemistry has also diminished with students selecting a range of other courses outside of these. The number of students doing both these subjects represents 9% of the year. For the first time CEC's were placed into the main lines of courses rather than being confined to the /2 line as in previous years against 3 unit Maths.

This represented a change in attitude to the subjects as it meant that they were all given a degree of parity in the development of the lines.

After students have made their final choices the classes can be developed, and again based on a staffing formula, no class is to exceed 24 students. If so, more than one class has to be formed. These decisions are reviewed in relation to the whole school. In relation to staffing, a change to the formula for 1997 was the calculation of part time students in the overall staffing of the school. The previous agreement was that students who were enrolled in the school and did courses at TAFE or through Open High School and Distance Education were still counted as a full time enrolment in the school. From the beginning of the 1997 school year students who did less than 11 units at the school are counted as part time students; 11 units being the mandatory requirement to satisfy Board of Studies regulations. Therefore if a student did a JSST course or other units external to the school that makes their total units fall below 11 then the school is reduced in staffing by 0.06 per unit according to the formula set by the Department of School Education (DSE, 1997). This move by the Department of School Education appears to reduce the flexibility within the system to provide the range of curriculum that particular students may want. This is at a time when flexibility in curricula for the senior years of schooling is needed to support student retention. What the school could say to students is that they have to do at least 11 units at the school. Other units could be undertaken external to the school that would not affect staffing. This proposition has been expressed by a number of schools at Vocational Education and Training Network (VETNET) meetings in the district in the early part of 1997.

Once choices are made students do have the opportunity to change their subject selections. This usually occurs in the first term of year 11. There are dangers in this process which has to be managed by the school and does create a degree of frustration and angst for staff. In the past some students have made a change in their subject selection because of the teacher allocated to the class, whereas they initially chose the course for other reasons.

The place of Vocational Education

There has been a move over the last few years at School A to embed vocational education within the senior curriculum of the school. Vocational education is a priority area of the Department of School Education (1997) reinforced by recommendations 13 and 14 of the McGaw Report (1997). The implementation of vocational education in the school and the town in general has been a difficult task. Although extensive promotion of vocational education has occurred in the district by the Local Industry Education Network (LIEN) Committee in conjunction with the Vocational Education Consultants there remains an apathy to the courses. A public meeting held in June 1996 to discuss vocational education courses was attended by less than ten parents from a town of seven schools offering a mixture of such courses. This apathy was supported by the result of a survey to 1000 students and their parents in the district (Mitchell, 1996). Few parents suggested they were interested in the courses for their children as they had expectations of their child attending tertiary training and the TER was more important. The reality is quite different. Schools do have a problem trying to change the perceptions of parents and students. It remains to be seen whether the impact of increased HECS charges at University and the development of various post school pathways will change attitudes. At the school two courses. Industry Studies - Metals and Industry Studies - Hospitality were offered for 1997. Both courses ran but the former now has few students as some have left or changed courses and it is not promoted by staff as a worthwhile course. The latter, by contrast, is maintaining students and appears to be set to attract students for the following year.

Developing the Curriculum

Resourcing the breadth of the curriculum is another major issue that the school has to face. As a consequence of the Scott Report (1989) schools were given a greater amount of autonomy in relation to their use of financial resources. School Councils were established and three sub committees were established as part of the Council at School A. They were Grounds, Finance, and Curriculum.

The Grounds Committee set out to make changes to the aesthetics of the school by making improvements in the playground for students as well as addressing other

issues of shade, seating and toilet facilities. The surroundings within a school were identified by Johnston and Spooner (1992) as a significant factor for girls in their attitude towards school and staying on in the school for the senior years.

The Finance Committee is responsible for the allocation of resources to two broad areas; curriculum and administration. Each faculty area submits a budget for the following year and the Finance Committee makes decisions about the allocation of budgets in relation to other needs and the income and Global Funds available. The Global Fund is a fixed amount that the school receives based on student enrolment in the school. Other specific grants are also given and major maintenance and capital improvement of the school remains the responsibility of the Department of School Education.

Any new courses require their budgets to be ratified by the Finance Committee before the course can run. In some cases, such as Photography, this a major expense and has to be weighed up in relation to the overall needs of the school. Another major expense in recent years has been computer technology. Many courses require the use of computers as part of the syllabus. Also a lot of information is published on CD - ROM which is cheaper and more up-to-date than that published in a paper format. As a result two computer rooms were developed, one built in an existing 'open space', the other a converted classroom. Further developments in the Library and networking the school are major projects that the school has funded. Recently the State Government has budgeted for the expansion of computer technology in schools to assist in its development.

Summary

Subject selection is a complex interaction of many variables that the school attempts to manage to meet the needs of as many students as possible. There are constraints set down by policy, Department of School Education staffing formula, availability of space, teaching expertise and financial resources. Not all students have set patterns for subjects that must be fulfilled; many will be quite happy to change if the course they wanted is not offered or it may clash with a course of a higher preference. Students also change their subjects when they start the senior

school as they find that the course they chose is not what they thought it would be. Consequently the process has to flexible enough to cater for these changes but at the same time be rigid enough to make sure that the organisation for the following year is clearly defined.

The case study highlights the processes that occur for a cohort of students making choices for their senior years of schooling. This process is repeated for other years in the school but not with the same degree of individual student counselling. It is within this process that the questionnaire was used to gauge why students choose the subjects they do. Although this process is undertaken in other schools the way they implement the process will vary depending on the personnel in the school and the size of the school. This case study indicates the complexity of the inter-relationships within the school context and illustrates the importance of understanding the process of subject selection for the senior years and beyond. The next chapter (Chapter Five) details the analysis and results of the questionnaire and the interviews.

CHAPTER FIVE - CASE STUDY: INFLUENCES ON STUDENT CHOICE.

The previous chapter presented an overview of the context of the case study and an explanation of the process of subject selection for the senior years of schooling undertaken by year 10 students in School A. This chapter presents a profile of the students and their preferred subject selection from responses to the questionnaire and interviews.

Although the study was conducted as a case study a questionnaire was used to gather data from a group of year 10 students in a comprehensive high school as to the subjects they selected for their senior studies, the influences upon them and reasons for their choice of subjects. To add depth to the data from the questionnaire a number of students were interviewed. The purpose of the interviews was to embellish the questionnaire data and to gain a greater insight into the reasons as to why students chose the subjects they did and what influenced those decisions.

Profile of the Students in the Study

A total of 111 useable responses were obtained from a population of 125 students enrolled at School A in year 10, 996. On the day of the survey 12 students were absent and 2 surveys were incomplete and unable to be used. This represented a response of 88.8%. Of this group 55% (61) were male and 45% (50) were female. This cohort of students was one of only two year groups in School A where there are more males than females. Also in the other years the percentage difference between the genders is much closer than the ten percentage points in this study.

The study group was relatively homogeneous, in terms of nationality. Seven (6.3%) of the students were from overseas, five of whom were males. Of these students three were from the Pacific region. Of the remainder, seven (6.3%) were Aboriginal students, six of whom were males, and ninety seven (87.4%) "Australian". Within the "Australian" group there was little difference between the number of males and females. The dominance of males within the overseas and Aboriginal group needs to be regarded as significant in relation to subject selection

as the gender influences are important in the consideration of subjects chosen by these students (see page 94).

The country of birth of their parents shown in Table 2 also illustrates the lack of diversity in the ethnic background of the parents of the students in the study.

Table 2.

Country of Birth of Students' Parents

Country	Code	No. (F)	Father (%)	No. (M)	Mother (%)
Australia	1	94	**84.7**	91	**82.0**
Other English language country	2	8	**7.2**	4	**3.6**
Northern Europe	3	2	**1.8**	6	**5.4**
Southern Europe	4	1	**0.9**	2	**1.8**
Asia	5	3	**2.7**	4	**3.6**
Pacific	6	3	**2.7**	4	**3.6**
Other	7	0	0	0	0
Total		111	**100**	111	**100**

Many of the parents from Asia and the Pacific area are students themselves and are only in Australia for a short term or are parents of students who are full fee paying or are on exchange in an Australian school for one to two years.

Although the student population is reasonably homogeneous in terms of ethnic background, School A does value cultural diversity within the student body and seeks to encourage strong relationships between students from different cultural backgrounds. This is achieved in a number of ways. Firstly, School A offers four languages, other than English, in its curriculum. Of these one is an Asian language and School A does have an exchange with a Japanese school on a regular basis. Secondly, the school enrols a number of exchange students from various countries of the world. Thirdly, as part of the teaching and learning program of the English as a Second Language (ESL) teacher, cultural days are held where the diversity in the various cultures is celebrated through music, dance and food.

Research studies on the ethnic background of the students and subject selection (see page 38) suggests that students from a NESB are more likely to take Maths -

Science course combinations. This was the case with one particular student from China who initially selected Business Studies as part of her subject selections for the senior school. As her English at the time was limited, she changed from Business Studies to Chemistry as her parents believed she would be able to achieve to a higher level in this course. The same pattern of selection of Maths - Science courses was undertaken by a full fee paying student from Japan who was very much influenced by his parents although he was by himself in Australia. However, the same pattern could not be seen in the subject selection of students from the Pacific region. They were more inclined to choose subjects they were interested in undertaking. Their competency in English was also much better than the two Asian students. Other studies (Myhill et al. 1994, see page 39) do suggest that an increased level of English relates to NESB students choosing humanity type courses.

The occupations of parents in Table 3 also provides an insight into the students' family background.

Table 3.

Occupations of Parents

Occupation	Father (No.)	Father (%)	Mother (No.)	Mother (%)
Business & management	15	**13.51**	3	**2.73**
Building & engineering	9	**8.11**	0	**0**
Health & science	15	**13.51**	11	**10**
Teaching & social	21	**18.92**	25	**22.73**
Arts & related	2	**1.80**	2	**1.82**
Police, defence, air, sea	2	**1.80**	0	**0**
Trades	18	**16.23**	0	**0**
Clerical/sales/service	15	**13.51**	40	**36.36**
Unemployed/not stated	11	**9.91**	10	**9.09**
Homeduties	0	**0**	19	**17.27**
Retired	3	**2.70**	0	**0**
Total	**111**	**100**	**110**	**100**

The high percentages for teaching and social occupations by fathers and mothers relates to the town in which the parents work. Education is an important and major

part of the employment base of the town. Also interesting is the low percentage of mothers involved in business and management occupations. The nil percentage for trades by mothers was a surprise but not entirely unexpected.

Ainley et al. (1990), Johnston and Spooner (1992) and Teese et al. (1995) suggest a strong relationship between socio-economic status, as measured by parental occupation, and subject selection (see page 36). This research study was limited in relation to this factor in two ways. Firstly, the Australian Standard Classification of Occupation (Bureau of Statistics, 1990) used to determine occupation made no distinction between the range of positions within the classification; that is between management, professional or semi professional (see Appendix B). Secondly, the questions asked of students did not seek family income as it was felt to be too invasive of privacy given the small size of the research population. It was found that 9.9% of fathers and 9.1% of mothers were unemployed with a further 17.27% of mothers involved in homeduties. Only 3.6% of students were from families where both parents were either unemployed or involved in homeduties. However, all of these students chose Board Developed courses to contribute to a TER suggesting that the economic status of the family was not an influencing factors in relation to subject selection associated with academic subjects. Of the remainder, 33.3% of students came from single income families with 63.1% of students from families with two incomes.

Other research studies (see page 36) suggest a strong relationship between parental occupation, as a measure of socio-economic status, and subject selection at the senior school. Students in this current study were not asked to indicate family income, as it was felt that such a question was too invasive given the small sample. However, the low percentage of students from families with expected low incomes, and nearly two thirds of students with parents both working suggests that the school is predominantly middle class with a strong working class minority, as indicated by AUSTUDY and single/unemployed data, and that student choices do not seem to be influenced by this factor. The provision of AUSTUDY and Abstudy (see page 30) assists students from low income families to stay at school and not feel the burden to leave school to find employment. In this study 42 (38%) students were receiving either AUSTUDY or Abstudy to some extent. This figure

approximates the percentage of students whose parents are either unemployed or single income families.

Of the students surveyed one hundred and two (92%) indicated that they intended to stay until the end of their HSC with 6.3% indicating they intended to leave at the end of year 10. This represents a retention rate from year 10 to year 11 of 93.7%. Historically this figure is typical for School A for the retention of students into the senior school. However by the time a selection of the students were interviewed, six weeks into term two, 1997, fourteen students had left School A for various reasons. The main reason given by the leavers was employment, either full time or part time. In the same time period eleven students had enrolled into School A from other schools in the immediate area or from inter and intra state.

When surveyed 84 % students indicated they somewhat enjoyed school or enjoyed school. Both the girls and boys responded in a similar way to the questions asked (Appendix H, Table 20). During the interviews students were asked if they liked being at school and the majority indicated that they did. Reasons given included feeling safe in the school and a belief that the school provided a range of courses that met their needs. Of the students who had left only a few indicated that they were leaving school because they didn't like school. Most indicated they were leaving because of employment opportunities.

An analysis of Table 4 indicates the post school education/training/work destinations that students expected to follow.

Table 4.

Students' Post School Expectations for Education/Training/Work

Post School Expectation	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Job	10	**20**	15	**25**	25	**22.5**
Apprenticeship/traineeship	6	**12**	10	**16.3**	16	**14.4**
Attend a TAFE College	6	**12**	3	**4.8**	9	**8.2**
Attend a Private College	6	**12**	4	**6.5**	10	**9.0**
Attend University	17	**34**	21	**34.3**	38	**34.2**
Other	5	**10**	8	**13.1**	13	**11.7**
Total	50	**100**	61	**100**	111	**100**

Although the highest percentage expect to go to university after finishing their HSC this figure is not high in terms of the destinations of previous cohorts from School A. Of the HSC year of 1996, for example, 52% were offered a place at a university. The figures that are significant are the apprenticeship and TAFE figures. Although 14.4% indicated that wanted an apprenticeship only 8.2% wanted to go to a TAFE College. This may be explained either in terms of students not understanding the need to attend TAFE with an apprenticeship or the later figure indicating that TAFE is not a preferred destination for school leavers. It might also be explained in terms of those students wanting an apprenticeship assuming that this entailed attendance at TAFE so a separate entry was superfluous.

Of those who indicated the 'Other' category they ranged from specific destinations such as the Police Academy through to travel before going on to further training.

The interesting aspect of the figures in Table 5 is the higher percentage of girls than boys wanting to undertake a business and management career.

Table 5

Students' Occupational Choice

Occupation	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Business & management	7	**14**	6	**9.84**	13	**11.71**
Building & engineering	0	**0**	3	**4.92**	3	**2.70**
Health & science	6	**12**	9	**14.75**	15	**13.51**
Teaching & social	9	**18**	4	**6.56**	13	**11.71**
Arts & related	8	**16**	7	**11.47**	15	**13.51**
Police, defence, air, sea	1	**2**	4	**6.56**	5	**4.52**
Trades	6	**12**	11	**18.03**	17	**15.32**
Clerical/sales/service	1	**2**	3	**4.92**	4	**3.60**
Not sure/not stated	12	**24**	14	**22.95**	26	**23.42**
Total	**50**	**100**	**61**	**100**	**111**	**100**

Teaching is higher for girls than boys but the arts and related fields of occupation are quite significant percentages for both genders compared to the percentages of parents employed in this field (see Table 3, page 83). The low figures, by both the girls and the boys for the clerical/sales and service occupations was surprising

given that this occupational category is a major employer of young people in Australia. This may suggest that the students have higher expectations for themselves which wasn't supported in their expected post school destinations for education/training or work. Another reason, which is supported by student interviews, is that many students didn't really know what they wanted to do after finishing school. Nearly one quarter of the students were in this situation. In discussions with students a number indicated they had a few ideas of possible future options and they intended to include any of the prerequisite subjects in their selection so they might gain entry into the various tertiary courses. This was a major reason indicated by students as to why they chose 2 unit Maths. Nearly half the students who chose 2 unit Maths indicated they needed the course for their future education and/or training (see Table 9, page 97).

Other Influencing Factors

Research studies have found a range of inter-related factors influencing students in relation to their choice of subjects for the senior years of schooling (see Chapter Two, pages 15-41). In the context of the case study some factors were more easily identified than others. Discussions with students indicated that factors such as family background, expectations from school and future options after leaving school, provided a greater insight into the students themselves and the circumstances in which they made their subject selections. One particular factor that was found to have a significant influence on students was the regulations of the NSW Board of Studies and the rules governing the HSC in NSW.

Broadly, Education Department and NSW Board of Studies (BOS) policies appear to be significant in influencing students choice of subjects. Haeusler and Kay (1997) suggest that the TER in NSW has a significant influence on the choice of subjects for students in the senior years of schooling (see page 41). In NSW the Board of Studies determines the number of units that students have to study to gain a Higher School Certificate (HSC). Currently, that is 11 units. To be eligible for a TER students have to study 10 units of Board Developed courses. Of these one unit of English is counted, as is unit from KLA group 1 (Maths, Science and Technology) and one unit from KLA group 2 (Human Society and its

Environment, Languages, Creative Arts and Personal Development, Health and Physical Education). In discussions with students some felt that these constraints made it more difficult for them to attain a high TER. Students who felt they were most affected were males who wanted to study a combination of courses including 3 unit Maths, Physics, Chemistry and Engineering Science. They didn't want to study English, but did so because it was compulsory, and they didn't want to undertake any courses in KLA group 2. Ironically, such a pattern of subject selection is of the traditional academic orientation, especially towards engineering type courses at a tertiary level. Other studies have also found that the traditional academic orientation tends to favour males.

All Board Developed courses are those considered to have sufficient academic merit for tertiary study, that is, they are used to calculate a TER. However, some Board Developed courses are designated category B courses. This means that the universities don't regard them to be as 'academically' rigorous as others and as such are not regarded of sufficient standard for tertiary study. These courses include all the Vocational Education courses. all the JSST Board Developed courses and Maths in Practice, Science for Life and Industrial Technology. For tertiary entrance purposes only one of these courses, or 2 units, can count towards the TER. As a consequence of these rules students are influenced to select a range of 'academic' courses if they are to keep open the option of tertiary entrance after completing the HSC. Students indicated at the interviews that these constraints were very much in their mind when selecting subjects, especially Maths. They also indicated that their parents were influenced by these rules as well when discussions were held at home about subject selection.

At School A when information evenings were held with students and their parents the BOS rules and implications of the TER were explained. At these evenings it was pointed out that the TER was a rank and not a mark for a students HSC. When students were asked about their perception of the TER they indicated that they wanted a TER over 50 suggesting they perceived it as a pass, not a rank. Of the group of students in the research 89% indicated they wanted a TER although only 34% indicated they wanted to attend university. This suggests that students

believe the TER is important, even though they may not be intending to go to university (see Table 4, page 85).

Students' Subject Preferences

The reality of a comprehensive high school means that compromises have to be made by students as to the subjects they study in the senior school because of the demand for a particular course and/or the constraints of the timetable of the school or the rules that govern the functioning of the HSC. Although these factors are important in the overall determination of the range of subjects to be selected by individual students for their senior studies, an equally important question relates to what courses students would choose if they did not have any constraints placed upon them by the school or the education system. Also associated with this question is if students were able to study their preferred subjects why did they choose these courses? It was expected that some kind of pattern of subject selection would emerge given the open and unconstrained choice of subjects.

In making their choices of preferred subjects students were given a prescribed list fifty seven possible courses that School A had to offer them for 1997 (Appendix C). These courses included Board Developed courses that were required for tertiary entrance requirements as well as Content Endorsed Courses (CEC's), Joint Secondary Schools TAFE (JSST courses and vocational education courses. The students were asked to list their first three most preferred subjects and indicate their reasons for selecting the course. Table 6 indicates the range of courses that the students chose.

The extent of the selection of courses was surprising given the expectation mentioned above. Forty courses were selected by the 111 students in the research study with no clear pattern of subject selection evident. Of the courses not selected they were mainly CEC's and JSST courses.

Table 6.

Subject Preferences of Students

Subject	Pref. (1)	Pref. (2)	Pref. (3)	Total (No.)	Percent of students
English	4	2	2	8	**6.98**
Aboriginal Studies	2	1	1	5	**4.43**
Agriculture	5	4	4	13	**11.35**
Ancient History	1	1	5	7	**6.11**
Biology	3	3	4	10	**8.73**
Business Studies	2	5	4	11	**9.60**
Chemistry	2	6	7	15	**13.09**
Computer Studies	6	5	2	13	**11.35**
Drama	2	3	1	6	**5.24**
Engineering Science	1	0	2	3	**2.62**
Food Technology	5	4	4	13	**11.35**
French	3	0	0	3	**2.62**
General Studies	1	0	0	1	**0.87**
Geography	1	1	4	6	**5.24**
German	2	1	1	4	**3.55**
Industrial Technology	11	1	1	13	**11.35**
Industry Studies - Hospitality	0	3	1	4	**3.55**
Industry Studies - Metals	3	0	0	3	**2.62**
Japanese	2	3	1	6	**5.24**
Legal Studies	4	6	2	12	**10.47**
Maths - 3 unit	7	4	5	16	**13.96**
Maths - 2 unit	1	5	1	7	**6.11**
Maths in Society	1	6	3	10	**8.73**
Maths in Practice	1	1	3	5	**4.43**
Music (Related)	5	0	0	5	**4.43**
Music (Course 2)	1	2	0	3	**2.62**
Physics	0	8	4	12	**10.47**
Personal Development, Health & Physical Education	8	8	9	25	**21.82**
Science for Life	0	1	4	5	**4.43**
Textiles & Design	3	1	3	7	**6.11**
Tourism Sector Services	1	0	2	3	**2.62**
Visual Arts	11	3	1	15	**13.09**
Exploring Early Childhood	1	4	1	6	**5.24**
Photography	4	5	3	12	**10.47**
Sport, Lifestyle & Recreation	4	5	5	14	**12.22**
Skills for Living	0	0	0	0	**0.00**
Science 3/4 unit	1	1	0	2	**1.77**
Modern History	0	1	1	2	**1.77**
Italian	1	1	0	2	**1.77**
Economics	0	0	1	1	**0.87**
No comment	1	6	15	22	**19.20**
Total	**111**	**111**	**111**	**111**	

Some subjects were clearly preferred as a first choice and then declined sharply as second and/or third choices such as Industrial Technology and Visual Arts. Others, such as Personal Development, Health and Physical Education and 3 unit Maths remained strong choices across the three preferences. Others, such as Chemistry and Physics, although not the first preference became stronger for the second and third preferences. There is some indication that the selection of Physics and Chemistry as a second and/or third preference was that these more traditional academic courses were selected to satisfy tertiary entrance prerequisites and were considered necessary for future studies, training and/or work. This was confirmed through the interviews. Students indicated this was more the case for Physics than Chemistry.

It was expected that Personal Development, Health and Physical Education would have strong student preferences as the course had been popular in School A since its inclusion into the curriculum in 1990. However it wasn't expected to be at this level. The strong preferences for 3 unit Maths, Chemistry and Visual Arts do also relate to the occupational choices of students in health, science and arts related careers (see Table 5, page 86). Other courses with strong preferences, indicating particular student interest were Agriculture, Food Technology, Industrial Technology, Legal Studies, Photography and Sport, Lifestyle and Recreation. In interviews with students these courses were considered important as they related to particular interests or the courses represented areas in which the student wished to study, train or work in the future.

It is interesting to note that 33.2% of students choose a Maths course as part of their preferences for the senior school making Maths, as a subject, the most preferred single subject followed by Personal Development, Health and Physical Education. Students at School A. when asked about their choice of Maths for the senior school, tended to indicate that they believed Maths to be virtually compulsory as many tertiary courses require some level of Maths (UAC, 1997). Also, because of the rules associated with the HSC, Maths for some students is the only Key Learning Area (KLA) group 1 subject they selected to comply with the NSW Board of Studies requirement that students seeking a TER have to study at

least one unit of KLA group 1 and one unit from KLA group 2 as well as English for their HSC (see pages 24 & 87).

The wide range of responses suggests that the students may well have selected courses for a wide range of reasons. The responses in Table 7 indicated some interesting patterns emerging for the reason students chose to study a particular course.

Table 7

Reasons for Student Course Preferences

Reason	Course Pref. 1		Course Pref. 2		Course Pref. 3	
	Reason 1. (%)	Reason 2. (%)	Reason 1. (%)	Reason 2. (%)	Reason 1. (%)	Reason 2. (%)
Family/friends	0.9	6.4	0.9	0	2.7	3.3
Teachers	0.9	0	0	3.1	0.9	0
Interest	15.3	8.5	19.8	12.5	18.2	10
Enjoyment	47.8	19.2	24.3	12.5	18	13.3
Ability	6.4	10.7	4.5	6.2	6.3	0
Future	16.3	38.3	23.4	53.1	18.2	50
TER	3.6	0	1.8	0	4.5	0
Organisation	0	2.2	0	0	0	6.6
Subject not there	0	0	0	0	0	0
No reason	0.9	0	6.3	0	16.2	0
Other	8.2	14.9	18.9	12.5	11.7	16.6
Total students	**111**	**47**	**111**	**32**	**109**	**30**

To assist students with selecting a reason for their choice of preferred subjects a list of possible reasons was provided from which they could choose. The reasons listed in Table 7 are the same reasons used in other research and in the conceptual model of subject selection (see page 46). Each student was asked to give two reasons. The students responded well to the first reason but for the second reason the number of students responding declined significantly.

An interesting pattern emerged from these reasons. For each of the three preferred courses chosen the first reason for the choice was intrinsic, that is an interest in the subject or the student enjoyed the subject. The second reason for each of the three

courses was extrinsic, that is because of future education and/or training requirements of the subject. The link between intrinsic and extrinsic reasons for subject selection was raised by Ainley et al. (1994) where their study found that the factor of interests was found to be very strongly related to subject preference which took into account both school subjects and preferred future employment and/or training (see pages 44-45). The implications for such a linkage is further explained on page 122.

With no constraints upon them to select subjects the TER appears to be relatively unimportant to students. Because the students were able to indicate any reason, although given some to choose from, quite significant numbers of students had 'other' reasons. These included responses such as "because its a good class", "curiosity", "I found that legal studies could be different", "I have been studying music out of school for the past nine years", "being part of a group" and 'it seems like a worthwhile course".

An indication from the responses was that the students had thought about their preferred subjects and had indicated clear reasons as to why they selected them. The lack of a clear pattern of subject preference suggests a wide range of interests, by students, in courses offered by School A.

Research studies (see pages 38-39) suggest a significant link between ethnic background, Aboriginality and subject preference. In relation to ethnic background Ainley et al. (1990) and Hartley and Maas (1987) found that students from Non - English speaking backgrounds (NESB) were more likely to take Maths - Science combinations of courses (page 38). In this research study only seven of the students were from a NESB. However, it was found that from the NESB students three chose 3 unit Maths, Physics and Chemistry. All the students undertook a Maths course, six doing 2 unit or 3 unit Maths, and a further three undertaking a Computer Studies course. In discussions with two NESB students about their choices of subjects they indicated that their understanding of English and their written expression was a factor in choosing maths-science course combinations. They also indicated that their parents were a significant influence on their choice.

Further, one said that the objective type testing in maths and science courses meant they had immediate feedback on how they were progressing. For one student these factors were given as reasons why she changed class from Business Studies to Chemistry. However the low numbers of students from a NESB suggest that a degree of caution is necessary in drawing conclusions about the patterns of subject selection that, as a group, they may make.

Aboriginal students accounted for 6.3% of the research population. Ainley et al. (1994) found that Aboriginal students had low enrolments in the sciences and high enrolments in the technology and Personal Development, Health and Physical Education KLA (see page 39). Of the Aboriginal students in the survey 71.4% chose Personal Development, Health and Physical Education, 57.1% chose Sport, Lifestyle and Recreation and 28.6% chose both courses. All the Aboriginal students undertook a Maths course, none did Physics and/or Chemistry with 42.8% choosing Science for Life. However, all the students selected courses that would contribute to a TER. Only one student selected Industrial Technology but 71.4% selected Aboriginal Studies. These preferences for subjects are consistent with findings in other research.

Summary

The students in this study presented as a homogeneous group, from families that were not socio-economically disadvantaged with seventy five percent of the students having some goal for their future education, training and/or work. The students had a wide range of subject preferences and selected subjects mainly for intrinsic followed by extrinsic reasons.

The following chapter examines the reasons why students selected the subjects they did for their final years of school given the constraints of the system and the school.

CHAPTER SIX - CASE STUDY: WHAT SUBJECTS STUDENTS CHOOSE AND WHY.

Apart from the influences on students the major question in this study was: *Why do students select the subjects they do for the senior years of schooling?* As a case study in one school it relates to the curriculum that could be offered given the constraints of the school timetable and the procedures developed to manage the process of subject selection.

This chapter draws together the influences upon students, the subjects they choose and the reasons for their choices in relation to the timetable lines that were developed as a result of students' initial choices (see pages 69-71).

Subject Selection

Soon after they made their subject selection for their senior years of schooling students were asked, through a questionnaire, what courses they chose and the reason for their choice. The reasons are the same as listed in Table 7 (see page 92) and the conceptual model of subject selection (see page 46). As a means of triangulation a random sample of students were latter interviewed to provide a greater insight and understanding of the data collected through the questionnaire. The following details the subjects selected by the students in the study group, the reasons for their choice and offers an explanation for these choices and reasons in the context of the case study with reference to the broader body of research. Except for English, which is a common course in year 11, all the courses selected by the students is presented to allow for gender comparisons. The reason a choice of a course is based on the whole group who chose that course.

English is the only compulsory subject for the senior years of schooling in NSW and a common course for all students in year 11. This was reflected in the reasons given by the students. The compulsion of the subject, along with the requirement that 1 unit of English counted towards the TER, accounted for 72% of the response. Of the rest, 5.4% indicated they wanted to undertake English at a tertiary level in the future and 4.5% indicated they enjoyed the subject. Even though

English is compulsory many students would have chosen to undertake the course. Nearly 7% of the students had English as one of their top three preferred subjects. A high 13.5% of students gave no reason at all for wanting to do English.

Maths appears to be a very significant subject in School A with all students sampled choosing to do one of the four Maths courses on offer in year 11. Although not compulsory, students interviewed believed that is was important to do some Maths in the senior school. Table 8 indicates the numbers of boys and girls selecting the various levels of Maths.

Table 8.

Line 2 - Maths courses chosen by Students

Course	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Maths - 3 unit	9	**18**	18	**29.5**	27	**24.3**
Maths - 2 unit	13	**26**	20	**32.8**	33	**29.7**
Maths in Society (MIS)	22	**44**	20	**32.8**	42	**37.8**
Maths in Practice (MIP)	6	**12**	3	**4.9**	9	**8.2**
Total	**50**	**100**	**61**	**100**	**111**	**100**

A greater percentage of males (62.3%) than females (44%) chose either 2 unit or 3 unit Maths. This level of Maths satisfies prerequisite and recommended levels of study for tertiary entrance into faculties such as Science and Maths. During the interviews the girls justified why they selected the Maths courses they did by relating it to post-school training and work. Such a view is consistent with the Johnston and Spooner. (1992) study which found that girls selected Maths for extrinsic reasons rather than for intrinsic reasons (see page 33). For instance, no girls in this study indicated building and/or engineering as an occupational future; engineering requiring 3 unit Maths for entry to tertiary courses (see Table 4, page 86). Maths in Society, now recognised by many universities as a sufficient level of maths for a range of courses (UAC, 1997), was selected by 44% of females. Girls indicated that Maths in Society was sufficient for the course they wanted to do in the future and if they did well in the course compared to 2 unit Maths their TER was enhanced. This is consistent with the Stobart et al. (1994) finding that girls regarded Maths more in functional terms (see page 33).

The reasons for the choice of Mat ıs in Table 9 are interesting.

Table 9.

Reasons for choosing Maths

Reason	Maths - 3U (%) (N = 27)	Maths - 2U (%) (N = 33)	MIS (%) (N =42)	MIP (%) (N = 9)
Family/friends	3.7	9.1	7.1	0
Teachers	0	3.0	0	0
Interest	3.7	0	2.4	0
Enjoyment	**29.6**	3.0	4.8	0
Ability	**14.8**	9.1	**30.9**	**22.2**
Future	**22.2**	**45.4**	**23.8**	0
TER	**14.8**	3.0	4.7	0
Organisation	0	0	2.4	0
Subject not offered	0	0	0	0
No reason	3.7	0	4.8	**11.1**
Other	7.4	**27.3**	**19.0**	**66.7**

The reasons listed as to why students chose certain courses are the same as those used to develop the conceptual model of subject selection (see page 46) and outlined on pages 16-18 and for c ıoosing preferred courses (see Table 7, page 92). Organisation refers to way the timetable lines are finally arranged and is a constraint on students' choices. T ıese reasons are consistently used throughout the analysis of data.

The 3 unit Maths students chose Maths for wide range of reasons such as they enjoy the subject, recognise they have the ability to do the course and regard Maths as important for their HSC and future. The 2 unit Maths students, on the other hand, chose Maths because they see it as necessary for their training and/or work options. It could be suggested that the requirement for 2 unit Maths for a number of tertiary courses could add to t ıis perception. This was mentioned by a number of students at the interview who were undertaking the 2 unit Maths course. Some students gave two reasons for their choice of Maths. Of those who gave a second reason 55.5% of the 2 unit Maths students indicated that Maths was important for their future education and/or training. When 45% indicate this same reason as their first choice, 2 unit Maths, is perceived as very significant for future education.

None of the 2 unit Maths students indicated they were interested in the course and nearly 10% of them indicated their parents were influential in their decision to take the course.

Maths in Society students regarded Maths as important for their future but also indicated that their ability in Maths was an important reason to undertake this level of Maths compared to 2 unit Maths. Although more girls than boys chose Maths in Society, the girls interviewed undertaking the course indicated they thought about their ability in Maths, their future education/training plans and were satisfied that the Maths in Society course was sufficient to meet requirements. Some did suggest that the amount of time they would have to spend on studying 2 unit Maths would reduce the amount of time they would have available to study other subjects.

Maths in Practice students chose the course because of their ability. From the responses the impression gained was that the students had a low self esteem in relation to Maths as comments like "I'm dumb at Maths" or "I need a lot of help in Maths" were common. Maths wasn't important to them, it didn't interest them and it could be suggested they undertook the course because there was nothing else for them to do.

In Table 10 there appears to be quite significant differences between the courses chosen by boys and girls in this line.

Table 10.

Line 3 - Courses Chosen by Students

Course	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Biology (B)	15	**30**	15	**24.6**	30	**27.02**
Industry Studies - Metals (ISM)	0	**0**	3	**4.9**	3	**2.71**
Physics (P)	5	**10**	18	**29.5**	23	**20.71**
Food Technology (FT)	13	**26**	5	**8.2**	18	**16.23**
Personal Development, Health & Physical Education (PDH)	5	**10**	12	**19.7**	17	**15.31**
Photography (PH)	8	**16**	5	**8.2**	13	**11.71**
No course chosen	4	**8**	3	4.9	7	**6.31**
Total	**50**	**100**	**61**	**100**	**111**	**100**

In Physics there were approximately three times as many boys (18) than girls (5) whereas it was the reverse for Food Technology (5 boys and 13 girls). Other research studies (see page 33) found that males are more likely to undertake courses in the physical sciences more than females and the reverse to occur in the Home Economics area of which Food Technology is a particular course. In relation to Physics two points are relevant to this study. Firstly, Physics is a prerequisite for courses such as engineering at a tertiary level. None of the girls indicated this to be a future area of interest for them. Secondly, when questioned about Physics students in general indicated that they perceived Physics to be difficult. Girls in particular indicated that they didn't need Physics, and because it was considered difficult, asked the question, 'why do it?'. For the Biology course there were the same number of boys and girls. During the interviews a number of students who had selected Biology indicated they wanted a science course for their senior years as part of their subject pattern and felt that Biology was more appropriate for them compared to Physics or Chemistry

Photography and Personal Development, Health and Physical Education (PDHPE), because of the demand for the courses, were placed on two different lines. Although there were more girls undertaking Photography, when the numbers in the two lines were added together, the differences were not that significant. Across the two lines there were 25 boys and 16 girls who chose PDHPE. Of the boys five were Aboriginal and three were Pacific islanders. This is significant because of the seven Aboriginal students in the research group, six were male (see page 81). Also this finding is consistent with other studies (see page 39) where it was found that Aboriginal students had high enrolments in physical education courses.

Industry Studies - Metals, a vocational education course, was only offered for the first time in School A for 1997. The decision to run a course with only a small number of students was a decision made by the Principal in an effort to promote the course and the concept of vocational education as a possible pathway for students through the senior years of secondary education.

The reasons the students gave as to why they chose particular courses on this line of the timetable are indicated in Table 11.

Table 11.

Reasons for Choosing Courses on Line 3

Reason	B (%) Biology (N = 30)	ISM (%) Industry Studies - Metals (N = 3)	P (%) Physics (N = 23)	FT (%) Food Technology (N = 18)	PDHPE (%) (N = 17)	PH Photography (N = 13)
Family/friends	6.7	0	0	0	0	7.7
Teachers	3.3	0	0	5.6	0	0
Interest	**33.3**	33.3	4.3	**22.2**	0	**30.8**
Enjoyment	**20**	0	8.7	**55.6**	**41.2**	**30.8**
Ability	3.3	0	4.3	0	5.9	0
Future	13.3	66.7	**52.2**	5.6	5.9	**15.4**
TER	0	0	**17.4**	0	5.9	0
Organisation	**10**	0	0	0	**16.6**	0
Subject not offered	6.7	0	0	0	5.9	0
No reason	0	0	4.3	5.6	0	0
Other	3.3	0	8.7	5.6	17.6	15.4

The numbers undertaking Industry Studies - Metals, from Table 11 are too small to consider them. The reasons students gave for undertaking Physics is dominated by considerations about future training, tertiary entry requirements and the TER. It, along with Chemistry (Table 13, page 102) and 3 unit Maths (Table 9, page 97) are the only courses for which the TER appears as a significant reason for the choice of these subjects. Very few students indicated they were interested in or enjoyed Physics. Those interviewed who chose Physics indicated that they needed the subject as a prerequisite for future study They also indicated that they found the course difficult and they would be seeking extra help in the subject. The other courses on this line were selected because of an interest in and/or an enjoyment of the course. However, 13% of the students who chose Biology, and a further 28% as their second reason, indicated they considered Biology useful for their future education/training or work. It is significant to note that with PDHPE, and to a lesser extent Biology, the impact of the organisation of the lines is starting to occur

meaning that students had to choose something on this line that was not their preferred choice.

In Table 12 both Economics and Modern History appear on the line because it was requested by the respective Head Teaches of these subjects who felt that these 'traditional' courses should be available to students even though they had not selected them in their initial free choices (see page 69). Each attracted zero choices.

Table 12.

Line 4 Courses Chosen by Students

Course	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Chemistry (CH)	12	**24**	14	**23**	26	**23.5**
Business Studies (BS)	11	**22**	13	**21.3**	24	**21.6**
Drama (DR)	3	**6**	7	**11.5**	10	**9**
Modern History (MH)	0	**0**	0	**0**	0	**0**
PDH	11	**22**	13	**21.3**	24	**21.6**
Science for Life (SFL)	9	**18**	6	**9.8**	15	**13.5**
Economics (EC)	0	**0**	0	**0**	0	**0**
General Studies (GS)	2	**4**	4	**6.5**	6	**5.4**
No course chosen	2	**4**	4	**6.5**	6	**5.4**
Total	**50**	**100**	**61**	**100**	**111**	**100**

The changing nature of the senior school curriculum (see page 26ff) has meant that some of the so called 'traditional' subjects such as Economics are becoming less preferred by students and newer courses like Business Studies and Legal Studies are taking their place. This was the first time that Economics did not run in School A and resulted in some self analysis by the Social Sciences faculty that taught the subject. In the context of School A, although the numbers in Economics has decreased in recent years the subject is unlikely to disappear as each cohort of students are different and have different interests and subject preferences. Students who chose Business Studies or Legal Studies were asked why they didn't take Economics indicated that they felt the course was not as interesting and it was 'a bit dry'. Teachers of the subject a so reflected this sentiment and suggested that the course needs some revising to make it more attractive to students.

As can be seen by these selections girls have selected Chemistry in equal proportions to boys. At the interviews the girls who selected Chemistry indicated that they felt the course to be difficult but it was important for their future education and/or training. This is consistent with other studies which have found that girls are choosing Chemistry in greater numbers in the 1990's (see page 35). However, a higher percentage of girls selected Science for Life than did boys. The representation of girls in Business Studies was interesting and links in with occupational choices by girls in Table 5 (page 86). Of particular interest on this line was the higher representation of boys than girls in Drama as other studies had found that arts related courses were more likely to be selected by females (see page 33). However, when the students' occupational futures are considered the Arts and related occupations are important for both males and females (Table 5, page 86).

Table 13.

Reasons for Choosing Courses in Line 4.

Reason	CH (%) Chemistry (N = 26)	BS (%) Business Studies (N = 24)	DR (%) Drama (N = 10)	PDHPE (%) (N = 24)	SFL (%) Science for Life (N = 15)	GS (%) General Studies (N = 6)
Family/friends	3.8	4.2	0	0	0	0
Teachers	3.8	4.2	0	0	0	0
Interest	**19.2**	**16.7**	**20**	**25**	6.7	16.7
Enjoyment	7.7	8.3	**50**	**37.5**	**26.7**	0
Ability	0	0	0	8.3	0	0
Future	**42.3**	**37.5**	0	0	**20**	0
TER	**19.2**	0	0	0	6.7	0
Organisation	0	**12.5**	**10**	4.2	6.7	33.3
Subject not offered	0	0	0	**12.5**	6.7	50
No reason	3.8	4.2	0	0	0	0
Other	0	12.5	20	12.5	26.7	0

For all courses in line 4, with the exception of General Studies, interest and enjoyment are dominant reasons for choice. Chemistry and Business Studies, the subjects most strongly linked to vocational training and future employment, are chosen for this reason. This correlates with Physics (see Table 11, page 100) where the same reason was given.

The impact of the TER was seer as important for students selecting Chemistry with most of the other subjects on this line recording a nil response to this reason. Furthermore, of those Chemistry students who gave a second reason for their selection, 42.8% indicated that the TER and future education/training or work considerations was important for their choice of Chemistry.

The organisation of the lines affected choices for all subjects, except Chemistry. The way the lines are organised becomes important as students are influenced either because the subject desired by them wasn't offered or they had to make a choice between subjects on the same line. The process in School A, outlined in Chapter Four (see pages 69-80), attempted to minimise the problems. However by the time students were interviewed in mid term two, 1997, the organisation of the lines did not appear to be a major concern. Those students who had been affected indicated that the subject they were now studying was better than they expected or they had changed their mind about their subjects and had made some other subject changes as well in the interim.

Of interest was the suggestion by three students who indicated that Science for Life was important for their future, given that Science for Life is a general course and is not regarded as satisfactory for tertiary entrance into science based courses. This suggests that some students either feel they should do some science in their final years of secondary school or they don't fully understand the nature of assumed knowledge requirements for tertiary entrance. Science for Life students interviewed indicated they did not seek tertiary entrance and the course was chosen because they enjoyed the course.

From Table 14, boys dominate in Geography and the technology subjects, except Industry Studies - Hospitality with girls dominant in the humanities and Visual Arts.

Table 14.

Line 5 Courses Chosen by Students

Course	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Agriculture (AG)	3	**6**	12	**19.7**	15	**13.5**
Visual Arts (VA)	12	**24**	9	**14.7**	21	**18.9**
Legal Studies (LS)	13	**26**	8	**13.1**	21	**18.9**
French (FR)	4	**8**	0	**0**	4	**3.6**
Geography (G)	4	**8**	17	**27.9**	21	**18.9**
Industry Studies - Hospitality (ISH)	10	**20**	3	**4.9**	13	**11.8**
Engineering Science (ES)	0	**0**	8	**13.1**	8	**7.2**
No course chosen	4	**8**	4	**6.5**	8	**7.2**
Total	**50**	**100**	**61**	**100**	**111**	**100**

The low percentage of girls undertaking Geography is surprising as in past years in School A the numbers of girls in the course has been equal to boys. The dominance of boys in the technology bases courses is consistent with other studies (see page 33). The greater number of girls in Legal Studies reflects the interest that the girls in the study showed towards business and management occupational areas (see Table 5, page 87). Industry Studies - Hospitality, offered for the first time in School A, is dominated by females which is surprising given that the course is a competency based subject which leads to a TAFE credential in the hospitality industry. This pattern is similar to the number of males and females selecting Food Technology (see Table 10, page 93).

Some of the courses have small student numbers which reflects the philosophy of School A to provide courses to meet the needs of the students as best as possible. In French for instance there are only four students and Engineering Science only eight students.

Interest and enjoyment are dominant reasons for choosing courses in line 5 as indicated in Table 15. The two technology subjects, Agriculture and Engineering Science, which are dominated by male students are those courses nominated as being important for their future education and/or training.

Table 15.

Reasons for Choosing Courses in Line 5

Reason	AG (%) Agriculture (N = 15)	VA (%) Visual Arts (N = 21)	LS (%) Legal Studies (N = 21)	FR (%) French (N = 4)	G (%) Geography (N = 21)	ISH (%) Industry Studies - Hospitality (N = 13)	ES (%) Engineering Science (N = 8)
Family/friends	0	4.8	4.8	25	4.8	0	12.5
Teachers	0	0	4.8	0	0	7.8	0
Interest	13.3	14.2	**33.3**	0	9.5	**15.4**	**25**
Enjoyment	**40**	**52.4**	4.8	75	**52.3**	7.8	0
Ability	6.7	0	0	0	4.8	0	0
Future	**20**	4.8	9.5	0	0	7.8	**37.5**
TER	0	0	0	0	0	0	0
Organisation	0	4.8	**14.3**	0	**19**	**30.8**	0
Subject not offered	6.7	4.8	9.5	0	0	**15.4**	0
No reason	13.3	4.8	4.8	0	4.8	0	12.5
Other	0	9.5	14.3	0	4.8	15.4	12.5

This is consistent with the boys' future occupation expectations (see Table 5, page 86). It would be expected that the same would be stated for Industry Studies - Hospitality which, as a vocational education course, is designed to provide credit transfers for post school training and competency based training. Instead 45% of the students indicated that the subject was only chosen because the way the lines were organised and the course they wanted was not offered on this line of the timetable. As this was the first time that the course had been offered at School A it may take some time for Industry Studies - Hospitality to build up a reputation that some other courses such as Food Technology has within the school. It may also suggest that the students have a perception of subjects leading to more academic vocational futures rather than more technical vocational futures. At the interviews students indicated that if they scored a high enough TER they would prefer to go to university than follow a pathway through TAFE or a private college.

In both Legal Studies and Geography the organisation of the lines suggest that students were not able to undertake the subject they most preferred. This trend also seems to be appearing in the way the lines are emerging; the sciences and technology subjects appear to have fewer concerns over organisation than the

humanities. As other studies have found (see page 34) the prerequisite nature of some subjects, such as Maths, Physics and Chemistry, require them to be placed on different lines of the timetable. The other subjects either have to compete with these on the same line or with each other on the other available lines of the timetable. The compromises that students make, although a concern for them at the time of the subject selection, becomes lesser of a concern as they start subjects in the senior school. This was expressed at the interviews. However, girls (see pages 32-35) are the most likely to be making the compromises for subject selection and the research suggests (see page 34) that girls are not gaining the advantages of the curriculum that they should in the senior years of schooling.

On this line there was a nil response, for all courses, for the TER to be a reason to select the subject. This is consistent with most courses so far selected on the lines except for 3 unit Maths, Physics and Chemistry. The perception, from students at the interviews, is that these courses will assist them score a higher TER although they are also perceived as difficult. The students also indicated that these courses were necessary prerequisites at university.

Table 16 indicates the courses chosen by students in line 6.

Table 16.

Line 6 - Courses Chosen by Students

Course	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Ancient History (AH)	6	**12**	3	**4.9**	9	**8.1**
Japanese (J)	5	**10**	4	**6.6**	9	**8.1**
Computer Studies (CS)	4	**8**	11	**18**	15	**13.5**
Music (M)	4	**8**	8	**13.1**	12	**10.8**
Textiles & Design (T&D)	9	**18**	0	**0**	9	**8.1**
Aboriginal Studies (AS)	1	2	7	**11.5**	8	**7.2**
Industrial Technology (IT)	0	**0**	15	**24.7**	15	**13.5**
Sport, Lifestyle & Recreation (SLR)	8	**16**	9	**14.7**	17	**15.3**
Skills for Living (SKL)	5	**10**	1	**1.6**	6	**5.4**
No course chosen	8	**16**	3	**4.9**	11	**10**
Total	**50**	**100**	**61**	**100**	**111**	**100**

The patterns of subject preference as outlined in other research studies is evident (see page 33) where Textiles and Design was all female and Industrial Technology all male. Males dominated in Computer Studies and Music. Aboriginal Studies was dominated by males reflecting the number of male Aboriginal students in School A (see page 81).

In Table 17 interest and enjoyment, for the most part, remain the main reasons for students making the choices they do in this line although for Music, Japanese and Computer Studies other reasons are also important.

Table 17.

Reasons for Choosing Courses in Line 6

Reason	AH Ancient History (%) N=9	J Japanese (%) N=9	CS Computer Studies (%) N=15	M Music (%) N=12	T&D Textiles and Design (%) N=9	AS Aboriginal Studies (%) N=8	IT Industrial Technology (%) N=15	SLR Sports Lifestyle and Recreation (%) N=17	SKL Skills for Living (%) N=6
Family/ friends	0	0	13.3	0	11.1	0	0	0	0
Teachers	0	0	0	0	0	0	0	0	0
Interest	**44.4**	**11.1**	13.3	**25**	**22.2**	**37.5**	**46.7**	5.9	40
Enjoyment	**22.2**	**33.3**	20	**33.3**	**33.3**	12.5	**26.7**	**35.3**	0
Ability	0	**22.2**	0	**16.7**	11.1	0	13.3	5.9	0
Future	0	**22.2**	**33.3**	8.3	0	12.5	13.3	0	20
TER	0	0	6.7	0	0	0	0	5.9	0
Organisation	11.1	0	0	0	0	0	0	11.8	40
Subject not offered	**22.2**	11.1	0	0	0	0	0	0	0
No reason	0	0	0	8.3	11.1	12.5	0	5.9	0
Other	0	0	13.3	8.3	11.1	25	0	**29.4**	0

Computer Studies is interesting in that 33% of students indicated that the subject was important for their future in some way but also because of family/friends (13%). This is the highest percentage for the reason family/friends of any of the courses offered. It could be suggested that parents perceive a knowledge of computers as being important for the futures of their children and encourage them to undertake the course.

There was a wider range of reasons for Japanese with some students indicating at the interviews that they undertook the course because they felt that it may assist them with career options in the future. A number of the Music students indicated that they had been playing a musical instrument for many years and felt it 'stupid' to give up the study now when it could be a lot easier than other subjects for their HSC. The comments made by students in relation to Sports, Lifestyle and Recreation were that the course was easy, it provided for a physical type of activity in the senior school and it might be useful later after they leave school.

Although 55% of Textiles and Design and 73% of Industrial Technology students chose interest and enjoyment for choosing the courses as their first reason, as second reasons, 40% of the Textiles and Design students and 50% of the Industrial Technology students indicated they choose these subjects because they believed them to be important for their future education/training or work. Other research confirms these findings (see page 44).

Table 18 indicates the courses that are on line 7 of the timetable. This line has 4 lessons per cycle which includes a number of CEC's and 3 unit Maths.

Table 18.

Line 7 - Courses Chosen by Students

Course	Girls (No.)	Girls (%)	Boys (No.)	Boys (%)	Total (No.)	Total (%)
Exploring Early Childhood (EEC)	14	**28**	0	**0**	14	**12.6**
Photography (PH)	9	**18**	8	**13.1**	17	**15.3**
Sport, Lifestyle & Recreation (SLR)	5	**10**	16	**16.2**	21	**18.9**
No course selected or Maths - 3 unit	22	**44**	37	**60.7**	59	**53.2**
Total	**50**	**100**	**61**	**100**	**111**	**100**

Of the courses offered there are two classes of Photography (PH) and Sport, Lifestyle and Recreation (SLR), on different lines, indicating a strong demand from the students for courses that are not linked to a TER. Students who selected

Photography and Sport Lifestyle and Recreation did so for reasons of interest and enjoyment which was the same as found in the other lines (see Table 11, page 100 and Table 17, page 107). On the other hand there are a number of students who choose a CEC because School A makes it mandatory for students to select a total of twelve units in year eleven although the Board of Studies regulation is for eleven units. The reason for this decision, in School A, is to give students a greater degree of flexibility with their choices for their HSC year where they have to study a minimum of eleven units. One of the consequences of this decision to mandate twelve units is an increase in the number of CEC's studied. This decision, to some extent, has also assisted in the CEC courses gaining a greater degree of acceptability within School A whereas at one stage the CEC courses were considered 'vegie' by some staff and students (see page 67).

Exploring Early Childhood (EEC) is quite popular and replaces a course that was developed in School A in the late 1980's to cater for the needs of students in this area. Although totally dominated by girls, 28% of the girls in the cohort selected the course. When some boys were asked why they didn't consider undertaking a course like EEC they indicated that they felt that there were some courses for boys and some for girls and EEC was not a course they were interested in doing. 20% of the girls who selected EEC indicated that they wanted to pursue this area of study and work after they finished school and the course provided useful insight into this field.

Nearly 45% of the research group choose to undertake a JSST course through TAFE including courses in hospitality, tourism, automotive studies, welding, building and office studies. Of this group over half indicated they chose the course because it may be of use to them in the future although this was not as clearly suggested in the interviews with students after they had been doing the courses for fourteen weeks at TAFE. Because the students had to normally miss some set timetabled periods to attend TAFE, some students indicated that it was becoming difficult to catch up work missed at school. There were also a number of students who left school around the time of the interviews, the largest proportion of these students were doing at least 2 units of JSST courses. When asked why they were

leaving the main reason was they had employment, but the other reason was trying to organise their time around work, school and TAFE.

There were two students in the study who choose courses through Distance Education, or study by correspondence. The reason they did so was because they could not study both Ancient History and Music which were on the same line (see Table 16, page 106).

There was one course, German, that had to be offered to students off-line. That is, the course was timetabled before school. The reason was due to the small number of students and the difficulty of providing all the choices that the students wanted as well as German on the lines. The specialised nature of the course required School A to be as flexible as possible with timetabling. Significantly, students who undertake these courses away from the set routine of the school, are usually committed. Although interest is still a strong reason for choosing the course the students also indicate that the course is important for their future.

What subjects did students choose?

As with preferences for subjects the students in the study choose a wide range of courses. There was no clear pattern but the traditional academic subjects that are required for tertiary prerequisites were chosen to the same extent as subjects that were considered interesting and enjoyable. The main tertiary prerequisite courses are at least 2 unit Maths, Physics and Chemistry (UAC, 1997). Of these courses 54% of students chose 2 unit or 3 unit Maths, 21% chose Physics and 23% choose Chemistry. Other traditional academic courses such as Economics were not chosen at all. Teese et al. (1995) had found these to be in decline nationally. But courses such as Business Studies and Computer Studies were chosen by 22% and 13.5% of the students respectively.

Courses that were popular with students included Personal Development, Health and Physical Education chosen by 37% of the students and Visual Arts with 19%. The preference for Personal Development, Health and Physical Education is consistent with NSW state wide trends (Board of Studies, 1996). Although the

course is a Board developed course and contributes to a Tertiary Entrance Rank (TER) it, along with the more practical CEC of Sport, Lifestyle and Recreation, is very popular. The non academic courses that don't count towards a TER were also popular with students. Sport, Lifestyle and Recreation was chosen by 34% of students, Photography by 27% and Exploring Early Childhood by 12.6%.

Vocational courses, that is courses that lead towards TAFE credentials, were chosen by 22.5% of students with a further 12% undertaking Industry Studies - Hospitality at school.

The selection of vocational courses and interest courses suggests a move away from some of the traditional academic courses but not the ones that are required as tertiary prerequisites. Students appear to choose subjects that will provide a TER, requiring 10 units of Board Developed courses from a minimum of 11 units for an HSC, and chose interest courses for the last one of two units in their selection of subjects. At the end of year 11 they are in a position to either continue with this pattern or drop the CEC and take up a 3 unit extension in a course. The latter is a popular option at School A.

Why do students choose the subjects they do?

Students give a range of reasons as to why they selected certain courses given the constraints of the timetabled lines. In terms of the model of subject selection (see page 18 and 46) these reasons are most directly related to the students themselves and, taking into account the influences previously mentioned, are the main identifiable reasons for the choice of subjects for the senior years of schooling. The reasons have been grouped together as intrinsic, extrinsic, instrumental, organisational and significant others (see page 18).

Intrinsic factors are those reasons associated essentially with interest in the subject and/or enjoyment of the subject. Ainley et al. (1994) found that intrinsic factors were given for the selection of art courses, physical education, technical subjects, humanities and biological sciences (see page 41). A similar pattern was found in this study although, interestingly. 19.2% of students chose Chemistry and 29.6%

chose 3 unit Maths because they were interested in or enjoy the subject. The indication is that students choose a combination of subjects depending on their interests and future study/work directions. The finding for 3 unit Maths is contrary to the findings in the Haeusler and Kay (1997) study where they suggest that Maths is studied for instrumental reasons not intrinsic reasons. For the CEC's intrinsic reasons were given for their choice. At the interviews some students said they chose courses like Sports, Lifestyle and Recreation and Photography as recreational courses to get away from the 'hassles' of the more academic courses or make up the lines.

Extrinsic factors are those reasons that relate to future education, training and/or work and are seen as useful and/or practical. The Ainley et al. (1994) study found that Maths and the physical science courses were chosen for these reasons. In this study relevance to the future was chosen by 22.2% of 3 unit Maths students, 45.4% of 2 unit Maths students and 23.8% of Maths in Society students (see Table 9, page 97). Relevance to the future was selected by 52.2% of Physics students (see Table 11, page 100) and 42.3% of Chemistry students (see Table 13, page 102). The 2/3 unit Maths, Physics and Chemistry courses are those most likely to be pre-requisites for tertiary entrance especially in engineering, health and science courses. Other subjects where extrinsic factors were important included Business Studies (37.5%), Science for Life (20%) both in Table 13, page 102, Agriculture (20%), Engineering Science (37.5%) both in Table 15, page 105, Computer Studies (33.3%, Table 17, page 107) and Exploring Early Childhood (21.4%). The course that is most surprising in this group is Science for Life which is a general science course that has no future educational component associated with it. None of the students interviewed were able to confirm why Science for Life was considered important for extrinsic reasons..

Instrumental factors include ability and the TER. These reasons appear to be course specific and students indicated that the TER was an important consideration in their subject selection when interviewed. The courses where instrumental factors are considered important include 3 unit Maths (29.6%), Maths in Society (30.9%) in Table 8, page 97), Physics (17.4%, Table 11, page 100), Chemistry (19.2%,

Table 13, page 102), Japanese (22.2%) and Music (16.7%) both in Table 17, page 107. For 3 unit Maths, Physics and Chemistry the TER was the most significant single reason whereas ability was the main reason for Maths in Society, Japanese and Music. This supports the findings of Haeusler and Kay (1997) who found that the more 'traditional' academic courses were selected because of their importance for the TER and pre-requisite purposes (see page 41). The impact of prerequisite subject requirements for tertiary entrance is a pattern that emerges from this study. The academic tradition is maintained by this requirement. At the interviews the students who were undertaking 3 unit Maths, Physics and Chemistry said they did so because they were required for future study options such as engineering. What became clear was that the students who intended to go onto university, understood what subjects were required by the particular tertiary institution and developed their course patterns around those parameters.

Organisational factors include the organisation of the lines in the timetable and the subject wanted not being offered on this line. The 'traditional' academic courses of Maths, Physics and Chemistry are not affected by organisational factors as students select these courses for prerequisite purposes. On the timetable these courses were placed on different lines to enable students to select them. It might be seen as supporting the academic tradition but the fact that Maths, Physics and Chemistry are prerequisite subjects for tertiary study is a constraint on the school timetable. It is the other subjects that compete for the limited places on the timetable lines that have major consequences for student choices. For instance, a student who wants to undertake a combination of humanity subjects excluding Maths would have to compromise their choices. In this study there were two students who did not want to do Maths if they could avoid it. However, given the large number of students who wanted the Maths courses they virtually had no choice. What happened for one of these students is that three of the courses she wanted all ended up on the same line of the timetable and she was forced to choose subjects she didn't want from other lines. The only other alternatives were to do courses through Distance Education, or to go to another school where the combination of subjects may have been better. The subjects that were most affected by organisational factors include the following: Personal Development, Health and Physical Education (16.6%,

Table 11, page 100), Business studies (12.5%, Table 13, page 102), Legal Studies (14.3%), Industry Studies - Hospitality (30.8%), Geography (19%, Table 15, page 105), Ancient History (22.2%), Sport, Lifestyle and Recreation (11.8%, Table 17, page 107), Exploring Early Childhood (14.3%,) and Photography (11.8%). The process of developing the subject lines (see pages 71 - 77) means that some subjects that students want are going to clash with one another. As a consequence students have to make a choice about which subject they are going to study. At the time this decision can be very difficult for some students who are forced to decide between two equally important courses for them. For others the choice is not so difficult as they have a range of subjects to select from and they make their choice as the lines allow. For these students this decision is for their last two units to make up their total of twelve units for their Preliminary year.

Another organisational factor that students responded to was in relation to subjects not being offered on a particular line due to the clashing of subject selection. The following subjects were most affected by this response: Personal Development, Health and Physical Education (2.5%, Table 13, page 102), Industry Studies - Hospitality (15.4%), Legal Studies (9.5%, Table 14, page 105) and Ancient History (22.2%, Table 17, page 107). This suggests that students were forced to compromise their choices of subjects on these lines. The courses most affected are those that were not prerequisite course for tertiary entrance emphasising the problem encountered by some students as mentioned above. At the interviews students either said that their subjects were not affected by the organisation of the lines or they were able to change to another subject that they felt comfortable in undertaking. These changes tended to take place in the first term of year 11. The reasons for the changes don't necessarily reflect the dissatisfaction with the organisation of the lines. The reasons given included 'who the teacher was on the class', 'I didn't find the course as interesting as I thought it might be' and 'I changed my mind about what I wanted over the Christmas holidays'. This suggests that although the organisation of the lines and the mix of subjects on the lines is important to students at the time of their initial selection of subjects, the importance of the choice diminishes as they start the courses in year eleven.

The factor of 'significant others' included the reasons of family/friends and teachers. Studies by Garratt (1985), Ainley et al. (1994) and Haeusler and Kay (1997) found that parents and teaches were not so important in the selection of subjects by students into the senior secondary years of schooling (see page 41). In this study the subjects that were most influenced by these reasons included; 2 unit Maths (12.1%, Table 9, page 97), Biology (10%, Table 11, page 100), Engineering Science (12.5%, Table 15, page 105), Computer Studies (13.3%) and Textiles and Design (11.1%, Table 17, page 107). In the Haeusler and Kay (1997) study they found that students regarded some subjects more important than others, namely Maths, Physics and Chemistry and indicated parents and teachers had more impact on students to select these subjects. In this research study students indicated that parents and teachers were reasons for their choice of course for 3.7% of 3 unit Maths students, 12.1% for 2 unit Maths students, 7.1% of Maths in society students (see Table 9, page 97), 0% for Physics students (see Table 11, page 100) and 7.6% for Chemistry students (see Table 13, page 102). At the interviews students confirmed that parents were not a significant influence in the final choice. It was mentioned that parents did encourage them to do at least 2 unit Maths and 'a science' to keep their options open. The students did also say that subject selection was discussed at home with the final decisions being left to them. The work by Connell et al. (1982) found that the family was a powerful institution in relation to the decision making processes of its members (see page 37). Although the students in the study did indicate that their parents were not important reasons for their final choice of subjects, a number of students when asked, did say that they would not change a course without consulting their parents. From the study it is difficult to determine the level of influence, as a reason, that parents had on their children without a greater use of interviews, especially of parents.

Summary.

There appears to be a number of trends evident from the data. The first is that there are significant differences between the sexes in the selection of the courses at School A. Physics, Engineering, Science, Agriculture, Geography, Computer Studies and Industrial Technology dominated by boys with Food Technology and Textiles and Design dominated by girls. This selection of subjects, based on

gender, follows the traditional pattern of subject selection of male and female students. The second is the selection of courses based on interest and enjoyment and the correlation these had to the rest of the reasons. Other than the main tertiary prerequisite subjects of Maths, Physics and Chemistry students selected subjects because of their interest in the course or their enjoyment of the course. The only exceptions to this were Business Studies and Computer Studies. The third is the perception and reality of the importance of the TER to future study and/work of some courses such as 3 unit Maths, Physics and Chemistry. The academic curriculum is strong and tends to dominate the development of the lines and the way courses are allocated to the lines. The other trend is the increasing number of courses that are CEC's and, for the first time vocational educational in orientation, on the timetable and their spread across the lines. Off the timetable there are the JSST courses and those through Distance Education and those that are conducted before school or lunch time in order for the course to run.