

Research Series

The Longitudinal Study on

Career Decisions and Tertiary

Pathways: Subject selection



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1: INTRODUCTION

Research into subject selection procedures (Washbourne & Simpson 1986, Tuettemann 1987) has been carried out in the Western Australian context after alteration to the curriculum in both the senior and lower secondary levels. Other studies on career and subject choices have provided insights into the influences on choices (Sleet & Stern 1980, Lee and Ekstrom 1987). However, few studies have been carried out focussing on the process and context over time in which students make choices about school subjects, post-school courses and careers (Dellar 1994).

According to Chapman (1993), previous investigations have studied the nature and relevance of occupational information at critical times in decision making, although little research has included assessing the value of information given to school students (National Board of Employment, Education and Training 1995). Further, Harvey (1984) (who conducted semi-structured interviews to reveal differences in attitude to career style) found that pupils in lower curriculum groups did not understand that early setbacks and lack of status would prove to be handicaps in the latter years of schooling. While all students have little knowledge of career pathways, tertiary courses and career options in the early days of schooling, it appears to be those students who are academically less able who are disadvantaged when selection of subjects and career decisions are made.

In 1995, the Tertiary Entrance Procedures Authority (TEPA) carried out a study which analysed differences and similarities across the policies and practices adopted by schools in their educational planning and career development programs throughout Years 11 and 12. Results from this investigation emphasised the need for schools to provide flexible, responsive programs to assist students when making decisions about post-school options.

The current Longitudinal Study on Career Decisions and Tertiary Pathways addresses similar issues from a different perspective, over a four-year time period. This project aims to identify the impact of school policies and practices on students as well as other influences which affect individual subject choices and career decisions. The Longitudinal Study also seeks to gain an additional insight into these processes and procedures through the use of a qualitative research methodology in order to access the views of students directly. This project will evaluate, from the students' perspective, the usefulness of information and advice given at times of decision making and factors which facilitate or hinder their post-school choices. One of the aims of the study is to improve the use and effectiveness of information and publications given by the schools and TEPA in order to facilitate students' decision making processes.

2: THE PROJECT

During the latter half of 1995, seven schools were approached to participate in the TEPA longitudinal study. As shown in Table 1, the type and location of the schools is broadly representative of the full range of schools in the Queensland senior secondary system. After the initial phase of the investigation, a Catholic systemic school was included in the subsequent interview rounds to ensure that the views of this particular student group were also included in the study.

Table 1. School type and location.

SCHOOL	TYPE	LOCATION
Government secondary	co-educational	suburban
Government secondary	co-educational	regional
Government secondary	co-educational	regional (remote)
Government P-12	co-educational	regional (remote)
Catholic systemic	co-educational	suburban
Independent	co-educational	regional
Independent	single sex — male	inner city
Independent	single sex — female	regional

The first round of focus groups was conducted by a project coordinator and local researchers in early 1996. This initial contact with the schools and students was developed as a pilot phase of the project with the intention of establishing a productive working alliance with those involved in the study. The information collected also facilitated identification of relevant issues in order to provide a tentative framework for the planned second round of focus groups.

In 1997, the focus groups were replaced with a semi-structured, individual interview program. While some of the data collected across students yielded inconsistencies, it nevertheless appears possible to analyse and link a selection of the themes to the 1996 focus group data. This will permit identification of issues over time and also provide a link to future data collection. A table providing an overview of the data collection strategies is contained in Appendix B.

School backgrounds

Central coast public high school

This is a recently established school, one of six public secondary institutions servicing two cities on Queensland's central coast. It is average in size with approximately 650 students in Years 8 to 12 and a teaching staff of 50. The majority of students originate from nearby suburbs and comprise a wide range of socioeconomic backgrounds. The catchment area includes a mixture of traditionally lower income families from the older areas and middle to high income families in the newer areas.

The school curriculum includes a range of Board and Board-registered subjects. Years 8 to 10 study six core subjects: English, Mathematics, Science, Social Science, Core Health and Personal Development. Senior students must choose either English or English for Communication and Mathematics B or Mathematics A or Mathematics for Living. Learning Support teachers offer in-class support with an emphasis on literacy, numeracy and learning how to learn. Their assistance is also available to gifted and talented students.

The school has a Student Services Department which provides a program to meet the various needs of students. It incorporates learning support, guidance and counselling, and personal development. The guidance officer's role includes subject selection, career advice, tertiary study information and study skills advice. The guidance officer also offers support for personal problems and can refer students to local counselling services.

Career education programs are in place in a number of subjects at this school. The Personal Development Program which all students take until Year 10 incorporates study techniques, subject selection and career awareness. Career and further education information is also available to students as part of careers days, parent information evenings, work experience, and subject selection sessions.

Rural isolated school

This rural school was established over 100 years ago and is located in a town where the main economic activities are centred around the sheep, cattle and kangaroo industries. Various small businesses servicing the rural industries and population are located in the town.

The school caters for children from Preschool to Year 12, and offers school, Board and TAFE accredited subjects to Year 12. Students from a variety of socioeconomic backgrounds are enrolled here, including the children of long term unemployed parents and the children of wealthy land holding families. The school has a Group Home attached which provides accommodation for students from outlying areas. Currently, approximately 300 children attend the school which has a staff of fewer than 30 teachers.

A school and industry links program, tutor support, Careers Education Centre (CEC), Business Education Centre and Practical Computer Methods are additional features of the school program. The school is visited fortnightly by a Guidance Officer offering careers and subject selection advice to students. One teacher is allocated to coordinate careers and further education material sent to the school which is shared and displayed in the CEC. In addition, a vocational camp is conducted annually for Year 12 students to visit workplaces and tertiary institutions of their choice. Throughout the year invited speakers, such as Defence Forces personnel and representatives of tertiary institutions, visit the school to address interested students.

Suburban public high school

This relatively new suburban public high school has approximately 800 students enrolled from Years 8 to 12. The school is situated in the inner suburbs of Brisbane, less than 15 minutes drive from the city. The majority of students reside in close proximity to the school, drawing mainly from four surrounding suburbs. There is a small group of overseas students and slightly more girls than boys enrolled.

Through Years 8 to 10 students study English, Mathematics, Science and Study of Societies and Environments as core subjects. In Years 11 and 12 the core subjects are

English and Mathematics, with teachers also available in nine subject areas. Student support and learning assistance programs include parent volunteers, peer tutors, and Year 12 support for Year 8s. The school has a Guidance Officer whose major role in the school is to provide advice regarding career and subject choice.

Students receive subject selection information over a four-week period in class time according to subject area. Materials distributed include a future options sheet, CES career guide, *Tracks*, and OP and FP information sheets. The school also produces subject information pamphlets that inform students of what they are likely to learn, expected methods of teaching, required time commitment, prerequisites, assessment, and possible future benefits of the course.

Year 10 students are issued with a Years 11 and 12 Courses Guide which is used in conjunction with TEPA and QTAC publications, *From Year 10 to Tertiary Entrance* and *Summary of Selection Criteria for Entry to Universities and Colleges* (now named *Tertiary Prerequisites*). The booklet is addressed to both students and parents and contains advice for options after Year 10, subject selection, expected workloads, and options after Year 12.

Provincial private single sex school

Opened as one of Queensland's first secondary schools almost a century ago, this institution is situated in a large provincial city. A private, fee-paying school, it caters for girls from a range of socioeconomic backgrounds.

The majority of the 900 students are drawn from the outer city suburbs, including some areas relatively distant from the school. A boarding school, it also caters for students from rural Queensland and northern New South Wales. English, Mathematics and Science form the core of students' education from Years 7 to 10; English and Mathematics form the core in the Senior Years.

The school provides instruction for academic and non-academic students. Access to specialist teaching is offered and gifted and talented students are catered for, as are students with learning difficulties. Students from non-English speaking backgrounds are offered a programme which accelerates their progress in learning and applying the English language.

A Student Counsellor, Careers Room and the following resources are at the students' disposal: computer software to explore interests, courses and jobs, *Job Guide* books, videos, university/TAFE handbooks, and *Works Skills* texts. Students also take part in a Life Skills subject, a school Careers Day, Freeman Testing, preparation for the Core Skills Test, and a variety of class activities centred around assisting the students in choosing a career.

Central Queensland public high school

Opened less than three decades ago, this school has a population of approximately 400 and is situated in the Central Queensland region.

The area has eight primary schools, a junior high school (Years 8–10) and two senior high schools (Years 8–12), a TAFE college, and a School of Distance Education. This school services a largely housing commission area and a significant proportion of employed parents are shiftworkers or semi-professionals. The student population is mixed with a range of groups including Aboriginal and Torres Strait Islander (ATSI) and ethnic students.

The school offers a diverse curriculum, providing for the needs of a wide range of students. English, Mathematics and Science are compulsory for Years 8 to 10;

senior students must study either English or Applied Communication Studies and Mathematics A or B. Programs available include Board subjects and Board-registered subjects which incorporate vocational education units and work placements for post-compulsory senior students.

The Guidance Counsellor works between the high schools and is available by appointment once a week. The position of Careers Adviser is a voluntary one open to the school's teaching staff and chiefly involves handing out literature on request. Career Education programs in which students participate include careers markets, parent information evenings, life skills, and subject selection sessions.

Coastal north private school

This school on the coast of North Queensland has approximately 400 students in Years 8 to 12. As the only 'elite' private school in the region (but not the only private school) the catchment area does not tend to be dictated by geographic factors and many students from minor population centres of the north coast attend. According to school administration, a slight majority of students probably originate from the more affluent suburbs in the area, and very few or none from the traditionally poorer areas. Generally the majority of students would come from upper middle class homes, including a few very wealthy families, although almost half come from families who would struggle to pay the fees.

Approximately 10 per cent of the student population have a language background other than English. The majority of these are Japanese students enrolled as overseas students. These students stay in a boarding facility attached to the school campus.

Years 8 to 10 study Christian Education, English, Mathematics and Science as core subject areas. In Years 11 and 12 core subjects are reduced to three: Christian Education, English and Mathematics. Subject choices appear to be primarily academic. The senior curriculum is blocked according to the desired combinations of subjects indicated by students in a preliminary survey.

A number of student support services are available including English as a Second Language (ESL) courses, learning and support assistance, and a program for gifted and talented students. A laptop computer program provides computers to all students on lease from the school.

Coastal catholic college

This Catholic systemic school is situated on the outskirts of a major tourist region. Established in the early eighties, the school caters primarily for children from middle to low income families.

Students in Years 8 to 10 study Religious Education, English, Mathematics and Science, with Years 9 and 10 choosing from a wide range of elective subjects. Years 11 and 12 students choose from Board and Board-registered subjects. The school offers quite an extensive selection of vocationally-oriented subjects, and has programs operating which have been designed to help non-academic students gain secondary qualifications and find work after Year 12.

A support teacher is available for students who require extra help or have special needs. The school counsellor is both counsellor and careers adviser. Other staff also have responsibility for aspects of student career education, including assisting in preparing students for the QCS Test. Parent-teacher evenings are held for students going into Year 11 and their parents.

Suburban private single sex high school

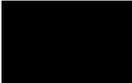
This private boys school is situated within a 10 kilometre radius of a major city. It is an old school, established early this century and many of its buildings are Heritage listed. The school is a day and boarding school catering for Years 4 to 12, with approximately 1000 students in Years 8 to 12.

Most of the students reside in close proximity to the school, drawing mainly from surrounding suburbs. This is generally perceived as an upper middle class socioeconomic area. Parents' employment tends to be at managerial level and almost half the families have two parents working. There is a small group of overseas students, predominantly from South-East Asia, including Papua New Guinea.

Approximately 100 teachers work within 12 subject areas. Through Years 8 to 10 students study English, Mathematics, Science, Health and Physical Education and Christian Education as core subjects. In Years 11 and 12 the core subjects are English, Mathematics, Life Skills and Christian Education. Subjects available suggest a mix of academic and non-academic students, although the school is primarily geared towards academic subjects.

An increased number of vocational education subjects have recently been made available at the school for Year 11 students not wishing to pursue academic studies. The Academic Support Program is also available for students experiencing difficulty. The school has a Guidance Officer and an assistant to the Guidance Officer. Both personal and careers counselling is provided.

Students receive subject selection information at the end of Year 8 and Year 10. Materials distributed include an Academic Handbook outlining subjects available, and course selection advice. Subject selection talks and careers nights are held. The Guidance Officer counsels students individually regarding subject selection.



Measures

As the initial phase of the investigation was primarily intended to introduce students to the concept of talking about tertiary pathways and career-related decisions, questions were generated by the researcher in response to topics raised by individual focus groups. Discussions centred around school resources which were perceived by students to be helpful or unhelpful in facilitating choice of school subjects and career options, as well as a range of additional influences which impacted on subject choice, tertiary course options, and career decisions.

In the second phase of the study, discussion topics were developed based on the themes which emerged from the student focus groups. Areas covered related to the subject selection process, assistance with subject selection, careers events, and information provided by the school.

After completing two rounds of group discussions, it was decided that the experiences of individual students should be the focus during the next phase of the study. A semi-structured interview schedule was developed by the research team which aimed to address issues relating to information provided about school subjects, tertiary pathways options, factors which influenced student decision making, the perceived usefulness of school subjects, and future career plans.

Procedure

Throughout 1996 and 1997 class observations, at times convenient to schools, were an additional strategy employed to enhance information gathered. Additional information distributed by the schools relating to subject selection, careers, tertiary study and pathways options was also collected by the research team.

Phase 1 (Semester 1, 1996 — Year 10 students)

Each class participating in the study was divided into self-selecting friendship groups of approximately two to five members, with the most common grouping consisting of four students. Discussions lasted the length of a school period which, typically, was around 40 minutes.

Phase 2 (Semester 2, 1996 — Year 10 students)

During the latter half of 1996, students were again involved in a focus group situation targeted at a time when decisions were being made in relation to subject selection for Years 11 and 12. Student absences and relocation of students in conjunction with changes to friendship groupings resulted in membership of groups varying somewhat during this phase of group discussions. Researchers encouraged all students to participate in group discussions of the topics. As was the case in the previous phase, the length of the focus groups was limited to approximately 40 minutes.

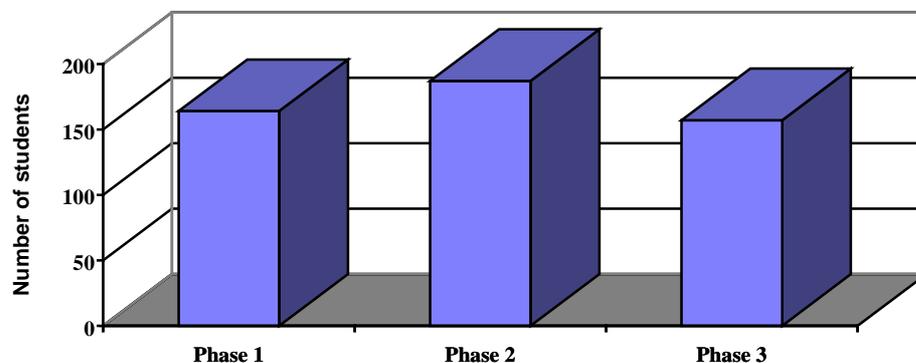
Phase 3 (Semester 2, 1997 — Year 11 students)

Early in second semester, school personnel were contacted to arrange individual student interviews. The majority of schools scheduled the interview program over a period of one or two days, resulting in a time limit of 20 minutes per interview. In some cases, researchers adopted an alternative strategy of permitting students the option to discuss topic areas, rather than asking the full schedule of questions.

Participants

As can be seen from Figure 1, the number of participants increased during the second phase of the investigation due to the inclusion of an additional school. The original number of students involved in the study was 164. Of the 187 students at the eight schools who were part of the second phase, 157 (84%) also completed the individual interviews in the third phase.

Figure 1. Number of students participating in the study.



3: PRELIMINARY FINDINGS

From the data collected during the three completed phases of the research, the interaction of personal, social, and socio-political factors appeared to influence how the students made decisions regarding subject selection. Firstly, the main themes relating to personal factors consisted of the students' self-assessment of their academic ability, level of interest and need for subjects for post-school courses and career pathways. Secondly, social themes included factors relating to their family and social networks as well as their educational experiences. Lastly the socio-political environment of the community in which the students and the schools are located also appeared to impact on the students' decision making processes.

Personal factors

I just did like C..., home ec 'cause I just like cooking and everythin' like that. Ahm, art because I like drawing and playing round with stuff. HPE 'cause I really enjoy sport an' drama 'cause it's just fun and I like doin' it.
(1st rnd 3, 211, 1 8:33-37)

Consistent themes expressed across all three phases by students who discussed how they chose their subjects or would advise others how to select subjects for Years 11 and 12 included assessment of whether or not they were "good at" the subject, were "interested" in the area and enjoyed the content and method of teaching, and whether or not they needed the subject as "pre-requisites" for post-school courses and careers. This criterion was not only used for selection of subjects for Years 11 and 12 but had been used in the past when choosing areas of study at school.

Throughout the preliminary phases of the study it was noted that very few students had a clear idea of career or course pathways and were experimenting with ideas.

I don't know. The subject selection, I just sort of chose the subjects that I was interested in and good at.
(2nd rnd 7, 112, 1 41:26-42)

Well I didn't know what to choose because I don't know what I want to do when I leave school so I just tried to, um, choose subjects that would leave my options open. Like I chose two sciences and like Mathematics B and all that.
(2nd rnd 2, 112 1 23:182-188) (a)

Others, while choosing subjects they were interested in, good at and enjoyed, also wished to keep their "options open" to maximise their choice of course or career pathways on completing Year 12. Three decision making processes were alluded to: (a) choosing a broad range of subjects without any idea of course or career paths; (b) choosing subjects which would allow a number of course and career options; and (c) selecting subjects which were perceived to maximise their Overall Positions.

Mainly what you're good at is what I thought 'cause that's what's gonna get me a better OP.

That's what they all say. They're saying whatever you enjoy and you're good at, you know, you're good at it just do that.
(2nd rnd 2, 115, 2 32, 2 34:379-388) (c)

I've got three jobs I wanna do. Well, three I might wanna do and so I sort of got all the subjects for them and just took a wide variety in the ones I enjoyed this year and the ones I'm good at.
(2nd rnd 4, 113, 1 50 4:157-160)(b)

A number of the students were pragmatic and emphasised that if you enjoyed a subject you were usually good at it and this would result in a good OP. Many appeared to recognise that, if they were unable to perform in subjects that were prerequisites, it was preferable to consider an alternative area for future study. Further, it was also suggested that it was better to choose a subject which you were good at rather than do badly and fail.

S 1: ...if you need to do Mathematics C and you can't handle it, then you know that you've gotta choose something else 'cause you'll just fail it and then...

S 2: It's better gettin' an A in...

S 1: Yeah you might as well get—you might as well completely pass another subject and get into a different area rather than, um, do—get into a career—try and get into a career with certain subjects and fail it and then you've got nowhere else to go because you would have failed everything. (2nd rnd 3, 114, 2 26, 2 183:351 367)

A significant number of students expressed dismay at being asked to select subjects in Year 10 which would influence their study options for the rest of their lives. Many commented that they were too young to be making such decisions about future careers, especially when they were unsure about the types of employment available in whichever field they chose. While a need to keep options open was considered by most students, for some this constituted their primary subject selection strategy. The following extract from a second round group interview highlights the students' dilemma.

S.1: I think the hard thing is in choosing your subjects in Year 10 for 11 and 12 that that's kind of like it's for the rest of your life. You—you're meant to know in Year 10 what you wanna do.

S.2: And I have no idea.

S.1: Which I have no idea what I wanna do so that's why I'm kinda like choosing subjects which will keep all my options open. I have a language and I have two sciences so if I wanna do science in uni that'll be okay 'cause they need usually like a pre-requisite or two and I've got Drama and that's kind of the Art and I ... I was gunna do Economics 'cause it was like a social science. (2nd rnd 4, 114,163,1 64:254-271)

As stated, the majority of students in the third interview were also expressing difficulty in concreting their ideas about course and career pathways. The following excerpt illustrates the typical process of experimenting with ideas and the range of factors that are taken in to account when considering subject selection.

... cause my sister was in Year 12 and so she had the Job Guide book and so I used to look through it and read all about it and stuff and I thought forensic science was really interesting, but I'm hopeless at science, I know that that would never come about, and I also wanted to be a nurse, but also I'm not that. I'm not good at science so that wouldn't help me either, but yeah. And I also wanted to be a graphic artist but then I went on work experience as one and then I realised, "No, I don't want to do that either," because I thought it would be working by hand, but it's all on computers and it's really boring. You just sit in a little back office all day in front of a computer. (3rd rnd, 4011, 1 17:199-211)

Thus, for the majority of students, subject selection was not based on specific course and career pathways.

I really enjoy Biology actually except that—I get good marks in like class essays and that, like I top the grade, but I bomb out in exams some times. But I still enjoy doing Biology cause it's—I like Music a lot and it's not hard to get good marks—I hope the teacher didn't hear that but it's pretty easy.
(3rd rnd 4011, 1 7:69-73) (a)

I like Japanese, that's my favourite subject. As for that because when I leave school I want to work, I want to go—I've just come back from an exchange over there and I want to work over there for a couple of years teaching English over there before I work for my father in his business and I might even work in other firms before that doing—after I go—this is after I go to uni. (3rd rnd 4015, 216:50-56) (c)

I think Mathematics because I go nowhere very quickly. Like I can sit there and Mr ... can be scribbling on the board whatever he wants to write and I can be just sitting there going, "Oh, my God, I don't know this," sort of thing and when it comes to Mathematics exams I really do stress out..
(3rd rnd 4017, 1 80:349-363) (a)

I don't really like English this year, it's a lot different... in English now we're doing like colours and what colours mean and I don't—I think that's really strange so it's—I don't really like that much. ... Well, in English all the other years we've done like a variety like media and, I don't know, poetry and stuff like that and this year we haven't done any of it, like we've hardly done anything, so I thought we'd be doing stuff like that, but we don't so it's all different.
(3rd rnd 4016, 1 67: 167-171d)

The criteria used by students to select their subjects, as reported in the first two phases, were further illustrated in the Year 11 interviews (third phase) when attitudes towards their chosen subjects were discussed. They reported that their “best liked” or “favourite” subjects were those which: they could “do”; found “fun and enjoyable”; “interesting”; relevant for their “future course, work or career”; and for “general knowledge”. Students linked: (a) good marks with enjoyment; (b) easiness of the subject with understanding; and (c) interest with usefulness of the subject for future courses and work opportunities, as illustrated by the accompanying quotations.

The evaluations relating to the “best liked” subjects were similar to the reasons given to assess their most useful subjects. The subjects which were deemed to be most useful were classified as those which would help in their future work, course or career and to enhance their general skills.

Alternatively, the students reported that the least liked subjects were those which they found “too hard”, “difficult to understand” and those in which they “were not doing well”. A wide range of subjects were mentioned such as mathematics, biology, HPE, science, English, Music, and Art. The students reported a number of reasons for their lack of enjoyment of the subjects: (a) the expected standard was too high; (b) they were not interested; (c) they did not understand explanations given by the teachers; and (d) the content was not what they expected. In many cases, students offered more than one reason for not liking the

Chemistry is just really easy to understand like compared to Physics. Like the text book is really and like once you—say I'm behind in class I can just read the section, do the questions and I'll understand it, whereas in Physics if I'm behind I'm behind, I just can't catch up with that, and History because it's one of the easiest of my subjects and everything is just straightforward.
(3rd rnd 4012 1 32: 262-266)(b)

Most of them are okay, except I don't like IPT, but I didn't really want to do a seventh subject, but I had to do one so I had to pick a subject, but none of them appealed to me at all, so I had to pick it and I'm not doing very well and I don't like it at all because it's just stuff I'm not interested in and I can't do well—if I'm not interested in it I just can't click on or anything and I...
(3rd rnd 4011, 1 11: 34-27)

Biology, again cause it's not what I expected and I expected something a bit better and I don't think the teacher's a good teacher and I don't really get along with him much and—I'm not just saying that cause I don't get along with him, a lot of people say he doesn't explain thoroughly enough or that.
(3rd rnd 4017, 1 76: 170-74)

subject and there was significant overlapping of the above categories. It was also commented by a small number of students that there was no subject they disliked.

Some students reported also that the subjects which they liked the least were irrelevant to their future, were “boring” and were not related to “real life”. These last two reasons were associated also with the students’ assessment of those subjects which they assessed as “least useful”.

Oh yeah, and Religion cause it's really heavy and like emotional and it's really heavy going and I don't think I should be wasting my time on religion. (3rd rnd 4017,1 87: 148-150)

However, the majority of students who participated in the individual interviews felt that all the subjects they had chosen were useful to some degree. A small number indicated they believed certain subjects to be least useful, but had taken them anyway out of personal interest and not to enhance future career or course opportunities.

Well, Film and Television I did that because I'm interested in that, but I don't think it will benefit me much in any way, like I don't think I'll be in the film and TV industry, but I do that for interest sake and that's really good. Most of the other ones are just general knowledge. Like Geography, I don't think I'll get into Geography, but like that interests me... (3rd rnd 4014, 2 22:-238-247)

The students emphasised that they selected subjects that they were good at and this criterion equated with the advice given within the schools and in TEPA and Board of Senior Secondary School Studies (BSSSS) publications on subject selection. While the minority of students who had some career direction linked enjoyment of the subject and good marks to future interest in course and career pathways, those with little direction focussed on choosing subjects which kept their options open and where they gained good marks.

Social factors

Um, well with myself I, um, decided on the subjects all by myself. Um, I didn't really have any input into them from par...—from my parents or friends. I decide—just decided on what I liked and was good at mainly. (2nd rnd 7 115, 2 47: 159-163)

Social factors noted to impact on students’ choice of subjects, post-school courses and career pathways included family members, social networks, and the school environment. While a small number of students did not acknowledge these influences as part of the focus groups and interviews, others reported that family, friends and teachers had influenced their choices to varying degrees.

A minority reported conflict and high expectations from their parents which caused some anxiety. These family expectations were reported to have negative as well as positive influences on the choice of subjects and careers, as can be seen from the following examples. It is evident that not only did students report the pressure from parents but also the impact of expectations from extended family members, as well as the wider social milieu in which they lived.

They [parents] wanted me to do accounting but the teacher had said don't do accounting 'cause I'm not good at it and so it's just a big argument but basically I've got it all worked out now. I'm not doing accounting. (2nd round1 114,2 18: 116-119)

Everyone my Dad knows thinks that I'm gonna follow in his trade but I just wanna do something different that my family's never done...I don't really wanna tell them that cause they might be offended or someting... It's not bad...Just about everybody on my dad's side is good at woodwork, even though I'm good at woodwork I just don't wanna do that. I wanna do science. (1st round 2, 2114, 2 26:205-214)

I don't wanna be a nurse. My grandmother was, my mother was, my sister is going to be and, I dunno, there' some pressure that I should be a nurse as well. (1st rnd 6 2012,1 39:91-93)

A large minority of students reported that their parents wanted them to progress to further education because their parents had been to university, other siblings were at university, and some parents believed that additional study would improve their children's job prospects. While some students felt their parents' expectations were too high, a significant number of these students were planning further education in line with their parents' expectations. The majority of students, however, reported that their families were supportive and helpful when they were selecting their subjects and also in suggesting careers. It was also the case that most felt that their parents supported them in whatever they decided to do. The parents and the majority of students believed that if they stayed at school until Year 12 this would enable them to gain employment and/or entrance to further education, thus increasing their skills in the labour market.

Yeah, my parents really want me to go to University and you have a really good career. And probably my Dad's probably influenced me the most cause like I really admire the way you know he cause he can speak about topics y'know...
(1st rnd 4, 2113, 1 56:129-132)

I think that your family can sort of guide you towards something but they can't pressure you into it. Sort of like most families—or my family wants—wanted me to be a doctor or a nurse sort of something that gets paid well and that but it's sort of—it's just I don't think I'll be able to achieve it...
(2nd rnd 5, 118, 1 102:109-120)

Influence of friends

I think friends can help you decide 'cause they're your friends and they know you and they can tell you what you're good at and things like that. Like probably better than teachers. I mean they think I'd be a good teacher.
(2nd rnd 3, 111, 1 9:343-347)

There was a consensus that friends were not the ideal people to influence the selection of subjects. However, students did state that having friends in the same class was of help as they were supportive. It was agreed also that friends were useful when discussing options and to support you while you made decisions. Friends were seen as more likely to know you better than teachers and, therefore, could suggest careers which would suit your personality.

This attitude perhaps illustrates the acceptance of the advice given through the schools — not to choose subjects just because of friendships.

Extra-curricular experiences

Those students who were involved in extra-curricular activities reported that these pursuits had widened their horizons and extended their ideas about careers or post-school pathway options. These pursuits included reading novels, watching television, attending drama, art and music classes, being employed in part-time jobs, holidays, and work experience.

Students mentioned reading books such as *Hot Zone*, Patricia Cornwell's novels about forensic science, watching television shows such as *Chicago Hope* and *LA Law* and holidaying with a forest ranger as being influential in deciding on areas of interest for a future career. These pursuits had, therefore, broadened their interests and given insight into the types of careers they might choose.

I read a book "Hot Zone"—it's like about like bio-safety work and they like work with diseases and everything and it sorta got me a bit interested in doing all that sorta stuff...
(1st rnd 2 2011, 1 2:111-119)

A number of students reported taking music and speech and drama outside school and, while all were doing these activities through interest and enjoyment, some were expecting to use these skills to help them finance themselves through further studies.

I'm doing Speech and Drama at the moment and I've nearly finished all my exams so I can be a speech teacher so—so I thought—if I don't have a job— if I have a job I can sort of teach speech to younger children and that to help me to get through uni and all that. (2nd rnd 7 112, 1 26: 159-163)

While part-time jobs were seen mainly as a source of pocket money, in a number of cases where students worked in catering they reported that their work experiences would help them in their chosen career of tourism and hospitality.

Yeah. I got a few things on catering courses but since I've been working at work, I've learnt a lot more[inaudible]. If I can get an apprenticeship without having to do a year of study at TAFE and things, I'll it'll—I'll get my apprenticeship over a lot quicker so I think I'll just try that because I'm learning a lot of—I've learnt more in a year at work than I have in three years of like Home Economics and stuff at school. (2nd rnd 114 3, 2 18:152-158)

I went to the Navy for work experience and I wouldn't work at the Navy because the stuff that they got me to do was really boring and I sort of didn't really get an idea about what it's about and that's it. (2nd rnd 111, 1 5 2:57-60)

Work experience for the most part was reported to have resulted in students rejecting or reconsidering an employment or career direction. However, the majority of students saw a direct correlation between their part-time jobs or leisure pursuits and future employment opportunities. They believed that including this type of experience in their curriculum vitae would help them in the labour market. Thus extra-curricular experiences appeared to encourage wider interests and hence resulted in the consideration of a range of different career options as well as preparing them for future employment.

School environment

By the second round of group interviews all the schools had provided information to students using a number of formal and informal methods including publications and videos, career talks, subject selections talks, parents' evenings, school excursions to university open days, and career exhibitions.

In all three phases of the study the students talked about the school resources which they found varyingly helpful in the subject selection process. The emphasis on these issues, however, changed during the course of the longitudinal study. In the third phase, as the students commenced their courses, generally most students were satisfied with the help and advice they had received from their schools. However, when asked specifically about certain resources, some students put forward some general suggestions which they felt would improve the subject selection procedure.

Publications

All students had received or were able to access a wide variety of literature relating to courses and careers published by QTAC, TEPA and other relevant bodies.

While in the first and second focus group rounds all students reported that they had either sighted them or knew they were available, only a minority of students had actually read them. These later students appeared to be motivated to seek out the information and were more likely to have a general idea about their futures and to link career pathways to subject selection. These three quotes from the same school illustrate the spectrum of reactions to publications.

Is that that um—yeah is that the 19— it's got 1996 Queensland Job Guide thing, is that it? A sort of floppy sort of book? Yeah, I saw that one. That's pretty good, that book. Like anything you wanna do you just like look at the back and then you just go to the page and it tells you what you have to do and what about the job and qualifications you need and that. It's good. (2nd rnd 5:111, 1 12:958-964)

I didn't even know what it means. It doesn't make any sense to me so I just kinda chucked it in the back of my wardrobe. (2nd rnd 6, 111, 1 16:340-343)

I think like in those little booklet things it should have, you know, whatever subjects you may take and then a list of, um, job opportunities and things like that. Like I know it won't help you heaps but, you know, it'll help you a bit. (2nd rnd 7, 111, 1 17:1150-1153)

School Personnel

I saw GO at the start of the year about just my subjects and she said—she just like gave me the old line just to choose what subjects you like feel most comfortable with, and you enjoy because that's the most important thing, that you have to enjoy the subjects so that's... It doesn't help me if I don't know what I want to do.

(2nd rnd 3, 113, 1 47:537-542)

All schools had either a guidance officer or teacher whose duties included career guidance. While the majority of students who mentioned that they had seen the guidance officer found this helpful, a minority reported that they had gained little useful advice. Again, those students who had some idea about their direction appeared to gain more from their meeting with guidance officers than those who had little idea of their future.

...with a lot of like in careers search and we did computer programs and booklets and things so I think that helps a lot. (GO) he offers careers advice if people want to book an interview with him so the school does quite a bit in that regard so, yeah, whatever you want to go into, it's good. ...the difficulties of—how people got in and the jobs which came out and the engineering sector...

(3rd rnd, 4015, 2 31:206-214, 234-239)

A number of students also mentioned that the lack of explicit linkage between school subjects and career pathways was a disadvantage when attempting to select subjects. While students who knew which courses they wanted to do in further education consulted the QTAC book, they perceived there to be little relationship between their current subjects and future courses. Students expressed that, while career books informed them about subject areas, at times, these were not specific about appropriate subject options in Years 11 and 12. There was an expressed need for more career information linked to subject selection and tertiary pathways.

All schools had provided their students with talks on subject content by Heads of Department and course teachers. While most of the students reported that these had been helpful, some issues with regard to the limited time scales, a selling bias on certain subjects, and a need to link subjects to types of careers were mentioned. While in some schools Years 11 and 12 students had assisted with talks to help the Year 10s select subjects, other schools had suggested Years 10s approach them informally. The students agreed that this was a good idea, but the students reported that it was difficult if you “didn't know them”. The following transcript is an excerpt from a second round focus group discussion.

**S 1.: I think they should have more lectures so that then you know what...*

**S 2.: Exactly what you're in for.*

**S 1.: ...is going to happen 'cause a lot of people go into the subjects thinking that I'm going to be doing this but they don't really know what they're going to be doing, you know?*

**S 2.: Yeah.*

**RES: So there's a book, isn't there, that also outlines the subject and that's not enough either?*

**S 1.: No, I don't think it is.*

**S 3.: Basically they end up saying all the good things about the subject...*

**S 1.: Yeah.*

**S 3.: ...and you never find out the bad things until you do it yourself.*

**S 1.: Yeah.*

**S 3.: So it would help if you talked to, I suppose, some students who actually did that subject.*

**S 1.: And it seems as if most of the teachers are trying to sell you their subjects ((laughing)). They're going, 'Oh do this.' ((laughing)). (2nd rnd 4, 112, 1 30,1 32, 1 31:589-654)*

Students who went to schools which linked publications with individual interviews and subject talks reported satisfaction with the selection procedure.

Well, I wasn't actually here for the information evening so that was a bit of a problem because I was away, but I found when we had to go and speak to the deputy principals I went and saw Mr [inaudible] and I found he was a good help and kind of he explained more in-depth than what the booklets did that they gave us so I thought that was good and—cause I ended up seeing him twice and I thought it was good because he explained things better and I kind of felt more relaxed and you know you've kind of done all right in your subjects, choosing them.
(3rd rnd, 4016, 1 75:326-335)

A further suggestion made by some of the respondents was that they should be allowed to join in a Year 11 class to see what the content was like before they chose the subjects. This was especially requested in subjects which were not offered before Year 10 by students who, in the third round of interviews, had dropped or exchanged a subject which they had found “too hard” or not what they “expected”.

Yeah. I'm doing HPE, Legal, Biology and IPT now. I was doing BOM, but I changed out of it because it was pretty boring. But IPT is really hard. It's not what I thought it would be. I thought it would be like computers, like you know making—showing you how to use programs and like Internet sort of things and that, but it's just making little program things with codes and it's really confusing. So I thought about changing back to BOM, but it's got a higher weighting so if you get a low mark in that it's still weighted higher than sort of an average mark in BOM so I'll just stay with it. (3rd rnd, 4011, 1 6:78-86)

Factors which constrained subject selection

Yeah and they can't ... like a lot of subjects also clash like when there's only one class of them and they're both on at the same time.
(1st rnd 1, 2012, 1 19:313-324)

A number of factors were mentioned which students reported had limited their selection of subjects including the timetabling of the line or block structures, academic standards imposed by some schools, the short time span, too few choices, and, due to lack of popularity, insufficient students to offer the subject.

However, the main limitation that students reported with regard to their subject selection process, across all phases of the research, was the line or block structures which schools used to timetable classes. While those students who were taking pre-requisite subjects for entrance to tertiary courses were satisfied by and large, those who had no specific study or career direction in mind and were choosing those subjects which they liked and enjoyed appeared to be the most dissatisfied.

I wasn't planning on doing Biology. I was doing Chemistry but it was on—it was on the wrong line so I couldn't do it so I'm doing Biology and I'm doing BOM, I'm doing Legal and it's a toss up between Accounting and Art 'cause I wanna do something relaxing but I don't—I want to do Accounting as well. That's it, so I haven't handed it in yet.
(2nd rnd 6, 111, 1 16:432-438)

A number of students experienced difficulty during the selection process when deciding on subjects because they clashed with other choices, resulting in the criteria of taking subjects they liked, were good at, or what they were interested in becoming compromised. While a number of students had considered changing subjects early in Year 11, school timetabling constraints were perceived to make this difficult.

I had to drop—I had to drop accounting and then I didn't know what to take up because all I had to choose from was the languages and speech and drama and that. I don't take any of those subjects this year and I, sort of—so I had to take up BOM—Business Operation and Management— 'cause that's the only other one I had to, like, to take up in that area so I was really stuck for subjects. (2nd rnd 1, 112, 1 20: 312-318)

That's the same with everything though, isn't it? I mean I was gunna do Economics but Economics isn't even going to go ahead because there are—I think there are enough people but it's just, um, the time of putting it on, that everyone—there's only like three people would be able to do it in each block and so I think it sort of go ahead like after class, Distance Ed., that is, if you want to do that so—and Drama. (2nd rnd 3, 114, 1 62, 1 1 63:136-170)

In a number of schools certain academic standards were imposed. Students below a specific level of achievement in Year 10 were dissuaded from or refused entry into a subject. This was usually confined to Mathematics or Science subjects where students professed they could do better if they worked harder in Year 11. Conversely, in one school a number of students reported that the lack of academic students in the past resulted in decreased choice for the academically oriented.

Although, um, yeah the trick I reckon is just to take as broad a range of subjects as you can, here, and that way when you go to uni you can pick a wider range of subjects 'cause if you take Mathematics B, Chem and Physics and then you can take this wider range from there like some technological studies and some, say, manual studies or so then you can have a wider range during, um, university to pick from and you've always got something to fall back on and I think—reckon we're disadvantaged here now—our grade—because, um, a lot of the other grades before us haven't really been very, very intelligent or haven't been so—so this school's been really based around manual subjects instead of academic subjects and we're disadvantaged by that as in most of us want to go on with academic subjects rather than manual subjects...(2nd rnd 1 1 32 9: 1017-1030)

The ramifications of the previously outlined limiting factors appeared to be that a number of students had considered changing their subjects in Year 11, although only a minority had subsequently altered their choices. These students had either reduced the number of subjects taken or were attempting to catch up in a chosen alternative. Most of those who had considered changing to another subject but had not, reported the line structure offered them no viable alternatives.

*I was thinking of changing out of Speech and Drama into—well, the only things I could think of to change into were BOM, which I'm already doing, or IPT and so I'm not going, I'll just stick with it.
(3rd rnd 4011, 1 1:64-75)*

In the third phase of interviews the majority of students reported that they were satisfied with their selected subjects. However, a number had considered changing subjects because they were failing, they found the subject boring, the approach of the teacher to the subject matter was confusing, or the content was not what they had expected.

Environmental factors

The schools which were chosen for the study were located in a range of geographical areas across the state. The location of the school in a specific community impacted on the students' selection of subjects and their perception of the labour market. Students from a school located in a rural setting discussed the impact of the location on their opportunities, not only in the range of subjects offered, but also opportunities for further education and employment. In comparison, these concerns were not expressed by students living in larger centres.

Schools located in rural or remote areas also experienced a range of staffing difficulties. The continuous turnover of staff appeared to impact directly on the subjects being offered in the school.

S.1: To make it more interesting there's things like, we don't have physics or geography and like...

S.2: We did have geography at one stage but not this year.

S.3: We do have it, just the kits.

S.2: We don't [have] the supply of teachers that, like, we're running out of teachers.

S.1: They don't want to give us teachers... We used to have a physics teacher like three years ago, now he's gone I thought, gee, that'd be a good subject to work at...(1st rnd 3, 2018,2 80,2 78, 2:391-408)

Geographic location was seen as detrimental to attracting long-term staff. The rurality and the socioeconomic status of the region were regarded as

disadvantaging students as far as future employment and further educational opportunities were concerned.

Main problem is living out in the west. It'd be really good if they had universities or a real private school...out here it wouldn't cost so much to go away. ...I think everybody could do a lot better and like be a lot better and feel a lot, have more options if they have got universities or more things, facilities out here. (1st rnd 2, 2018, 1 101:368-370)

S. 1: Like it's too small not enough opportunity...

S.2: Yeah, too small.

S.1: Yeah, you can't really work like, um, get an apprenticeship out here because there's not really, I don't think there's a plumber in this town except for the council that do some. (1st rnd 5, 2018, 2 81: 224-236)

I think I'd like to do like a TAFE course in the Army because you can learn the plumbing part and you can learn other things at the same time. (3rd rnd, 2 81:128-129)

As can be seen from the previous quotes at the third round of interviews, this student had found a means of becoming a plumber which would result in his moving out of the area. Such approaches illustrate the extent to which students are required to find ways to overcome some of the challenges associated with attending school in a remote area.

While the majority of students in isolated areas felt they were disadvantaged, the student quoted below felt that her experiences in a rural location were influential in her choice of career.

...no-one's really influenced like what I want to do in the future. It's sort of been the place I've lived. I've lived on a property for about 10 years and I've just sort of got used to living on properties and I feel that I'd work better on a property than in some stuffy office doing nothing so I'd rather be an active person than just sit around on my butt all day. I mean like it's just—it's just—I guess it's just all the activity and all the work and all that it just appeals to me. (2nd round 118, 1 98:169-178)

The students in more remote locations also believed they were disadvantaged as far as attending university open days and career exhibitions. These rural students and students in other centres outside the capital city also reported feeling that most of the further education and career opportunities were in the larger cities.

Career opportunities related to gender

In the present climate where issues of gender equity and social justice are important concerns in the socio-political context, the students' ideas about careers illustrate some merging of traditional gendered careers while other careers types tended to continue to be gender-specific.

The Holland (1985) career types (realistic, investigative, artistic, social, enterprising, and conventional) were used to classify the ideas students had with regard to career choices which, in a number of cases, covered more than one category (see Appendix A) It was interesting to note that both male and female students' career choices centred around the investigative and artistic categories. However, while the majority of males were within these two categories, the majority of females expressed a wish to take up careers in the social area.

Yeah, and there's like a limitation on the school's subjects here because a lot of other schools do marine studies and outdoor education and that's sort of like what I like. I don't like being inside. I don't think—I don't want to be in an office like as my occupation. I want to be outside either teaching kids phys. ed. or like something to do with animals or marine life and I would have loved to do marine studies and, yeah, stuff—outdoor education or anything like that, but they didn't have any of it so I couldn't take it, and yeah. (3rd rnd, 4011,1 11, 106-114).

The rejection of conventional occupations illustrates the students' expressed need to be outside and active. The subsequent focus on investigative and artistic areas was seen in both male and female students.

Yeah, I guess it depends [inaudible] get too, but if I—like I'll do my performance course, but then if I'm not getting work and stuff then I'll go back and do—I was thinking maybe I'd become a police person, just on the side. And which all ties in with law, as well, so maybe I'd do a law degree and then decide whether I want to be a lawyer or a police officer or... (3rd rnd 4012, 1 28:371-380) (Female)

Yeah. Career thinking? I was thinking along the lines of business management or real estate, something like that, that's because I just thought of doing that. Anyway, just—I don't know, I like that sort of thing, that area, cause I don't really want to be a tradesman and I don't really like science subjects or anything so I thought that would be all right cause my dad does a bit of—he's a solicitor so I thought legal business or something might be pretty good, so I just based my subjects around sort of that area. (3rd rnd 4015, 2 39:111-119) (Male)

Oh, I don't really know still, but I like Legal Studies so most probably something in law now, but if not I'll most probably do something in the construction industry because you can do a course now at uni to be a construction manager and that's got law and everything in it so that sounds all right too. (3rd rnd, 4016,1 75:170-175)

Career thinking. Well, I'm thinking of going into the hospitality industry or tourism and that's an air—either an air steward or in the hotel industry 'cause I can speak several languages, three, and I can—if I can't get a job here or if I do they could ship me overseas to Europe cause there's heaps of countries that speak Swiss, English and German there. (3rd rnd 4017,2 75:209-214)

Where male and females chose occupations with similar characteristics they appeared not to consider them as gender-specific. In the social and enterprising categories more women in the former and more men in the latter appeared to perceive these types of jobs as gender specific. Females tended to discuss jobs which emphasised relationships and interaction with people such as child care and teaching. In contrast, males in this category to choose occupations in hospitality and catering, as well as teaching.

Yeah, I always liked child care and that, but I've decided like I want to be like a live-in nanny like on a—on like a cruise ship or something. (3rd rnd 4012,1 36:407-410)

The socio-political issues reported to have influenced and impacted on subject selection and perceptions of post-school course and career pathways can be seen to constrain as well as facilitate students' choices. While the rural/urban divide can be seen to limit students who live in remote communities, this factor does not appear to influence the perception of male or female career choices. The mix of gender-specific and non-gender specific occupational choices did not differ according to the location of the school.

4: FUTURE DIRECTIONS

Initial results confirm the myriad of influences on students' decision making and highlight their importance as students choose future study and career options. The next phase of the research will involve surveying and interviewing students in their final year of school, around the time they are making decisions regarding applications for tertiary study. In 1999, those involved in the research will be invited to participate in a final interview aimed at obtaining a retrospective view of the issues addressed in the ongoing investigation.

Appendix A

Holland Themes

Realistic Theme: This involves practical and physically active work, often outdoors and using tools and machines. Examples of Realistic occupations are mechanic, construction work, fish and wildlife management, radiologist, some engineering specialties, manufacturing, some military jobs, agriculture, and skilled trades.

Investigative Theme: This theme centres around science and scientific activities, often of a creative and original nature and involves solving abstract problems. Occupations such as design engineer, biologist, social scientist, research laboratory worker, physicist, technical writer and meteorologist are examples of this theme.

Artist Theme: This type is artistically oriented and involves problem solving through self expression. The work is often solitary in nature and may use individualistic expression. Occupations which are considered to be Artistic include artist, author, cartoonist, composer, singer, dramatic coach, poet, actor/ess and symphony conductor.

Social Theme: This involves social and responsible work often humanistic in nature and concerned with the welfare of others. The work involves solving problems through discussions with others. This theme is exemplified by occupations such as high school teacher, social worker, child care director, marriage counsellor, speech therapist or vocational counsellor.

Enterprising Theme: This theme describes work involving a great facility with words, often concerned with selling, managing and leading. Enterprising occupations include business executive, buyer, hotel manager, industrial relations consultant, political campaigner, realtor, sales work and sports promoter.

Conventional Theme: This theme is primarily concerned with work involving highly ordered activities, both verbal and numerical. Occupations which come under the Conventional theme are mostly within the business world, and include bank examiner, bank teller, bookkeeper, some accounting jobs, mathematics teacher, computer operator, inventory controller, tax expert, credit manager and traffic manager.

These six themes, which can be used to describe both people and jobs, may be arranged in a hexagon with the types most similar to each other falling next to each other:



Few people or situations are purely of one type another. Most score high on two, three or even four of the themes.

Appendix B

Year	Phase	Methodology	Purpose
1995			<ul style="list-style-type: none"> • Establishment of contact with participating schools. • Development of project brief.
1996	Phase 1	Observations Focus groups	<ul style="list-style-type: none"> • Identification of career and study issues relevant to individual schools. • Establishment of peer-based discussion groups.
1997	Phase 2	Observations Focus groups	<ul style="list-style-type: none"> • Identification of school programs relevant to subject selection and career issues. • Exploration of issues relating to career decision making and subject selection.
1998	Phase 3	Individual interviews Surveys	<ul style="list-style-type: none"> • Acquisition of student views at the conclusion of secondary studies. • Provision of context for interview data.
1999	Phase 4	Individual interviews	<ul style="list-style-type: none"> • Collection of student perceptions regarding tertiary entrance and post-school options.