Why Trade Students Withdraw From Their Courses: 
Students’ Perspectives.

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ABSTRACT

Despite increasing numbers of students embarking on tertiary studies in New Zealand, the proportion of students completing a qualification is low compared to other OECD countries and Ministry of Education data shows that completion rates are low for students at Institutes of Technology and Polytechnics (ITPs) compared to other tertiary organisations within New Zealand. This dissertation examines the reasons why students at a polytechnic stay on or withdraw from their courses.

A qualitative methodology was employed for this research, focusing on a course with a low success rate at Unitec New Zealand. The primary sources of data were student pre- and post-course questionnaires and semi-structured interviews with three students.

This research project found that polytechnic students face a number of issues including finances and the time and cost of having to commute daily to the institution. This research project also found that the youngest students had the highest risk of withdrawing from the course prior to its completion. Additionally, this research project found that the main factors that put ITP students at risk of not successfully completing their course could be identified prior to, and in the early stages of, their courses.

These findings imply that early intervention by academic and support staff may lead to improved retention rates among this demographic of student. The interventions include: interviewing the students prior to the course to ensure they are aware of the costs involved in full-time study; having the students identify issues that may lead to having to withdraw and putting support in place to mitigate the effects of these issues; making a greater effort to socially and academically integrate the students and ensuring that students who struggle to pass early formative assessments are given extra support.
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CHAPTER ONE: RESEARCH PROBLEM AND RATIONALE

Why Trade Students withdraw from their courses: Students’ perspectives.

Introduction

This chapter is an introduction to the rationale and aims of this research project. In this chapter I explain what the problem is, the context and scope of the study, the rationale for the study, its aims and the research questions. Within this chapter is an explanation of why it will be beneficial to tertiary organisations involved in the training of entry level trade trainees, and ultimately how it may enhance entry level trade trainee's success rates. This chapter concludes with an overview of the chapters within this dissertation.

The Problem

Despite increasing numbers of students embarking on tertiary studies in New Zealand, the proportion of students completing a qualification is low compared to other OECD countries (Scott & Gini, 2010). Additionally, Ministry of Education (2010) data also shows that completion rates are low for students at Institutes of Technology and Polytechnics (ITPs) compared to other tertiary organisations within New Zealand. This is an issue for both students and tertiary institutions. Failing to complete a course of study has a personal and financial impact on students in that they have a debt burden without the increased earning ability to pay it off that comes from gaining the qualification. Also, tertiary institutions now face financial repercussions for failing to meet state-imposed success rate criteria (Tertiary Education Commission, 2014).

Within this author’s area of tertiary education (introductory level electrical training at a polytechnic), in recent years over 50 percent of first year students either withdraw from the
course or fail to satisfactorily complete the course. This compares with a national average of approximately 30 percent (Ministry of Education, 2010).

While there is a plethora of research on the subject of student success, most of it concerns degree level education at universities. There is however a dearth of research focusing on the perspective of polytechnic students. The purpose of this study is to contribute to the limited body of literature concerning the polytechnic students’ perspective regarding their ability to complete their courses. The aims of this study are to gain an in-depth and contextualised perspective of the issues surrounding students’ decisions to remain on or leave their courses and highlight the factors leading to improved academic achievement rates amongst students from the same or similar demographic to those studied.

Research Context

The context of this study is important as the students whose views are being canvassed have four principal things in common – they were male, they were on an entry-level electrical course at a particular polytechnic, they had to struggle with issues that made study difficult and they were able to persevere and pass the course. The choice of this research context was due to the researcher’s day to day contact with and commitment to improving the educational outcomes of this demographic of student. A qualitative research methodology was chosen so that the focus was on the students’ perspectives, seeking to understand why and how they persevered to complete their studies in Higher Education (HE).

Scope of Study

This is a small scale qualitative research study of one cohort of students on an entry-level electrical and electronics course at an urban polytechnic (Unitec) in New Zealand. The course learning outcomes are at level two and three on the New Zealand Qualifications
framework. To qualify as a level three qualification at least 30 credits of the qualification are required to be at level three (New Zealand Qualifications Authority, 2013). In this course the theory component of the first semester’s papers are at level two while the majority of the second semester’s theory is at level three. The majority of all practical papers are at level three. In all, fifty percent of the papers are at level three. The course is made up of eight one-semester long, fifteen-credit papers. However, within each paper there may be a number of modules that are assessed separately or may be assessed as part of a holistic assessment regimen. In general, each paper is assessed by at least a theory test, a written assignment and a practical assessment.

The entry criteria for the course are that the students be at least 16 years old and have completed at least three years secondary schooling. For ‘English as another language’ students an International English Language Testing System (IELTS) score of at least five is also required. The entry criteria also state that it is recommended that students have a minimum of ten level one (or higher) NCEA maths credits or their equivalent.

While this research focuses on polytechnic students, there is an obvious need to look carefully at literature relating to other education sectors to produce a clear picture of factors that may affect students’ decisions to stay on or leave their courses. Literature from the university-level tertiary sector and from the secondary school sector both provide vital links in our understanding of the factors that aid or hinder entry level polytechnic students’ ability to satisfactorily complete their courses. For example, some of the students attending polytechnic courses are the same age as students still at high school and others the same age as students studying at university. Also, first year university students and first year polytechnic students both face similar issues associated with beginning study in the non-compulsory education sector. Some examples are: a varying timetable; no uniform
requirements; less rigid attendance monitoring; and, usually, travelling to a destination some distance from their homes.

**Rationale**

Ministry of Education (2010) data shows that completion rates are low for students at Institutes of Technology and Polytechnics (ITPs) compared to other tertiary organisations. Apart from large-scale quantitative surveys, there is little research focusing on polytechnic students who struggle both inside and outside the classroom and how that affects their ability to complete their courses.

Most research in this area samples ‘live in’ university students (especially from the USA) (Assiter & Gibbs, 2007; Ryan & Glenn, 2004) who differ considerably from the typical New Zealand ITP student. One recent survey specifically polling students in the New Zealand ITP demographic is the Australasian Survey of Student Engagement (AUSSE) of 2010 (Radloff, 2011). However, in this survey only approximately sixteen percent of the samples from levels one to three responded and only 43.5 percent of those were males. This is a vastly different proportion to the male-female ratio found in this researcher’s (electrical) trade training area which has approximately 98 percent male students. As a result, an investigation involving something other than, or in addition to, an arm’s length survey is required to hear the students’ perspective on the subject.

**RESEARCH AIMS AND QUESTIONS**

**Aims**
The aim of this research is to gain an in-depth and contextualised perspective of the reasons polytechnic students stay on or withdraw from their courses.

RESEARCH QUESTION

Given the aims of this research it is important that the research question leads to ways of addressing polytechnic trade students’ success rate.

- What are the challenges facing New Zealand polytechnic trade students that may lead them to withdraw from their courses?
- What are the factors that assist New Zealand polytechnic trade students to remain on and pass their courses?

Overview of this Research

Chapter One introduces the problem that was the impetus for this research and presents the context and rationale for this dissertation. The aims and research questions set the framework that guides this study.

Chapter Two draws on literature to critically examine the aims of this research. Issues surrounding the retention of students at tertiary level study and the success of students at both secondary and tertiary are considered.

Chapter Three provides the rationale for choosing a qualitative methodology and interview approach for this research, and the research design is discussed. The semi-structured interviews and the subsequent data analysis are explained. Issues of internal validity, reliability and trustworthiness are described. Ethical considerations are identified and discussed.
Chapter Four presents the findings from the pre- and post-course questionnaires and the semi-structured interviews.

Chapter Five uses the research questions to frame the discussion and integrates the findings from Chapter Four with the relevant literature. Chapter Five also reviews the research process and the main findings in this study, presents recommendations for practice and further research, and highlights the limitations of the study.
CHAPTER TWO: LITERATURE REVIEW

Introduction

Chapter Two reviews the literature around polytechnic trade students’ success and retention. It identifies what is known about this topic and what gaps may exist in the research to date. There is a plethora of research around the general topic of student success and retention across the educational spectrum. This is particularly so for the tertiary sector where attendance is voluntary. There is however a shortage of information specifically relating to trade students on full time courses at polytechnic institutions. Additionally, as most students on entry-level polytechnic courses have just left high school, attention will also be given to research regarding high school student retention.

The aim of this chapter is to review and critique the literature around polytechnic trade students’ success and retention to ascertain:

- What research has been carried out around the subject of tertiary students’ success and retention?
- What are the key findings from this research?
- Does the research highlight specific factors associated with the success and retention of trade students?
- Are there any major gaps in the research literature or limitations with respect to trade students?
- From the literature, what questions remain unanswered in order to understand the issues surrounding trade students’ reasons for withdrawing from their courses prior to completion?
Overview

The literature review is focused on issues and problems identified with the motive of improving the success and retention of polytechnic trade students.

From the literature two main themes have been identified, each of which has two sub-themes.

1. Personal factors:
   a. Personality factors that have been shown to affect student success and retention.
   b. Personal issues that have been shown to affect student success and retention.

2. Institutional factors:
   a. Classroom activities that have been shown to affect student success and retention.
   b. Institutional policies and procedures that have been shown to affect student success and retention.

STUDENT SUCCESS AND RETENTION RESEARCH

A review of the literature shows that over the last three decades much research has been carried out on student engagement, success and retention. Zepke and Leach (2005), for example, were able to carry out a synthesis of 146 studies on the subject. While not yet researched extensively in New Zealand tertiary settings, elsewhere it is abundant, although most of the work centres on degree-level students at standard universities (Weiner, 1990). There is, however, very little research pertaining to the academic persistence of sub-degree and vocational trades students carried out at polytechnic-type
organisations. Sub-degree and vocational trades’ students at polytechnic-type organisations are different from university or (US) college students in a number of ways. For example, the courses they attend often have no or low entry criteria; typically, only three years secondary education and minimal if any requirements for English and Maths ability. Also, virtually all the students commute to the institution daily instead of living at the institution (Assiter & Gibbs, 2007; Ryan & Glenn, 2004).

In recent years, inquiry into the New Zealand certificate and diploma level tertiary study has started to build. In 2010, for example, a pilot study using the Australasian Survey of Student Engagement (AUSSE) was conducted with ten Institutes of Technology and Polytechnics (ITPs) throughout New Zealand. This AUSSE survey collected over 2,200 responses from students studying at New Zealand Qualifications Authority levels three through seven (Radloff, 2011). However, within the literature, it is shown that the same research questions can deliver different results from multi-institutional studies compared with single institution studies (Zepke & Leach, 2010). The AUSSE survey also produced diverse findings among the different ITPs as well as diverse findings between discipline areas within the same institutions (Radloff, 2011). This not only leads to a confusing diversity of findings on the subject but also provides a clear illustration of the vastness of the field of study.

Although many studies, even recent ones like Radloff (2011) and Doll, Esami and Walters (2013) for example, list single reasons for students withdrawing from the education system, generally the literature indicates that students discontinue tertiary education for a number of reasons and often finds that there is rarely a single reason why a student would leave (Baird, 2002; Crosling, Heagney, & Thomas, 2009; Radloff, 2011; Ryan & Glenn, 2004). In most cases, the explanation is convoluted, with students leaving for a
combination of inter-related factors. Some students withdraw for reasons beyond the control of the institution, including personal reasons and changed personal circumstances; others withdraw citing factors that may be within the control of the institution to mitigate. A poor choice of course is one example. Overall a number of themes can be distilled from the literature on this subject. Two themes are related to the students themselves and two are related to the institution.

Of the two themes relating to students themselves one has to do with personality factors, beliefs and thoughts (Bandura, 1993; Pintrich & Schrauben, 1992; Walker & Greene, 2009; Zimmerman & Cleary, 2006). The other concerns personal factors - family, finances, work commitments, transport problems and the like (Baird, 2002; Davies & Elias, 2003; Quinn et al., 2005; Radloff, 2011; Yorke & Longden, 2008). The two themes relating to the institution can be separated into factors inside or outside the classroom. Inside the classroom there are factors such as teaching and learning methods, and classroom relationships (Demaris & Kritsonis, 2011; Jessup-Anger, 2011; Newman & Schwager, 1993; Richardson, 2011; Seifert & O'Keefe, 2001; Tinto, 2002, 2006; Walker & Greene, 2009). Outside the classroom there are factors that may or may not be directly related to the student’s learning, such as whether the student is on the correct course (subject-wise or level-wise), and whether or not the institution is able to provide support for other issues the student may have (Baird, 2002; Davies & Elias, 2003; Quinn et al., 2005; Radloff, 2011; Tinto, 2006; Yorke & Longden, 2008).

**Definition of Terms**

The term ‘student engagement’ concerns student involvement in learning and implies an active and intelligent interest in teaching and learning (Trower, 2010). Student retention
refers to the extent to which learners remain within a higher education institution, and complete a programme of study in a pre-determined time-period (Jones, 2008). A wide range of terms is used to describe retention and its opposite. Some tend to emphasise what might be termed the student dimension, for example: persistence, withdrawal, dropout, and student success (Jones, 2008). By contrast, others focus on the institutional perspective, examples here include retention and graduation rates (Jones, 2008). Additionally, two classes of goals have been linked to motivation and performance in achievement situations. Performance goals have an emphasis on outcomes as measures of ability whereas learning goals (also known as mastery goals) have an emphasis on understanding (Grant & Dweck, 2003). These last two terms are used to differentiate between the ways that a learner approaches the learning task.

Themes within Literature

Theme 1 – Relating to the students

• Theme 1a – Personality factors that have been shown to affect student success and retention

Motivation, as defined by social cognitive researchers, is the process in which goal-directed behaviour is instigated and sustained (Pintrich & Schunk, 2002). When applied to an educational context it has been found that when students believe that they can learn to perform a task in a proficient manner, they will become more engaged in the activity, work harder, and sustain high levels of effort even when obstacles are encountered (Zimmerman & Cleary, 2006). Factors affecting internally generated (intrinsic) motivation for learning derive from a number of concepts that have been shown to be simultaneously
playing in a student’s mind, namely (a) a sense of self-efficacy, (b) a sense of belonging and (c) a sense of instrumentality (Walker & Greene, 2009). All three of these factors can affect a student's inclination to persist in their studies in the face of academic, institutional or personal difficulties.

(a) Self-efficacy refers to a person’s belief about their abilities to successfully complete a task (Hsieh, Sullivan, & Guerra, 2007). Bandura (1993) suggests that students with a high sense of efficacy towards their course work will envisage successful scenarios that engender positive support for their performance. On the other hand those who harbour doubts about their abilities imagine all the things that can go wrong, which limits their prospects of a successful outcome. Hence, students actually set for themselves goals that are influenced by their self-appraisal of personal competence (Bandura, 1993). Additionally, attribution theory (Weiner, 1990) posits that a learner’s current view of themselves will strongly influence the way in which they interpret the success or failure of their efforts and whether or not they are likely to persevere in the face of failure. Bandura (1997) showed that people are likely to engage and persevere in activities to the extent that they perceive themselves to be competent at those activities. In a higher education context this means that students will be more likely to attempt, persevere, and ultimately be successful at tasks in which they feel strongly that they can succeed. This self-efficacy has been found to be the strongest predictor of performance, indicating that students with confidence in their abilities to perform well experience a greater degree of successes in performance (Coutinho & Neuman, 2008). In particular, teenage students’ perception of their ability has more of an impact on their thoughts about what they can and can’t do, than their actual academic achievement would indicate. Therefore what a student with low self-efficacy sees as their current abilities (disregarding any evidence to the contrary) has the dominating influence on their performance (Carmichael & Taylor, 2005).
In a similar vein, Pintrich and Schrauben (1992) found that highly self-efficacious students scrutinised their own performance and increased their effort when they felt they were not meeting the required standard. Students with low self-efficacy beliefs, on the other hand, were less inclined to self-monitor and subsequently did not increase their effort. Thus according to Bandura (1997), people with high self-efficacy increase and prolong their efforts in the face of failure because they attribute failure to insufficient effort or a lack of knowledge and skills - all of which can be acquired. Equally, because they attribute failure to inability, task difficulty or luck (all things that they are unable to change), people with low self-efficacy are less inclined to persist in the face of failure. Carpenter’s (2007) meta-analysis of 48 studies concurs, finding that “self-efficacy is one of the psycho-social constructs most highly related to achievement” (Carpenter, 2007, p. 45).

(b) However, it is important to bear in mind that self-efficacy, although undoubtedly very important, is not the only motivational factor that is the driving force behind persistence in learning. Awareness of belonging also provides a vehicle through which mastery goals can be cultivated and sustained. Mastery goals have been shown to predict a host of positive academic outcomes (Carpenter, 2007) and there is strong evidence to suggest that students who feel a sense of belonging are more likely to focus on the development of understanding and then use cognitive effort to make that understanding possible (Walker & Greene, 2009). The converse has also been found to affect learning outcomes, that is, when a lack of belonging or sense of membership endures, negative outcomes (that is, a lack of persistence and commitment) result (Walker & Greene, 2009). It is worth noting in this regard that most research on self-efficacy and other forms of educational motivation originate from the United States of America where most students move away from home and live on campus. This obviously has an important part to play in the way they view and
undertake their studies, and their need for a sense of belonging, compared with students who commute to study each day without leaving their family and established social groups.

(c) The third relevant factor is instrumentality. Taken from the expectancy motivation theory of Vroom (1964), instrumentality relates to the thought – ‘what is the probability that, if I do a good job, there will be some kind of beneficial outcome for me?’ Originally applied to the commercial field, Vroom (1964) theorised that if an employee believes that a high level of performance will be instrumental in gaining outcomes that are rewarding, then the employee will place a high value on performing well. It has subsequently been found that a student’s perception of instrumentality is a good indicator of mastery-goal adoption (learning to master a subject or task as opposed to being able to achieve a predetermined criteria (Grant & Dweck, 2003)). It has been found that, when teenage students in particular are able to see the personal relevance of their learning and its importance to their future, they are more willing to set mastery goals for themselves and develop meaningful understanding of that material (Walker & Greene, 2009).

The above three factors - self-efficacy, a sense of belonging and instrumentality are all cognitive processes that have been shown to affect self (internally generated) motivation. And internally generated motivation, when applied to an educational context, has been shown to be the largest contributing factor to student retention and success. Zepke, Leach and Prebble (2005), for example, found that students’ personal determination to succeed was rated as the most important factor in all seven New Zealand institutions surveyed, of those students who kept on studying after considering withdrawing and those who kept on studying without ever considering withdrawing. However it does not in and of itself answer the question of why some students continue their studies in the face of all sorts of difficulties and yet others withdraw for what seem like trivial reasons. Even the most
intrinsically motivated student may require other factors to be present to ensure successful completion of their course of study. Additionally, focusing exclusively on students’ intrinsic motivation may lead to excessive ‘deficit theorising’ where the student is seen as the sole cause of their not completing a course of study. So we must consider other issues that may cause a student to consider withdrawing from their courses.

**Theme 1b - What else is going on in the students’ lives**

Once at study a host of other issues also affect a student’s decision to remain in or withdraw from their course. Davies and Elias (2003) found that eighteen percent of withdrawing students stated financial problems as the main reason for their decision to leave. Yorke and Longden (2008) also identified financial concerns as an issue for some students. However, when taking into account respondents’ socio-economic backgrounds this latter study showed that those from low socio-economic backgrounds were likely to have greater difficulty gaining a tertiary qualification than their more fortunate peers (Yorke & Longden, 2008). Additionally, it has been suggested that students from low socio-economic backgrounds tend to attribute less value to higher education and the potential gains from a university degree (van Stolk, Tiessen, Clift, & Levitt, 2007). Having said that, it should be noted that van Stolk et. al’s (2007) study was carried out in Australia, Ireland, the Netherlands and the United States where Asians and immigrants were a minority of the population sampled. As there is evidence that suggests Asians and immigrants tend to value tertiary education more highly than the local population (Hao & Han, 2012), van Stolk et. al’s (2007) postulation may not generalise to all situations. In this study most of the students were local citizens and from suburbs not renowned for their affluence.
Furthermore, a slightly smaller percentage of students (fourteen percent) identified personal problems (Davies & Elias, 2003) as the main reason for their early withdrawal. Others cited non-university commitments as the main reason for withdrawing from their courses. Some examples of these non-university commitments were: being in full-time work or the main care-giver for children, distance or time needed to get to the university and personal illness (Quinn et al., 2005; van Stolk et al., 2007). In all, there are many aspects to a student’s life outside of their thought processes but within their personal environment that can exert an influence over their ability to remain on a course of study.

Theme 2 – Relating to the Institution

- Theme 2a – Classroom activities that have been shown to affect student success and retention

A number of factors surrounding the activities and climate in a classroom have been found to affect student engagement and motivation to persevere in their studies. These are: a student’s relationship with the tutorial staff and the other students; the amount of support the student receives; the student’s sense of belonging to the course or institution; and the teaching and learning approaches carried out.

It has been found that the more engagement students have with faculty, staff and their peers, the more likely it is that they will persist in their studies (Cuseo, 2007; Hausmann, Schofield, & Woods, 2007; Tinto, 2002; Wilcox, Winn, & Fyvie-Gauld, 2005), and this is especially so in their first year of tertiary study (Cuseo, 2007). In this regard it must be acknowledged that, especially in a commuter-type institution where students do not reside on campus, the classroom is, for most students, the one and perhaps only
place, where students meet each other and the faculty (Tinto, 2006). Therefore if involvement and engagement do not occur in the classroom it is very doubtful that it will occur elsewhere in the educational environment, in a meaningful way. Adding to this thought, Seifert & O'Keefe (2001) maintain that the essential factor in the learning process may well be how the teacher and students relate to each other. This has been backed up by the recent Australasian Survey of Student Engagement (AUSSE) research briefing, which notes that students who feel that teaching staff are available, helpful and sympathetic are more engaged with their higher education studies than those who do not (Richardson, 2011). The result is that they are less likely to consider withdrawing from their courses. The AUSSE suggests that as many as seventy-five percent of students who rate their relationships with teaching staff as poor are considering withdrawing from their courses. This contrasts sharply with only nineteen percent of students who rate their relationship with teaching staff as excellent are considering withdrawing from their courses (Richardson, 2011).

Additionally in this regard, it was also found that ‘sessional’ teaching staff, that is, those employed as academics on a casual, part time or limited tenure contract of less than two years (University of Sydney, 2012), are more likely to be approached by students for advice, than senior academic teaching staff (Richardson, 2011). Richardson (2011) states that:

Staff with more senior appointments spend more than one-third of their teaching time giving lectures and very little using small group activities or student presentations. In contrast, much greater proportions of the teaching time of staff in junior roles is spent on small group activities and student presentations (p 9).
Although Richardson (2011) gives no explanation for this finding one may surmise a number of reasons: (a) Perhaps senior academic teaching staff may have other duties and are therefore limited in the time they can give to the students or (b) senior academic teaching staff are given larger classes where small group activities and student presentations are impractical. Whatever the reason, it is apparent that the quality of student-tutor contact is an important factor influencing a student’s decision to remain on a course. Therefore it is important that students and staff are given the opportunity to have sustained and meaningful contact with each other (Richardson, 2011). This is of course problematic for institutions where large classes are the norm. With large class numbers tutors have very little time per student and lecture theatre-style teaching restricts individual attention by preventing one-on-one assistance during class time. It is also problematic where the staff/student contact time is structured so that a large amount of content must be “covered”, leaving little or no time for individual students’ areas of concern to be meaningfully addressed.

Coupled with tutor availability, tutor support has also been found to be associated with student readiness to seek help when needed and lessen the likelihood of feelings of academic inadequacy resulting in students impulsively withdrawing from their courses (Newman & Schwager, 1993). Additionally, given its relation with perceptions of belonging, and that tutor support could be used to effect positive change in student effort and achievement, when it is missing or limited there is a negative impact on student retention (Walker & Greene, 2009).

Another classroom activity that has been found to affect students’ engagement and motivation to persist in their studies is the teaching and learning approach adopted by the academic staff (Jessup-Anger, 2011). While the major need is to engage students in their
studies, and that engagement can be facilitated through the teaching and learning programme, fiscal targets often necessitate ever-increasing class size and thus lecture theatre teaching. While this may be an efficient way of disseminating information to large groups of students, as a means of stimulating interest and engaging students in learning it is “woefully inadequate” (Richardson, 2011, p. 10). In-classroom activities that have been found to reduce student likelihood to consider withdrawing from a course include: connecting academic content to students’ personal lives; student-centred active learning designed to involve students in the learning process (Jessup-Anger, 2011); formative feedback which is relevant and integrated into the learning experience in a timely and constructive way (Bandura, 1997; Crosling et al., 2009; Jessup-Anger, 2011); and integration of study skills and modelling of analytic reasoning by the instructor in the classroom (Jessup-Anger, 2011). Additionally, as mentioned previously, student perception of instrumentality was found to be a significant predictor of mastery-goal adoption (Walker & Greene, 2009). This finding highlights the importance of in-class activity emphasising students’ being able to understand why and how the learning is personally relevant to their future. The relevance and meaningfulness of course content directly relates to students’ willingness to develop a meaningful understanding of that material through the adoption of mastery goals (Walker & Greene, 2009).

Although factors relating to what is happening in the classroom may be seen as measureable and controllable the temptation to view them as ‘the answer’ and ‘the tutor’s responsibility’ is just as short-sighted as assigning all the responsibility to the student. A further theme seen in literature concerns other factors that are outside the control of the student’s mind and the classroom tutor yet may have also be a major determining factor in the student’s decision to withdraw.
Theme 2b - Institutional factors that have been shown to affect student success and retention

Many still find relevance in the findings of the seminal Tinto (1975) model of attrition, where lack of social and/or academic integration are held to be the primary causes of students prematurely withdrawing from their courses. In a similar vein, recent studies, like O'Keere (2013), for example, find evidence suggesting that the ability of a student to develop a sense of belonging within the higher education institution is the key factor in determining student retention.

However, others would disagree with Tinto (1975) and O'Keere (2013). A number of studies state the incorrect choice of course was a major contributing factor that led students to withdraw. For example, Baird (2002) found that almost one third of the students who withdrew cited this reason and Zepke et.al (2005) discovered forty-four percent of withdrawing students cited incorrect choice of course as the main reason for their withdrawal. Davies and Elias (2003) found twenty-four percent of students withdrawing prior to the completion of their courses stated the same reason and, when controlled for age, more than twice as many (fifty-five percent) were under twenty-one years of age (Davies & Elias, 2003). This may indicate that many younger students were not yet settled on a career choice and/or that institutions are not doing enough to ensure that students are enrolled on a course that is appropriate for them. Alternatively, the results may be partly explained by response bias; that is, students preferring to attribute withdrawal to an incorrect choice of course, rather than to an inability to fit in socially, not being able to afford to support themselves during full time study or not being able to study at the required level (van Stolk et al., 2007).
In the same vein, Yorke and Longden (2008) also identified this issue, with the addition that students’ early withdrawal was also affected by being poorly informed about chosen courses and/or, the institution. This is a surprising result considering that in some research, Baird (2002) for example, almost half of the surveyed students (forty-six percent) stated they chose their course out of personal interest and that most students who withdrew during the year of the survey were on courses that were their first or second preference. Two of the most pertinent statistics in this regard however may be that relatively few (thirteen percent) reported consulting with a professional (school guidance or private career counsellor), and that only eleven percent reported conducting active research on their own before choosing a course (Baird, 2002). Smaller percentages of students reported that families and friends influenced their choice or that they had made a rushed, uninformed decision. Nine percent of surveyed students reported that they had simply gotten their “fall-back option” (Baird, 2002). All of these findings indicate that, institutional policy and procedures concerning enrolment actions may perhaps contribute to a large part of the retention puzzle.

Conclusion

In this chapter I reviewed the literature around polytechnic trade students’ success and retention. While research around the general topic of student success and retention across the educational spectrum is plentiful there is a shortage of information specifically relating to trade students on full time courses at polytechnic institutions. Key findings from the literature show that there may be many reasons for students deciding to leave their courses and that there is no consensus among researchers as to the primary factor or
group of factors. The key points of contention appear to be whether the main reasons are around academic and social integration or other factors such as finances, the choice of course and availability of support. Additionally, most of the literature reports on quantitative research: there is little research that highlights students’ thinking behind their decision to leave their courses. It is to this point that this research is focussed.

Chapter Three of this research describes the research tools selected to gather data that is currently missing surrounding polytechnic trade students’ decisions to withdraw from their courses.
CHAPTER THREE: METHODOLOGICAL APPROACH AND RESEARCH DESIGN

Introduction

In this chapter the research paradigm, methodology and research method adopted for this research are outlined. A rationale for the chosen methodology and techniques employed to gather and analyse the data will also be examined. Additionally, the associated ethical issues will be discussed and the issues of reliability and validity addressed.

Overview

The methodological approach refers to the choice of consultation, information gathering and analysis decided on for the research project (Bryman, 2008). Bryman (2008) describes how the choice of methodology will determine how the research is undertaken, what resources, processes and analytical tools are chosen.

Quantitative and qualitative methods are considered the two main types of methodological approaches in research. Quantitative methods are used to establish a trend or issue by analysing numerical data from a large subject pool. Qualitative methods, of which there are a number, may be used to understand a social reality or social order by analysing the words and/or interactions participants use to interpret their social world (Bryman, 2008). In the past quantitative and qualitative approaches have been seen as opposing sides in a debate on what constitutes valid research (Onwuegbuzie & Johnson, 2004), with the quantitative approach the more dominate methodology. Recently, however, there has been an increase in the use of qualitative research methods, with the role of the researcher becoming more central to the research (Bryman, 2008). This has also led to
crossover in terms of how the methods are viewed and used. Also, more recently the debate has shifted from the idea of adhering strictly to one or other methodology to looking at what would be the best fit for the topic, with researchers adapting and/or combining methods from either paradigm to whatever is the most useful.

However, Bryman (2008) does explain that there are still specific attributes within the qualitative and quantitative methods that will reflect a particular position of research overall. For example the main thrust of qualitative research is the quality and depth of data collected rather than an immense quantity collected to support a topic. Therefore qualitative research works predominantly from the interpretive paradigm.

Based on the literature regarding methodology and this researcher’s desire to find the truth behind the reason given for student withdrawal, a qualitative interpretive approach is the approach best suited to meeting the project objectives and research questions. Ultimately the aim of this research project is to collect data of a richly detailed kind, derived from conversations with students. Additionally, an interpretative paradigm allows for the idea of understanding the world of the participants from their perspective (Cohen, Manion, & Morrison, 2007).

Finally, qualitative methodology can be an empowering process for those involved. This research is designed to look into the why of student choices and to encourage students to talk about the things that motivated or de-motivated them. In this context, the nature of a semi-structured interview can be a flexible and more encouraging way (than a questionnaire, for example) of bringing out their viewpoints. The interviewer is able to ask follow-up questions to clarify points that are not made clear by the initial response (Bryman, 2008). Consequently, as suggested by the literature regarding research methodology, this research follows a qualitative interpretive approach for this project together with semi-structured interviews as the chosen methodology. This choice of
approach is the most suitable to meet the study objectives within the context of the
identified sample.

**METHODOLOGY AND PROCEDURE**

Positivism defines knowledge solely on observable facts and does not give any credence
to non-observable entities such as feelings and values (Bryman, 2008). An assumption of
positivism that has been criticised by qualitative researchers is its insistence that the
testing of knowledge claims should be restricted to conditions that are observable
(Davidson & Tolich, 2003). Therefore, positivism does not offer any tools to researchers
who are interested in the study of feelings, intentions and the social dynamics of teaching
and learning. Thus, the research orientation adopted in this study does not subscribe to
the positivist epistemology.

As social processes can only be interpreted, the inner world of the participants generating
the social processes must be accessed in order to develop an understanding (Davidson &
Tolich, 2003). This research was conducted using an interpretive research philosophy
(Bryman, 2008). This choice of research philosophy is influenced by the ontological and
epistemological understanding that the social world isn’t given, it can only be interpreted,
and that the social world is produced and reinforced by humans through their actions and
interaction (Bryman, 2008). Interpretive research aims to understand human thoughts and
actions in the social and organisational context (Davidson & Tolich, 2003). This means that
the researcher has to get involved with the participants through observations or, as in the
case of this research project, interviews. In doing so the researcher in her/his attempts to
interpret any social phenomena may become part of the social interaction. Thus the
researcher will to some degree be implicated in the phenomena being studied. As prior
assumptions, beliefs, values and interests (of the researcher) will influence the
investigation, to some extent the research is also constructivist (Bryman, 2008). That is to say, the researcher “offers a specific version of social reality, rather than one that can be regarded as definitive” (Bryman, 2008, p. 19).

**Research Design**

The qualitative approach is an inquiry process of understanding, where open-ended emerging data is collected, with the primary intent of developing themes from the data (Bryman, 2008). Here knowledge claims are based primarily on constructivist perspectives, that is, multiple meanings of individual experiences and meanings socially and historically constructed, with the intent of developing a theory or pattern (Creswell, 2009). Here also, data analysis is based on the values that the participants make out of their world (Bryman, 2008). Ultimately, the qualitative approach seeks to provide an understanding of the issues based on multiple contextual factors and adopts an interpretive stance where an effort is made to gain an understanding “from within” (Cohen et al., 2007, p. 27) the person. So while the answers to this research project’s question, “What are the challenges ...” may be quantified in so far as identifying percentages of like responses, a qualitative approach is needed to delve into the similarities and differences between like responses. Consequently, asking “How do the factors, identified in the quantitative survey, encumber students’ persistence in their chosen course or programme?” permits, for example, each respondent to elucidate the extent to which factors interact. Furthermore, this approach allows new questions not considered in the preliminary phase of the project to be brought forward by the participants themselves (Davies, 2007).
Data Gathering Method

For this research project I undertook three forms of data collection to ensure a triangulation of responses and data “so that the findings may be cross-checked” (Bryman, 2008. p 700).

The data collection methods used were:

- Institutional data on the 24 students starting on the course.
- Pre-course and post-course questionnaires on the 19 students who survived past the first six weeks.
- Three individual student interviews.

Using three different methods not only ensured triangulation but also provided me with effective tools to capture an overall picture of the students involved. In particular, interviewing a sample of students allowed me to check out the written responses for response bias and, using institutional bio-demographic data and result data, provided fixed data points so that the views of the more vocal participants were not the only ones heard.

In the first phase, numeric bio-demographic data and identification of possible reasons for withdrawal was collected using institutional data (collected during the enrolment process and a pre-course questionnaire). The data was analysed to classify the variables identified by the respondents and to select possible interviewees. The rationale for this approach is that the numeric data and results provide a general picture of the research problem, that is, what internal and external factors contributed to or impeded students’ persistence in the programme. Additionally, this data also allows comparison with other research on the same issues.
To a large extent the pre-course questionnaire could be considered to be convenience sampled as there is little control over who responds other than those who were in the classroom on the day (Bryman, 2008; Davies, 2007). Thus, even from within the targeted participants the sample cannot be considered random. However, for the purposes of this study, those responding to the questionnaire did at least provide information that enabled a decision as to their suitability for being interviewed.

In the second phase, towards the end of the course, data was collected via a post-course questionnaire and through semi-structured interviews to help explain why certain external and internal factors, identified in the first phase, were, or were not, significant enough to negate the student’s persistence in the programme. The rationale for this approach is that while the numeric data and results provide a general picture of the research problem, the qualitative data and its analysis refines and explains those statistical results by exploring participants’ views in greater depth and seeking, for example, what for different participants was the point at which they decided to stay or withdraw from the course.

An issue that may arise during the interview selection process is that of how many categories to have represented. International literature identifies incorrect initial choice of course as the major cause of student withdrawal, with one quarter to one third of respondents indicating this (Baird, 2002; Davies & Elias, 2003). The other main factors were financial reasons (typically around 18%) and personal problems (typically around 14%). These results differ markedly from a recent New Zealand survey which asked institutes of technology and polytechnic students if they had considered premature withdrawal from their course and why (Radloff, 2011). The largest category of respondents (16%) in this survey was those who nominated “quality concerns” (Radloff, 2011, p. 12), although Radloff (2011) does not clarify what is meant by quality concerns. This is double the next highest reason - personal issues, which 7.9% of respondents gave as a reason
for considering leaving (Radloff, 2011, p. 12). Additionally, as the thoughts of those who have actually withdrawn may differ from the reasons and motivations of those who have only “considered leaving” (Radloff, 2011, p. 12), some flexibility is needed prior to deciding how much “diversity in perspectives” (Bryman, 2008, p. 477) to include in the interview selection until the numeric data results are in.

For the practical reasons of a balance of sufficient views and the amount of data to be analysed, eight respondents are seen as an ideal number to participate in the interviews (Krueger & Casey, 2000). Eventually though, due to the problems encountered during the research project (discussed in Chapter Five), three students were interviewed. Data from the pre-course questionnaire highlighted the majority of reasons student may withdraw and from this data interview participants were selected from each of the major categories highlighted.

**Data Analysis**

Reliability is generally defined as the replicability or stability of research findings (Elliott, 2005). That is to say, if the research is carried out again in similar circumstances would it yield the same results? The traditional view of validity is the extent to which a method measures what it is supposed to measure (Plowright, 2011). However, this is more often than not considered “internal validity” (Elliott, 2005, p. 22). Up to eighteen other types of validity are in some cases also considered, including content, construct, cultural, evaluative and external validity (Cohen et al., 2007).

“A traditional, correspondence view is that research is valid if it is a true account of the phenomenon that is being researched and reported” (Plowright, 2011, p. 135). That is to say, the account provides an explanation that corresponds to, or mirrors as closely as possible, the reality that is being described. However, this is debated in the literature with
some suggesting that the notion of validity, originating from quantitative methods and reflecting a positivist paradigm, is less appropriate for evaluating narrative-type qualitative research (Elliott, 2005). With regard to internal validity, Elliott (2005) suggests that a narrative type instrument, while not necessarily the best way to capture an exact record of what happened, is suited to capturing the “meanings attached to individuals’ experiences” (Elliott, 2005, p. 26).

External validity, the generalisability of the evidence, for qualitative research methods is also debated in the literature. Elliott (2005) infers that, in narrative types of qualitative research, a common-sense view of generalisability is often taken where the reader is left to make up their own mind as to how close the ‘data’ and ‘results’ match other situations. This approach would seem entirely appropriate from an interpretative perspective but less so for critical or grounded approaches. Because of the narrow range of characteristics of the participants in this study it may not be possible to generalise any findings outside of the study’s demographic context (Creswell, 2009). However, the main strategy used in this research project to ensure external validity is the “provision of rich, detailed descriptions” (Creswell, 2009, p. 200) so that anyone interested in transferability will have a concrete outline for making any such associations.

However, Lincoln and Guba (2005) cite a large number of authors who see the traditional understandings of reliability and validity as problematic, if not invalid, when it comes to qualitative research. They (Lincoln & Guba, 2005) see these, especially validity, as relics of the positivist paradigm only useful in ensuring rigour is applied to the processes of research. Lincoln and Guba (2005), along with Bryman (2008), suggest that qualitative research’s emphasis on multiple accounts of social reality, trustworthiness and credibility determine an account’s acceptability to others. This research follows the thoughts of Bryman (2008) in that:
The establishment of credibility of findings entails both ensuring that research is carried out according to the canons of good practice and submitting research findings to the members of the social world who were studied for confirmation that the investigator has correctly understood that social world. (Bryman, 2008, p. 377)

That is to say, that along with following established research practices, prior to publication the account of what was said, and observations made, in the interviews is presented to the interview participants for their “corroboration or otherwise” (Bryman, 2008, p. 377) of the account, as was the case in this research project. Participants were also offered to have a copy of the completed research sent to them should they wish it, however, as Bryman (2008) points out, many aspects of the publication (literature review, methodology, rationale and the like) may well be next to meaningless to the participants.

The simplicity of the numeric data survey question (What was the main factor that resulted in your decision to stay/withdraw from your course?) lends itself to stability and internal reliability as well as validity. Analysis of the data was first by frequency distribution (Davies, 2007) of factors and second by a bivariate analysis (Bryman, 2008) of each of the stated factors and the other data points (age, previous educational qualifications, confidence etc) to determine if there is any relationship between them. This second analysis also aided in the selection of a representative sample for the interviews and highlighted any differences amongst individual factors that may become useful as predictors for a particular demographic. As recommended by Bryman (2008), the interview sessions were “recorded and subsequently transcribed” (Bryman, 2008, p. 476) because of the difficulty of writing down the tone or manner in which it is said without interrupting the flow of the discussion. This augments the trustworthiness and credibility of any findings. The transcripts were then subjected to a thematic analysis (Bryman, 2008)
searching for common themes (Creswell, 2009) that go across the different stated factors affecting the decision to stay or withdraw from the course. Additional or new data was sought by asking interviewees what they omitted from their questionnaires.

**Ethical Issues**

The ethics associated with any research project focus on the need to protect the people involved in the research (which includes the researched, researcher/s and other associated parties) from any possible harm – physical, mental, emotional or financial resulting from direct action or negligent inaction, disclosure, misquoting or bias on the part of the researcher (Bryman, 2008). Wilkinson (2001) suggests that the core idea of research ethics is that one cannot impose burdens on subjects by appealing to the greater good of society or the advancement of knowledge. That is to say, benefits to some do not justify burdens to others. However this idea, along with many others in the area of research ethics, is problematic in that it raises as many, if not more, questions than it answers. For example, as Wilkinson (2001) asks, what constitutes a burden? Apart from the obvious, physical harm, how far along the chain of sensitivities do we go before making the research “implausibly restrictive” (Wilkinson, 2001, p. 15)? In this regard, Bryman (2008) comments that even after half a century of debate, opinions in the literature differ quite widely on what should or should not be considered ethically acceptable. Is the possibility of causing emotional grief by evoking the recollection of an emotionally painful occurrence or permitting deeply held (possibly religious) beliefs to be questioned to be considered as causing harm (Bryman, 2008), for instance? Bibby (1997) suggests that it is often impossible to tell; therefore the evaluation of harm must be left up to the individual affected through the process of informed consent.
However, even the notion of informed consent is contentious (Burgess, 1989). Some authors, according to Wilkinson (2001), suggest that it is the best way to respect the subject’s autonomy while other authors insist it is for the protection of the well-being of the subjects. Added to this idea, especially in an educational context, are thoughts concerning minors and in today’s multiethnic environment consideration is given to understanding of language that is not the ‘mother tongue’ and collectivist societies’ understanding of ownership – even ownership of knowledge (Burgess, 1989; Jahnke & Taiapa, 2003; Wilkinson, 2001). Cardno (2003) emphasises the point regarding informed consent, offering the opinion that “informed consent is fundamental in ethical research” (Cardno, 2003, p. 57). She underlines the need for transparency to ensure that participants are fully informed as to both “the aims of the research and their role in it” (Cardno, 2003, p. 57). This has particular relevance to qualitative research methods where, as in this study for instance, the direction of questioning may not be known until the research is already under way with participants already involved (Burgess, 1989).

Therefore, associated with informed consent are the imperatives that the participation of subjects must be voluntary and they must be able to remove themselves at any time they choose. There was no coercion of any of the participants either before, to force them to be involved, or during the study to get them to disclose information (Bryman, 2008). Some literature (Burgess, 1989) points out that there is a fine line between encouraging participation (perhaps for the sake of sample size) and coercion. Although, in an educational context, implying that course results ‘may’ somehow be affected by whether or not someone participates is obviously unethical, could any form of other incentive be offered? An example would be financial recompense for time or travel expenses. As a further example, the mores of some ethnic groups include the understanding that if you want me to do something for you then you have to do something for me. This usually
means offer a gift (koha in the Maori tradition). This last example demonstrates the conflict between two ideals, voluntary participation and cultural sensitivity. Subsequently then in this regard, the relationship between the researcher and the researched is pivotal, and implicit in the relationship is a “respect for the rights of the individual ... who is not harmed, deceived, betrayed or exploited” (Burgess, 1989, p. 60). Additionally, this is not only to protect the researched but also to protect the researcher’s (and other researchers’) ability to continue to research through the maintenance of trust (Bryman, 2008).

In an attempt to mitigate harm, as far as practically possible, this researcher’s educational organisation, along with most other higher educational organisations, has a research ethics committee which has a set of guidelines required to be followed by researchers (Bryman, 2008). In this instance, the guidelines require the researcher to identify how eight principles will be addressed with particular reference to the minimisation of harm. The principles are: 1) Informed and voluntary consent, 2) Respect for rights and confidentiality and preservation of anonymity, 3) Minimisation of harm, 4) Cultural and social sensitivity, 5) Limitation of deception, 6) Respect for intellectual and cultural property ownership, 7) Avoidance of conflict of interest, 8) Research design adequacy (Tertiary_Organisation_Policy, 2010).

Relating to this research project, the principle of informed and voluntary consent was addressed by a verbal and written explanation of the purpose, aims and methods of the study given to all course members prior to being given both the pre-course and post-course questionnaires. After the completion of the course, those members who were asked to participate in the interviews were again informed that they could still withdraw at any time. This was again reiterated when the draft of the interview transcripts was sent to the relevant participants. The informed consent process just outlined was also expected to alleviate any concerns regarding deception in that the aims and purposes of the research
were clearly stated to the participants. As with possible conflicts of interest, it was clearly stated that (other than credits towards the completion of a qualification) the researcher received no personal gain from the project.

Confidentiality and anonymity are assured first by following the institution’s policy for data security (Tertiary_Organisation_Policy, 2010) in that, only the researcher and primary supervisor will have access to the data, and that anonymity of the participant, in relation to their data, will be preserved in all instances. Also, data will be kept secure from unauthorised access for at least five years following the conclusion and/or publication of the study, stored at (the institution), and physically destroyed thereafter. Also, data will not be used other than for the purpose originally conveyed to the participants.

As mentioned above, cultural and social sensitivity plays a part in this project; in particular, the different cultural expectations with respect to voluntary participation in something for which there is no specific reward. Therefore, the offering of reasonable reimbursement for time and expenses as well as ‘koha’ is appropriate. Additionally, different cultural understandings of authority give rise to concerns with respect to the nature of coercion in that when someone ‘in authority’ asks you to do something it may be perceived as a not negotiable command for some cultures. For this reason the researcher and researched in this project were not in a tutor – pupil relationship before or during the course and, when I presented the research project to the students and conducted the interviews, I was dressed very casually (Krueger & Casey, 2000). Issues around cultural ownership of knowledge also will be considered especially in regard to the Treaty of Waitangi obligations (Hudson, Milne, Reynolds, Russell, & Smith, 2014). To this end, prior to the submission of this research proposal to the ethics committee dialogue was undertaken between the researcher and the department Kaumatua (respected Maori elder) to determine any relevant issues.
The adequacy of the research design goes a long way in ensuring that the general moral principles that (should) exist between people and the specific moral principles related to a specific activity are adhered to (Plowright, 2011). These combine to form the basis of our understanding around ethical behaviour. Therefore ‘ethics’ is not about getting the ethics committee tick but acting ethically all throughout the research process, starting with the research question and going all the way through to data storage and its subsequent destruction (Creswell, 2009; Davies, 2007). This research project has a research question that is ethically sound and, in answering the research question, no participants were harmed. Also, benefit is accrued to participants, the organisation, society and future students who may find themselves facing a similar situation. Additionally, sampling procedures, methodology and methods, data collection analysis and reporting as discussed above all follow recognised procedures and practices (Tertiary_Organisation_Guideline, 2010).

Conclusion

In this chapter I outlined the research paradigm, methodology and research method adopted for this research. I also showed that to contribute to an area where research is lacking particular methodology and techniques need to be employed to gather and analyse the data. In this chapter I also outlined ethical issues associated with the gathering of such data and issues of reliability and validity. In the next chapter the findings from the data and its analysis are presented and the key findings are identified.
CHAPTER FOUR: FINDINGS

Introduction

In this chapter the findings from the data analysis of the pre-course questionnaire, the post-course questionnaire and the student interviews are presented. Significant themes and ideas are identified and developed. Key findings relating to what causes trade students to prematurely leave their courses, and its converse, what helps them to stay, are considered.

In the results discussed below the students’ ages at the end of the course are used. Also, when the students’ data is sorted by age no differentiation is made between students with the same age year. That is to say, all eighteen year olds are just listed as 18. Their order in the data is either randomly chosen or selected by a secondary sorting criterion such as their final mark.

In all cases discussed in this analysis of results, the “final mark” refers to the final mark for the basic electrical theory paper. This paper contains the foundation knowledge for all electrical and electronic subjects. The final mark is made up from the weighted sum of four assessments:

- Theory Test One – Electrical Quantities, Terms and Units - contributes 30% to the final mark
- Theory Test Two – Conductors, Insulators and Resistors – contributes 30% to the final mark
- Written Assignment One – Production of an EMF (How electricity is made) – contributes 20% to the final mark
• Electrical Practical Assessment– Measure electrical quantities in a circuit – contributes 20% to the final mark.

Additionally, the “threshold” for each of the assessment events is 75%. That is, students must pass each and every assessment with a minimum of 75% to be awarded a passing grade in the paper. Students are permitted to have three attempts at theory tests one and theory test two and one re-submission of the written assignment and practical assessment. If a student passes as a result of a resit or resubmission of an assessment, their final mark for that assessment is the minimum pass of 75%.

FINDINGS AND ANALYSIS

The Students

Bio-Demographic Information

Twenty-four students started the course. However, by the second week only twenty were turning up regularly and when the study consent forms and pre-course questionnaire were handed out in week six, 19 (male) students responded. There were no females on the course.

Age

From the student applications it was found that the age of the students studied in this research ranged from 16 to 23 years with 11 of the 19 (58%) on the course being 17 when the course started and turned 18 during the year of the course. Two were 16 turning 17 and the three oldest were 20, 22 and 24 respectively. This is a fairly typical age spread for a first semester intake where the majority of students are school-leavers. It was slightly
unusual in that there were no students in their thirties or forties as has been the case in the past.

When comparing the students’ final mark with their age (Figure 1) (where the dotted line at 75% is the minimum mark to pass) it can be seen that of the 17 and 18 year-olds (n=13) six (46%) failed to satisfactorily complete the course, as opposed to only one (16%) of those 19 years old or older (n=6). The two students who have no final mark withdrew from the course without attending any summative assessment or handing in any assignments. The one 17 year-old student who did pass the course (and received the highest mark of all the students) is a student who had been home-schooled. Therefore, from the data presented in Figure 1 (below) it would appear that age is a factor in determining which students are at risk of failing to satisfactorily complete their courses. Younger students would seem to exhibit a greater tendency to prematurely withdraw from their courses or in other ways fail to satisfactorily complete their courses.

![Figure 1: Students’ final mark compared with their age (n=19), sorted by age](image-url)
Living Arrangements

From the pre-course survey, all the students indicated that they were living at home with a/their parent/s or grandparent/s, except one who was living in a student flat/hostel. This finding is understandable considering their age. However, as mentioned above, it is unusual not to have any older students or students who were married with their own family and living in their own homes. Three students (16%) stated that finding a place to study at home was a challenge for them. As mentioned (below) by one of the interviewed students, being creative with respect to a place to study was a factor that led to his success.

Part-Time Work

Also in the pre-course survey five of the 19 students (26%) stated that they were working part-time, with the hours per week worked varying from eight to 20. As seen in Figure 2 (below), students from the youngest to the oldest were represented amongst those working part-time and the average hours worked was 12 hours per week. All of the students who were working part-time (n=5) satisfactorily completed the course. The findings here suggest that working part-time for a moderate number of hours per week does not unduly affect a student’s likelihood of satisfactorily completing their course.
School Qualifications

The entry criteria for this course recommends that students have at least 10 NCEA level One Maths credits. As a part of their application, students provide their New Zealand Qualifications Authority (NZQA) record which details their national qualifications. The number of National Certificate in Educational Achievement (NCEA) level One (or higher) Maths credits gained by the students on this course ranged from zero to 31. One student had a Cambridge “O” level qualification which is stated as a percentage score and one student came from a home-schooled background with no NCEA credits. Apart from these last two students, four students came on the course with less than the recommended 10 maths credits (having 0, 4, 7 and 7 credits respectively). These students with less than the recommended 10 NCEA maths credits were all 17 or 18 years old and had been high-schooled in New Zealand.

One of the summative assessments in the Electrical Theory paper (Theory Test One – Electrical Quantities, Terms and Units) primarily assesses students’ maths ability. Most of its questions concern basic electrical formula and units. When comparing maths credits gained at school to the mark gained from the course math test (Figure 3, below), the same number of students (n=3) who had more than the recommended 10 credits failed to pass the maths test. Those who did not have at least the recommended 10 credits also failed to pass the maths test.

Of the two students who had no school maths credits and passed the maths test, one had a Cambridge qualification and one was home-schooled. One student had less than the recommended maths credits but passed the maths test.
A similar pattern emerges when comparing the final mark with school maths credits as shown in Figure 4 (below). The only difference is that one student who passed the course maths test withdrew so he did not satisfactorily complete the course.

From Figures 3 and 4, there appears to be no obvious (realistic) minimum number of maths credits which a student should have to “guarantee” them successfully completing the course, if school maths credits were to be the defining entry criteria. As Figure 4 shows, one student came to the course with 20 maths credits and did not obtain a passing grade; another student came with 31 maths credits and only just received a pass grade,
while one student came with only four maths credits and passed with a mark of 85%. It would appear from the data displayed in Figure 4 that other factors have more of a sway on students’ ability to successfully pass the course than their NCEA maths credits.

Choice of Course

In the pre-course survey, the students were asked whether this course was their first choice of course and whether this institution was their first choice of training provider. Only three of the nineteen students (16%) stated that this course was not the first choice of courses and five students (26%) stated that this institution was not their first choice of training provider.

In terms of percentages, more than twice the number of students for whom this was not their first choice of course failed to achieve a passing grade, compared with those for whom this was their first choice of course (67% vs 31%) (Figure 5). Two of the students who acknowledged that this was their first choice of course withdrew prior to handing in any assessment in or sitting any tests, which is why they have no marks. One of these two students was among those who identified the most issues that may prevent them from completing the course.
Figure 5: Final mark compared with choice of course (n=19)

By looking at the percentages shown in Figure 5 (above), two thirds of the students for whom this course was not their first choice withdrew prior to its successful completion compared to (approximately) one third for whom it was their first choice of subject. This strongly indicates that getting on one’s first choice of course, especially when one is deciding on training for a career, is an important factor in obtaining a successful outcome. To further support this, one of the students for whom this was not the first choice of course received passing grades for the first two summative assessments, demonstrating that he had the ability to pass the course, yet still he withdrew from the course.

Choice of Institution

One of the five students (20%) who stated that this was not his first choice of institution did not successfully complete the course (Figure 6, below). On the other hand, six of the fourteen students (43%) who stated that this was their first choice did not successfully complete the course. Therefore it would appear that whether one gets to attend one’s preferred training provider or not does not unduly affect students’ chances of successfully completing their course.

Figure 6: Final mark compared with first choice of institution (n=19)
Confidence

In the pre-course survey, the students were asked to rate how confident they felt about various aspects of the course. Each question was accompanied by a scale from zero to five where zero represented “Not at all confident” and five represented “Very confident”.

Overall Confidence

To the question “How confident do you feel that you will pass this course?” answers ranged from 1 to 5, with 4 of the 19 (21%) indicating 2.5 or lower (Figure 7, below). The average was 3.3. It is interesting to note in Figure 7 that the two youngest students were amongst the most confident students. The three oldest students were also very confident, all rating their confidence as 4 out of 5.

In Figure 8 (below) we compare the students’ confidence with their final mark. Here it can be seen that two of the three students who rated their confidence as less than 2.5 failed to complete the course. In other words, their self-assessments were accurate indicators for their outcomes. Of this pair of students, the one who received zero as a final mark withdrew after attending 38% of the course and did not attend any of the summative assessment events. The other student attended 83% of the course and attended only two
of the four summative assessment events. This student also failed to receive a passing grade for the first summative assessment – the course maths test (discussed above).

Both of the two students who were supremely confident, rating their confidence as 5 out of 5, were inaccurate with their self-assessments as neither of them passed the course. One of these two withdrew after attending 35% of the course and did not attend any of the summative assessment events, thus receiving a zero for the final mark. The other withdrew after spasmodically attending a total of 59% of the course days. He attended three of the four summative assessments events (receiving a passing grade in one).

![Figure 8: Confidence in ability to pass the course compared with final mark (n=19)](image)

Ten of the thirteen (85%) students who stated their confidence to pass the course as between 2.5 and 4 out of 5 successfully completed the course. Of the three students among this reasonably but not overly confident group who did not successfully complete the course, one attended for less than half the course days – attending and passing two of the summative assessments. The other two attended for more than 75% of the course days; one attended two of the assessment events but only passed in one; the other student attended all four assessments passing two of them.
**Maths Confidence**

To the question “How confident are you that you can cope with the maths aspects of this course?”, answers ranged from 1 to 5 with 5 of the 19 (26%) indicating 2.5 or lower (Figure 9, below). The average was 3.1.

In Figure 9 we see that, with the exception of the two students who were supremely confident, students rating their confidence as 2 or less, 3, and 4 out of 5, all had high school maths credits ranging from less than the recommended minimum to two or three times the recommended minimum. The student rating his confidence as 5 out of 5 without having any school maths credits was home-schooled. The student rating his confidence as 4 out of 5 without any school maths credits has a Cambridge qualification, passing his maths “O” level with a mark of 61%.

![Maths confidence compared with maths credits (n=19)](image)

Additionally, apart from the two youngest students rating their maths confidence as either 4 or 5 out of 5, the different ages of the students are reasonably well spread across the confidence levels.
Figure 10 (below) compares maths confidence with the course math test mark (Theory Test One). Five students stated a less than 50% confidence in their ability. For only two of these (both 18 years-olds) this lack of confidence was justified as they failed to successfully pass the maths test. Of the eight students who indicated a confidence level of 4 or 5 out of 5, four (50%) turned out to be over-confident, not passing the assessment. Three of these students who were unjustifiably very confident were 17 or 18 and the other was 20 years old.

![Figure 10: Maths Confidence compared with actual math mark (n=19)](image)

All of the students who did not receive a passing grade for the course maths mark also did not successfully complete the course. They all either did not attempt or did not score a passing grade on the second theory test.

**Writing Confidence**

To the question “How confident do you feel about writing essays and assignments?”, answers ranged from 1 to 4 with 11 indicating 2.5 or lower (Figure 11, below). The average was 2.4.
When it came to confidence in their ability to write assignments and essays, no student was supremely confident and 11 (58%) indicated 2.5 out of 5 or less. The average age of students rating their writing confidence as 3 out of 5 or higher was 19.4 years whereas the average age for those rating themselves 2 out of 5 or less was 18.2 years. This may indicate that the older students, possibly having had more time at school, were more experienced in essay or assignment writing.

**Known Issues**

Students were also asked “Are there any issues you know of that may stop you from completing the course?” Six pre-selected issues were given and one “Other” with space to specify was allowed for. The six pre-selected issues offered were: Finance; Travel time; Health; I need to work evenings/nights to support myself and/or my family; and no place to study at home. Nine students (47%) identified no issues, seven (37%) identified one or two issues and three students (14%) identified four issues.

Figure 12 (below) shows the number of issues the students identified compared to their age. Students, from youngest to oldest, all had issues they could identify. However, five of the six (83%) of the students 19 years old or older stated that they had some issues they
were concerned about compared with 38 percent of the students 18 years old or younger. Additionally, the older students tended to have more issues. The average number of issues for the 19 years old or older group was 2.6 compared to 2 for the 18 years old or younger students who identified as having some issues.

![Figure 12: Number of Issues identified by students (n=19)](image)

The types of issues faced by the students were fairly evenly spread across the ages as well (see Figure 13, below). This was especially true for the three most common issues of concern: finances, travel time and travel cost. In order of frequency, travel time, money and travel cost were the most commonly cited issues concerning students at the beginning of the course. The only “other” issue mentioned regarded a non-specified legal matter. Of the two students who thought having to work part-time would be an issue, one had stated they would be working eight hours per week, the other student did not state how many hours he would be working. None of the three students who thought they would be working ten or more hours thought this would be a problem.

Issues identified by the students at the beginning of the course can be seen in relation to the course final mark in Figure 14 (below). In Figure 14, where the dotted line represents the required pass mark (75%), it can be seen that four of the seven students (57%) who failed to meet the pass mark, at the beginning of the course were able to identify two or
more issues that they thought might prevent them from completing the course. This compares with three of the twelve (25%) who identified one or no issues. This is of particular concern for older students. The students 19 years old and older identified an average of 2.6 issues per student whereas students younger than 19 identified an average of 0.8 issues per student.

In Figure 14 (below), the two students who identified no issues yet obtained very low final marks failed to attend or attempt two of the assessment events even though they both attended more than 75% of the course. The two students who did not get any final marks withdrew after attending less than 40% of the course without attempting or attending any assessment events.

Figure 13: Identified Issues by Age and Issue (n=19)
Attendance

Attendance was monitored for the duration of the course. Attendance did not appear to be affected by age, with both low and high attendees being represented amongst all ages. There was, however, an obvious relationship between attendance and their identified “issues that may stop you from completing the course” as shown in Figure 15 (below).

With only one exception, those students who identified two or more issues had the lowest attendance. The exception was one student who identified no issues had an attendance rate one percent lower than the highest attendance of any student with two or more issues.
Notwithstanding the discussion (elsewhere in this research) on the proactive withdrawal procedures put in place for this course, attendance rate appears to be a factor linked to academic success as four of the seven students (57%) who did not achieve the required pass mark (Figure 16, below) had very low attendance. Their low marks can be attributed to not sitting one or both theory tests or not completing the practical assessment. Or in the case of the two students who received no marks, they failed to attend or attempt any of the assessment events.

The student who withdrew after attending 41% of the course and had a final mark of just over 30% passed the first assessment event (Theory Test One) with a mark of 81%. However he also stated that this was not his first choice of course and identified four issues that may prevent him from completing the course.

In the post-course interviews with three of the twelve students who had passed the course, the students were asked about the issues they identified in their pre-course questionnaires. Student A had two issues, one of which was no place to study. However he was able to come up with a solution that worked for him.
It (no place to study at home) did (become an issue) at the start but as I stayed longer at school (the institution) to study here it helped out even more but they were an issue yeah. [Student A]

Asked what he did about this issue, he said,

*Just getting here on time and staying at school (the institution) a bit longer to study more than at home.*

Another student talked about problems with transport and money.

*The only issue for me was money-wise travelling – yeah that was it basically because I stay all the way out at XXXXXX. Transportation and moneywise was the only issue.* [Student B]

Asked if there were any issues they had not anticipated, a third student talked about how his father had had a health issue at the beginning of the semester, which meant that he was worried that he might not be able to complete the course. However, he was able to continue attending classes and successfully complete the course.

*Just my Dad’s health, other than that not really, it was just my Dad’s health.*

[Student C]

**First Assessment**

When comparing the students’ final mark with the mark they got for the first assessment (Figure 17, below) where the dotted line is 75% - the pass mark, it can be seen that all but one of the students who received a passing grade for the first assessment also successfully completed the course. The one student who passed the first assessment but did not complete the course was the student for whom this was not his first choice of
course and had identified four issues that might prevent him from completing the course. He withdrew after attending just under half the course (41%). The two students who received no marks for the first assessment and no final mark did not attend or submit any assessment, withdrawing after attending between 35% and 40% of the course. The two students who received low first test grades and low final marks, as well as not achieving a passing grade for the first assessment failed to attend or submit other assessments.

Figure 17 also shows that all of the students who did not pass the first test also did not receive a passing grade for their final mark. As mentioned at the beginning of this chapter the final mark is a weighted average with a minimum of 75% required in each assessment event.

**Predicting Unsuccessful Students**

From the pre-course questionnaire, students who were unsuccessful in completing the course had some or all of the following characteristics:

- they were 18 years old or younger
• they were either supremely confident that they would pass the course or gave themselves a less than 50/50 chance
• they could identify two or more reasons that might prevent them from finishing the course.

The combination of these three factors successfully selected 57% of the students who would not successfully complete the course and also selected only 17% of the students who would go on to successfully complete the course.

Adding data gained as the course progresses, it appears those students who struggle to keep their attendance level up and fail to make the pass mark for the first assessment event are also at risk. Adding these to the pre-course factors and highlighting any student who scored on any three of the five criteria, selected 71% of the students who would not successfully complete the course and 42% of the students who would.

A combination of two factors highlighted the students most at risk, or those who were least at risk. These were age and the first assessment score. This combination of criteria picked up 86% of the students who would eventually not successfully complete the course. 25% of the students who would go on to successfully complete the course were also highlighted by this combination of age and first assessment score.

Table 1 below tabulates the factors considered (above) and shows which student (listed by their randomly assigned number) falls under each factor. Also shown in Table 1, “Catch %” is the percentage of students not successfully completing the course that the various measures and combination of measures identified. “False +” shows the percentage of students who successfully completed the course that the combination of measures also ‘flagged’ as at risk.
<table>
<thead>
<tr>
<th>Student</th>
<th>Age &lt;=18</th>
<th>Over/ Under Confident</th>
<th>Issues &gt;=2</th>
<th>Sub Total out of 3</th>
<th>Attend &lt;80%</th>
<th>First Test Fail</th>
<th>Age &amp; First test</th>
<th>Total out of 5</th>
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<tr>
<td>5</td>
<td>X</td>
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<td>X</td>
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<td>X</td>
<td>X</td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Catch %</td>
<td>6/7</td>
<td>4/7</td>
<td>4/7</td>
<td>2 or more</td>
<td>5/7</td>
<td>6/7</td>
<td>2=86%</td>
<td>Three or more 71%</td>
</tr>
<tr>
<td>False +</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17%</td>
<td></td>
<td>25%</td>
<td>42%</td>
</tr>
</tbody>
</table>

**Table 1: Summation of pre-course and during the course markers**

**After the Course**

The post-course survey of those who had passed asked students to rate various aspects of the course on a scale of 0 – 5. Eight students (67%) responded. For the semi-structured interviews three students (25%) agreed to be interviewed.
For the survey question “How would you rate your overall experience of the course?” Zero indicated “It was a really bad experience” and five meant “It was a really good experience”. The responses were either 3 or 4 and the average was 3.6.

![Figure 18: Overall experience on the course (n=8)](image)

From Figure 18 (above) the average rating given by students 19 years old and older is 3.75 while the average for students under 19 is 3.5.

During the interviews three students were asked to expand on the rating they gave to the experience of being on the course by reflecting on what they had enjoyed about the course.

*The practical and a bit of the theory [Student A]*

*The practical and a bit of the theory – what the components were and that stuff.*

[Student B]

*The ‘Uni’ life compared to high school. The whole ‘Uni’ experience, like lectures - no actual classes. Doing what you need to do and not study other subjects like English and things that you don’t need. That you are studying what you want to study and you are putting your mind towards your goal.* [Student C]
Both Student A’s and Student B’s responses demonstrate trade students enjoyment of ‘hands-on’ work. Student C’s comments may shed some light on the higher average rating of the course given by older students (Figure 18). Student C’s comments indicate that he could see the value in the subjects he was studying as they aligned with his goals.

**Social Interaction with Staff**

The post-course questionnaire asked how often they were involved in non-class-related activities with teaching staff, such as BBQs, sports, social gatherings or just ‘chilling out’ together. The rating scale was from zero to five where zero was “Not at all” and five was “Very often”. The responses ranged from 0 to 5 with 1.9 the average. Figure 19 (below) plots the results.

![Bar chart](Figure 19: Social interaction with staff sorted by Final Result (n=8))

The level of social interaction with staff does not appear to be influenced by age and neither does it appear to affect the students’ course results.

Although not directly related to social interaction, in response to the interview question about what at the institution either helped or hindered their study one student rated interaction with staff highly.
Well the teaching staff I would rate them as high as 5. They were good; they interact with the students well. They act like they are normal friends. They helped a lot. [Student A]

In the post-course questionnaire, the students were asked about the social interaction with other students. Firstly regarding their classmates: how many they would regularly socialise with and how often. The results are shown graphically in Figure 20 where the time interacting was on a scale from zero to five where zero was “Not much” and five was “A lot”. The numbers of students interacted with ranged from zero (or none stated) to eight with the average being 5.8. The time spent interacting ranged from two to four with an average of 3.1.

Two students did not state how many classmates they socialised with, but that they did spend some time with classmates. Of interest in Figure 20 (below) is that age does appear to have some bearing on social interaction in that older students reported spending slightly more time with more people. Table 2 (below) shows the social interaction for the different age groups.

Figure 20: Social interaction with class students (n=7)
Also, from Figure 20 (above), by averaging the number of students interacted with (the top horizontal line), three out of the four students who interacted socially with more than the average scored a higher final mark than all but one of the students who interacted with less than the average number of classmates. However, the same cannot be said for the time socially spent interacting with classmates (where the average is the bottom horizontal line).

In the post-course questionnaire, students were also asked regarding social interaction by how much time they spent students other than classmates. Only six students responded to this question with two of them stating a time they spent interacting without specifying how many other students they interacted with. The number of students interacted with ranged from 2 to 6 with an average of 3.8. In describing the time spent with these other students, a scale from zero to five was given and answers ranged from 1 to 5 with the average being 2.8. The responses are shown in Figure 21 (below) where they are compared with the final mark.

From Figure 21 we can see a similar pattern to Figure 20 where the students who interacted with more than the average also obtained a higher final mark in the majority of
cases. Also the same as in Figure 20, time spent interacting does not seem to have the same effect on the final mark as the number of students interacted with does. The student who gave a time spent interacting without specifying how many students he interacted with made the same response regarding interacting with classmates.

The students were asked about who at the institution they had asked for help from while on the course. They were given the nine preset options and a number of spaces for “other” people or departments. Of the eight responses, three students selected zero options, four students selected two. A summary of their selections is presented in Table 2 below. Option c – “Other electrical staff (e.g., Friday sessions)” relates to open tutorials conducted on Friday mornings and staffed by final year bachelor degree students. These sessions were open to any and all electrical and electronics students and the students were encouraged to work together on any study-related problems they were having.

<table>
<thead>
<tr>
<th>Summary of assistance sought</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Teaching staff</td>
<td>4</td>
</tr>
<tr>
<td>b. Programme Leader or Head of Department</td>
<td>0</td>
</tr>
<tr>
<td>c. Other electrical students (eg. Friday sessions)</td>
<td>4</td>
</tr>
<tr>
<td>d. Student Union</td>
<td>0</td>
</tr>
<tr>
<td>e. International Students Office</td>
<td>0</td>
</tr>
<tr>
<td>f. Student Health Services</td>
<td>0</td>
</tr>
<tr>
<td>g. Maori Support Centre</td>
<td>0</td>
</tr>
<tr>
<td>h. Pasifika Centre</td>
<td>0</td>
</tr>
<tr>
<td>i. Chaplain</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 2: Summary of assistance sought (n=6)

One option not mentioned in the post-course questionnaire, but mentioned by two students during the interviews, was the library, although personal assistance from library staff was not sought. Also, one of these two students had, on their pre-course questionnaire, selected “No place to study at home” as a possible reason that may stop them from completing the course.

*I used the library quite often. Just to help me out with my study. Yeah the library was a big help as well. It was just a place to study, it was quiet. Everywhere else was pretty noisy, but the library was quiet. They had the tools we needed as well. The books we needed to study up on.* [Student B]

*No I just used the library to study. I just went in and sat in there – in the quiet areas.* [Student C]

**Quitting**

During the post-course interview students were asked if they had ever thought about leaving the course. Two of the three interviewees said that they had at some point during the second half of the course. Their responses also show that they did not seriously consider withdrawing but that the thought had entered their minds.

*Half way through the second semester I felt like dropping out but just held in there. I guess it was just getting intense. Just a lot of assignments coming in – overdue. It was a casual thought or a lazy thought as well.* [Student A]
Yea there was, just after mid semester break. I felt like just quitting, but I thought it would be a waste of money so I just stayed. It was just in the back of my mind, just a random thought. [Student B]

When asked specifically about why they decided to stay one of these students appears to show a determination to finish the course just for the sake of finishing it while the other mentioned that he had a specific goal in mind.

*I don’t know, just the self motivation – just to push through – just to finish the course off.* [Student A]

*I wanted to make a better future for myself so that made me want to stay and get my (electrical) ticket.* [Student B]

The third interviewee indicated that he hadn’t contemplated withdrawing from the course as an option at all and, as his response shows, he had an end goal in mind.

*No not really. I was more or less focussed on passing and trying to get an apprenticeship.* [Student C]

Exploring the possibility that students feel like giving up after they have failed an assessment, two of the interviewees who had been in this situation were asked about it. As mentioned in the introduction to this chapter, students are permitted to re-sit or re-submit assessments a certain number of times depending on what type of assessment it is. The interviewees were asked specifically about how they felt when they were notified that they had not passed an assessment. Both students describe feeling disappointed and dejected. However, both also realised that they needed to put more effort into their studies – that the problem and the answer was with them.
I felt that I just had to push harder, push harder for the next re-sit. I felt down when I saw the results but I knew that I didn’t really study for it – so I knew that I could do better. [Student A]

I was pretty bummed that I did need to re-sit. But I found that in a way I did need to study more and once that if I studied for it when I sat the exam I felt real confident and I thought to myself that I should have studied the first time and passed it.

[Student C]

Conclusion

Overall, the data collected from the students’ application information and from the pre-course questionnaire provided useful insight into the challenges facing students who would not successfully complete the course and into what were some of the factors common to the successful students. This data also demonstrates that trade course students are not too dissimilar from their university counterparts mentioned in the research literature in Chapter Two regarding the challenges they face. This will be discussed in the next chapter where I will use the research questions as a framework to compare and contrast the findings with the literature presented in Chapter Two.
CHAPTER FIVE: DISCUSSION OF THE FINDINGS

Introduction

The intention of this research project was to ascertain whether or not students who withdrew from trade courses at a polytechnic conformed to the same picture being painted of tertiary students in general who withdrew from their courses prior to successful completion, and what procedures could be put in place to reduce the withdrawal rate. To this end one cohort of an entry level electrical trade course was studied. Pre- and post-course questionnaires were given to the cohort and three students were selected for semi-structured interviews conducted at the conclusion of the course.

The findings provided in Chapter Four of this research indicate that these students are not too dissimilar from their university counterparts in that withdrawal risk factors are not only present, but can to a large extent be identified prior to the beginning of the course. Also, during the course, certain events strongly indicate which students are most likely to not complete the course.

This chapter begins with an account of the research process and what went right and what went wrong during the implementation of the research project. This chapter then discusses the data presented in Chapter Four and analyses the key findings in light of the literature presented in Chapter Two. Finally the main findings of the research are summarised, limitations of the study are explained and recommendations for practice and further study are presented.
A RESEARCHER’S SAGA

The best laid schemes of Mice and Men - oft go awry. (Burns, 1785)

This is the saga behind a research project aimed at getting the perspective of students on an entry-level electrical trade programme, to shed some light on why often less than half of the students enrolling successfully make it to the end of the one-year programme. From the researcher’s experience of more than a decade and a half teaching these courses, it was noticed that students often just stopped turning up to class once they were having difficulties. So the preliminary plan was for the researcher to interview students as soon as they had stopped attending the programme. Primarily this strategy was to gain an in-depth understanding of their thoughts and feelings about their experience on the programme and to get their reflections on their decision to withdraw. There were two underlying motives for the research. The explicit motive was to provide ‘evidence’ for the teaching staff and/or the institution to use in devising a plan to mitigate the high non-completion rate. The implicit motive was to explore the idea of (assumed) learned helplessness associated with withdrawal within a real world context.

The second motive came from the researcher’s decade of day-to-day involvement with students from the same demographic as the research subjects. As a consequence of this involvement, the researcher often noticed that some students would withdraw from the programme for what seemed on the surface trivial reasons, or seemed to not be having any troubles at all and yet withdraw prior to programme end; while other students would obviously be ‘going through hell and back’ and yet not give up. The researcher found this discrepancy fascinating and worthy of investigation.
The Students

The original plan for this study involved a pre-course survey to gather bio-demographic data not present on the students’ enrolment forms and attain an initial appraisal of their confidence in being able to pass various aspects of the course. This would be followed by a post-course survey to gather their thoughts about what did and what did not work for them on the course. Data-gathering was to start on the first day of the class, when 24 students turned up and on the second Monday, 20 students had signed the class register. The researcher, wishing to allow a settling-in period, opted to wait until week six before introducing himself and the project to the students. This timing was designed in order to not collect data from any students who for whatever reason had not really committed to the course from the outset. Subsequently, when I did introduce myself and the project to the class and left them with the consent forms, nineteen forms came back correctly filled in, which was largely as anticipated.

The students were all male, ranged from 16 to 29 years old and self-identified as being of twelve differing nationalities or races.

Things Go Wrong

In response to governmental funding criteria changing from a ‘bums on seats’ model to a ‘successful completions’ model, pressure had begun within the institution to be applied to increase the success rate of courses with rates below a point set by the institution. Subsequently, during the semester prior to the researcher beginning the research project, the institution had been made aware of the success and retention problems that the programme was having and demands were made to have the situation rectified. So, at the beginning of the year of the research project - once the preliminary work had been carried
out – ethics approval, interview schedules and the like completed - the decision was made to re-package the courses for them all to be one semester long. This change had the benefit, to the institution, of immediately withdrawing any courses whose low success rate may have been largely because they were two semesters long and students withdrawing from the programme for any reason were seen as a ‘non-completion’ statistic against that course. Also, the decision was made to make the successful completion of the first semester courses a prerequisite to enrolling in the second semester courses. This benefited second semester courses’ success statistics by ‘weeding out’ low-performing students before they attempted the higher-level second semester courses.

These two initiatives had the effect of changing the landscape upon which the research project was premised: that some students would of their own volition stop attending the courses once they found the subject matter difficult; had failed some assessments, or had some personal circumstance which made continued attendance untenable. Additionally, students with low attendance rates in the first half of the first semester were summoned to the Head of Department’s office and given the ultimatum “improve your attendance or you will be removed from the programme”. The upshot of these initiatives was that most students who were having difficulties were either encouraged to officially withdraw or were compulsorily withdrawn from the second semester and not afforded the opportunity to drift off in their own good time as had previously been the case. This latter point was central to how the research project had been planned.

However, five students could be considered to have ‘drifted off’, so a number of attempts were made to contact them. In spite of repeated emails, phone messages and texts, none of these students replied to any of these strategies. This issue is recognised in the literature. For example, Davies and Elias (2003) suggest that a very low response rate may be caused by focusing upon a process that many regard as a negative experience,
and that the post-withdrawal follow-up may have been viewed by the students as an unwelcome or unpleasant intrusion into their lives.

Nevertheless, this total non-response thwarted the original plan of gaining first-hand accounts from these students as to why they had withdrawn from the course and therefore necessitated undertaking an alternative approach to explore this topic.

**Plan “B”**

During discussions with the research supervisor prior to the commencement of the study, the idea of also exploring the thoughts and experiences of students who had stayed on the programme was floated, as it was assumed that all students experience some degree of difficulty, even if they complete the course and/or pass successfully. As this was not part of the original “learned helplessness” paradigm, which gave rise to the idea for the research, it was not given any further consideration by the researcher. However, in light of the original plan not eventuating, it now became the most viable option for completing the research project.

With the encouragement of his supervisor, the researcher felt that from interviews with the remaining students there would be enough data to complete the research project - albeit in quite different a form and outcome from the original design. The question now became “what factors contributed to you remaining on the programme of study in spite of the difficulties you were having?” With this thought in mind, a new post-course questionnaire and interview schedule were prepared.

Three students volunteered to be interviewed. Being teenage boys, they were somewhat laconic in their replies to the interviewer’s questions. However, some useful responses were obtained and the research project was able to proceed.
DISCUSSION OF FINDINGS

Personal Issues

The students’ responses to the pre-course questionnaire and the interview questions show that some of the students were aware that they faced more than an academic challenge when taking on the course. Fifty three percent of the students indicated that they were concerned about at least one issue that might prevent them from completing the course. This figure of 53% is similar to a result in the Australasian Survey of Student Engagement (AUSSE) (Radloff, 2011) study of student engagement at New Zealand Institutes of Technology and Polytechnics. In the AUSSE (Radloff, 2011) 44.6% of students on certificate programmes and 59.8% of students on bridging programmes considered leaving their courses (the average of these two numbers is 52.2%). As the programme in this study is made up of level two and level three papers it spans the bridging and certificate level programmes of the AUSSE and therefore would have a similar demographic of student to both. However, this relationship between students who can identify issues that may prevent them from completing their courses and students who give serious consideration to withdrawing from their courses once under way has not been tested and therefore should be inferred with caution.

The issues identified by the 53% of students in this study were: finances; having to work part-time; travel time and travel cost; health, having no place to study at home; and one with a “legal” issue. Sixty percent of the students in this study who reported being concerned by issues cited some sort of financial situation they thought may cause a problem. The financial options presented on the pre-course questionnaire were “Finances” and “Travel Costs”; with just under half the students expressing concerns selecting both of these options. Other studies have shown similar results. Two studies from England, Davies and Elias (2003) and Yorke and Longden (2008), also found that personal financial...
circumstances were the biggest concern to the majority of the students reporting issues that they felt might prevent them from completing the course. According to the Yorke and Longden (2008) study, problems with finance were experienced more frequently by older students, and this was also the case in this study. This study found that fifty percent of the students nineteen years old and older cited being concerned about finance compared to twenty three percent of students under nineteen years old.

These findings regarding finances are at odds with the AUSSE (Radloff, 2011) findings however. In the AUSEE study (Radloff, 2011) financial difficulties were not in the top five reasons for considering leaving the institution by certificate, diploma or undergraduate degree students. (Note: The top five reasons only were given in the AUSSE). And it was only the fourth highest selection (29.9%) by bridging programme students. The reason for this is not clear, especially considering the AUSSE is a relatively recent study and studied students from New Zealand Institutes of Technology and Polytechnics (ITPs) including the institute that this study was carried out in.

One explanation for the disparity between this study’s findings regarding students’ financial concerns and the AUSSE’s findings (Radloff, 2011) may be response bias (Lavrakas, 2008). ‘Response bias’ is the term used to describe the fact that people who display a particular characteristic (age or gender for example) may be more or less likely to respond to the survey. If this characteristic is also related to the factors being studied in the survey, this creates potential bias in the interpretation of the survey results. For example, if older people are more likely to respond than younger, and if older people have different reasons for leaving a course than younger people, then analysis of the reasons for leaving will be biased towards the reasons given by the older people. In the case of the AUSSE (Radloff, 2011) only approximately 16% of the samples from levels one to three responded compared to 30% from level four students and 53% from levels five and above.
Additionally, only 43.5 percent of the level three and below were males and only forty percent of the responders were under twenty-five. This is a vastly different proportion to the male-female ratio and age in this study, where one hundred percent were both male and under twenty-five years of age. Therefore it may not be unreasonable to infer that response bias accounts for the difference in findings between this study and the AUSSE (Radloff, 2011).

Also in this study, the same proportion (60%), but not necessarily all of the same students, that cited financial issues cited “travel time” as an issue for them. Given that only one of the students lived in on-campus student accommodation and the other students commuted daily in a major metropolitan area, this finding is not unexpected. However, as with the discrepancy between this study’s findings and the AUSSE (Radloff, 2011) concerning finance being an issue, problems with commuting are also at variance with Radloff’s (2011) findings. In the AUSSE (Radloff, 2011) commuting issues were cited by 40.5% of Bridging Programme students who considered leaving their course as a reason and was the third highest reason given. However, commuting was not in the top five reasons for certificate and higher level programmes studied in the AUSSE. Once again, we may have to look to response bias to suggest a reason for the disparity between this study’s findings and the AUSSE. The AUSSE (Radloff, 2011) surveyed students from ten New Zealand ITPs including provincial and extramural institutes. An issue like “travel time” would not affect extramural students at all and is likely to affect students at provincial ITPs to a far lesser extent than students at a major metropolitan campus. This assertion of response bias is not unreasonable given that, within the literature, the same research questions deliver different results from multi-institutional studies compared with single-institution studies (Zepke & Leach, 2010).
Furthermore, in this study thirty percent of students who identified issues of concern selected “no place to study at home” as one issue that may prevent them from completing the course. After financial issues and travel time, this was the third highest reason given and was cited by 16% of the cohort being studied. This issue was specifically included in the list of options because this study’s author had heard students in previous years state it as a reason why they were having difficulty learning. “No place to study at home” is not mentioned in the AUSSE (Radloff, 2011) nor most other studies on reasons for student withdrawing from their courses. Although in a 2013 meta-analysis of seven nationally representative studies in the United States from 1957 to 2006 on school dropout (Doll et al., 2013), “a lack of a good place to study at home” was included in the 1972 study only. In that case, it was cited by thirty six percent of the males that dropped out as an issue that interfered with their high school education. Although, within Doll et al.’s (2013) meta-analysis the other studies cited do mention reasons given for dropping out like; “was failing school”, “could not keep up with schoolwork”, “had poor grades”, “poor study habits” and “lack of parental support”. All of these reasons may be symptomatic of a deeper issue such as being unable to effectively study at home. However caution would need to be applied in making such an inference as there is at present scant evidence to back up such a claim. To garner such evidence, future studies may need to prompt students to consider whether or not having a good place to study at home is (or was) an issue that affected their studies.

These findings of personal issues such as finance, travel time and no place to study, given by students as reasons why they may not be able to successfully complete their course, differ from the seminal Tinto (1975) model of attrition (and many other studies up to and including O’Keere (2013) for example), where a lack of social integration and/or academic integration are held to be the primary causes of students prematurely withdrawing from
their courses. The findings in this current study do however match the findings of other researchers, in both the United States and the United Kingdom, who have studied first-generation tertiary students, students from lower socioeconomic circumstances and students from working-class backgrounds (Hussein, 2013; Pascarella & Terenzini, 2005; Quinn et al., 2005). While first-generation tertiary students, students from lower socioeconomic circumstances and students from working-class backgrounds may have difficulties with social integration due to the commuter nature of polytechnic study (compared with university students who live on-site), the lack of social integration may also be a symptom of other problems and not the root cause of the withdrawal action (Pascarella & Terenzini, 2005). The commuter nature of a polytechnic means that students do not have to leave their already established social peer groups, and social integration with class peers outside of class time may be difficult as students come from different areas of the city (Assiter & Gibbs, 2007). Researchers such as Pascarella and Terenzini (2005) for example posit that issues such as financial difficulties have more of an effect on students’ ability to stay in study than social adjustment problems do.

In light of this, it is perhaps unfortunate that the pre-course questionnaire did not capture socioeconomic circumstances (SES), parent’s educational level and employment data. The decision to not request SES data etc. was, however, intentional as it was felt that students would likely not know their parents’ income level and that requesting such information would be too intrusive for this type of research. However, in hindsight, a reasonable estimate of SES may have been made from parental employment and education level information and this would not have been too onerous to ask for. It is also unfortunate that the prematurely departing students could not be contacted to ascertain whether or not it was the pre-course identified issues that caused them to withdraw.
Nevertheless, it is of interest that four of the seven students (57%) who were unable to successfully complete this course, at the beginning of the course identified two or more issues that they felt may prevent them from completing. This figure compares with only two non-completers of the twelve students (17%) who stated one or no issues that they were concerned about. As a result of this finding, getting students to consider whether or not they have any issues that may prevent them from completing the course, prior to starting the course, would seem to be a logical way to find which students may require extra assistance and thus may be a factor that leads to improved academic achievement rates.

**Confidence**

The findings of this study, with regard to confidence, are consistent with those of Bandura (1997) and Coutinho (2008). These studies showed that people are more likely to engage in and persevere in activities in which they perceive themselves to be competent. In other words, students with confidence in their ability to perform well experience a greater degree of success. In this study two of the three students (67%) who rated confidence in their ability to pass the course as less than 2.5 out of 5 failed to complete the course, as did a total of 30% of the students who rated their confidence at 3 or less out of 5. When asked about confidence in their maths ability, the under-confident students fared a little better with 40% (2 of the 5) failing to successfully complete the course.

What is also of interest in this study’s findings on confidence is that the two students who rated their confidence to complete the course as 5 out of 5 failed to successfully complete the course. Additionally, 38% of students with a confidence of 4 out of 5 or 5 out of 5 in their maths ability were unable to pass the level two maths test that was within the course. This finding, although contrary to the findings of Bandura (1997) and Coutinho and Neuman (2008) above, may indicate that some students are not very good at understanding their abilities. This concept finds support in the ideas of Carmichael and...
Taylor (2005), that students’ (particularly teenagers’) perception of their ability, and not their actual academic achievement, has more of an impact on their thoughts than their actual academic achievement would indicate.

Students’ inability to understand their abilities is also shown in the finding regarding confidence in their maths ability compared with the maths credits they obtained while at school. In particular, six students rated their confidence level as 3 out of 5 and six students rated themselves as 4 out of 5. Both of these groups of students had maths credits ranging from less than the recommended level of ten to over twenty credits. Also, of the five students who rated their maths confidence as a 1 or 2 out of 5, four of them had more than the recommended minimum of 10 NCEA level one maths credits and three had 15 or more. Three of these students with very low confidence on their maths ability, even though they had more than the recommended number of credits, went on to successfully obtain a passing grade in the maths assessment.

From the results of students rating their confidence to pass various aspects of the course, it would appear that for most students it is an unreliable indication of their abilities. The exceptions to this are the supremely confident and the extremely under-confident. Students in both of these groups have demonstrated that they are at risk of being unable to successfully complete their course.

**Age**

Age appears to have had an influence on the outcome of this course in that six of the seven (86%) who failed to successfully complete the course were 16 or 17 when the course started. The one exception to this age link was a twenty year-old. He however also identified four issues that might prevent him from completing the course and the course was not his first choice of course for the year. Although it is known that problems with
social integration with others are experienced by younger rather than older students (Yorke & Longden, 2008), as these students chose not to be contacted post-course, any causative factors like social interaction would be speculation. One exception from which a reasonable inference may be made is attendance. Four of the seven students (57%) who failed to successfully complete the course had an attendance rate of less than eighty percent and were of this younger, 16-17 year old, age group.

Social Integration

The low attendance rate may indicate a lack of engagement with their course peers, staff and campus life in general. Of the students who passed the course (and had an attendance rate above eighty percent) all but one indicated that they interacted socially with course peers, other students and staff. Although, as mentioned above, there is still debate around the part that social and academic integration plays in students completing their courses. Linking attendance with integration is logical given the following social and academic integration’s effect on attrition has enjoyed since Tinto (1975) first proffered the idea. Additionally, a low attendance rate may also indicate a lack of a sense of belonging as “a student’s feeling of belonging is a crucial part in their remaining on their course” (O'Keere, 2013) and there is strong evidence to suggest that students who feel a sense of belonging are more likely to focus on the development of understanding and then use cognitive effort to make that understanding possible (Walker & Greene, 2009). The converse has also been found to impact on learning outcomes; that is, when a lack of belonging or sense of membership endures, negative outcomes result (that is, a lack of persistence and commitment) (Walker & Greene, 2009).

Whether it results from a lack of social and academic integration, a lack of a sense of belonging or other factors causing a low attendance rate, the results from this research
clearly indicate that the youngest students are at the most risk of being unable to complete their course of study.

**Attendance**

As mentioned in association with age, attendance is a factor linked to successful completion of the course. Attendance is shown in this study to be linked to the number of issues the student knew they were facing at the beginning of the course. Of the seven students (38% of the total) who indicated that they were concerned about two or more issues that might prevent them from completing the course, six recorded an attendance of seventy five percent or less. This compares with none of the students who identified less than two issues falling below eighty percent attendance. Furthermore, five of the seven students (71%) failing to successfully complete the course recorded an attendance of seventy five percent or less. Because the researcher was not able to interview the students who withdrew, it is unknown if their attendance level was the result of or the cause of low assessment scores, and their subsequent decision to withdraw. There is however a clear link in this research between issues a student is facing and their attendance level as well as a link between attendance and assessment scores.

**Early Assessment**

The ability to pass the early assessment events may also play a part in a student’s decision to withdraw. Six of the seven students (86%) who did not successfully complete the course were unable to obtain a passing grade in the first assessment (Maths). The student who did obtain a passing grade for the maths assessment but who still withdrew from the course was the student who identified four issues that might prevent him from completing the course and for whom the course was not his first choice for the year. Three of the six who did not obtain a passing grade in the maths assessment did however
continue attending the course for the remainder of the semester (these three were precluded from continuing on the course because passing the first semester papers is the prerequisite for the second semester). These three students also did not obtain a passing grade in the second summative theory assessment, with two of the three failing to attend the assessment event. This appears to concur with research regarding self-efficacy (Bandura, 1997) and attribution theory (Weiner, 1990). That is, if students fail to reach the passing grade for a summative assessment early in the course, it is likely that will cause them to give up learning.

Whether or not a student gives up after failing to achieve a passing grade has much to do with their mind-set, according to Bandura’s (1997) self-efficacy theory. Bandura (1997) suggests that people with high self-efficacy increase and prolong their efforts in the face of failure because they attribute failure to insufficient effort or a lack of knowledge and skills - all of which can be acquired. Whereas people with low self-efficacy are less inclined to persist in the face of failure because they attribute failure to inability, task difficulty or luck (all things that they are unable to change). As indicated by the interviews with Student A and Student C, who both failed to obtain a passing grade on the first attempt at Assessment One (Maths), both of these students knew that they had not studied hard for the assessment and that putting in the effort was the key to passing. Neither of these students entertained the idea that they did not have the ability, or were not clever enough, to pass the assessment.

FINDINGS SUMMARY

Summary

This project was undertaken with a view to gaining an in-depth and contextualised perspective of the issues surrounding New Zealand polytechnic trade students’ decisions
to withdraw from their courses and identify the factors that lead to improved academic achievement rates. While there is much research on the subject of student success and completion, most of it concerns degree level education at universities. There is very little research focussing on the perspective of polytechnic students whose struggle with their education leads them to withdraw from their courses prior to completion.

This research project found that polytechnic students can, and do, suffer many of the same challenges as their university counterparts. The common issues are:

- personal issues including financial limitations, travel issues and unforeseen family circumstances
- a lack of confidence leading to debilitating study practices
- incorrect choice of course.

Factors that are strong indicators of pending withdrawal are low attendance levels and whether or not an early assessment is passed.

The main finding, which has not been described in studies of university students, is the effect that the students’ age appears to have on their likelihood of withdrawing. This research strongly indicates that 16 and 17 year-old students have the highest risk of withdrawing from their course prior to its successful completion. That this is not mentioned in other literature on tertiary success and retention is most likely due to students needing to be a year or two older to gain university entrance grades from school.

**RECOMMENDATIONS FOR PRACTICE AND FURTHER STUDY**

In view of the above findings the following recommendations can be made:

**Recommendation 1**
All 16 and 17 year-old (if not all) applicants be assessed prior to being accepted onto a tertiary course.

Due to the diversity of prior academic experiences in gaining a qualification, applicants should be assessed for the specific area they have chosen to study. As each industry has a unique set of skill and ability requirements, so each person has certain natural aptitudes which allow them to be a “good fit” in some areas but not in others. While skills can be taught, if a student is challenged enough to be kept interested, they have a better chance at remaining in the training (Hsieh et al., 2007). If they are challenged too much so as to be unable to achieve competency within a reasonable time, or too little so as to become bored quickly, they may be prone to quitting.

Recommendation 2

During the interview/assessment process, students should be asked to identify any issues that they feel may prevent them from successfully completing the course. Once students with issues have been identified:

- Students are introduced to the appropriate support services for the issues raised so that they discuss the issues and instigate a plan to mitigate the negative effects of the issue.
- Regular contact should be made between staff and these students regarding the issues the students raised and the students be helped in obtaining support service assistance as soon as an issue appears to be interfering with the students learning.

In this research, most students who could identify multiple issues that might prevent them from completing the course did not complete the course. In other words, these students were very accurate in identifying what was likely to impede their progress and success. At the same time, little, if any, assistance was sought by the students from the institution’s support services.
support services. There needs to be a very proactive approach taken to assist these students through the difficulties that have been identified.

**Recommendation 3**

Department staff should be made aware of the high risk of withdrawing from the course associated with 16 and 17 year-old students and the factors that can mitigate this. These factors include:

- Making an effort to socialise with these students. This social contact would need to be:
  - a. as early as possible in the course
  - b. regular
  - c. at quite a personal level.

All three of these criteria enable the students to see the staff as a part of their social circle, so that they feel that staff care about them as people and are concerned about their progress in the course.

- Bring the students into the institution prior to the course beginning for some fun activities so the students start to identify with the institution and the course staff. This could be combined with the pre-course assessment/interview process.

- At a department or institutional level, academic mentors should be appointed to keep an overview of each student’s progress and have scheduled regular meetings with the students.

Students coming to tertiary study directly from high school are used to having daily contact with one teacher (often called the “form teacher” or “home-room teacher”). This teacher provides continuity for the student especially when they are seeing multiple teachers.
throughout the week and in some cases seeing a particular teacher only once in the week. Having an academic mentor (Tovia, 2007) (Rayner & Beckman, 2011) would replicate this role, and although not necessarily having daily contact, would be someone that the students would know is keeping track of their overall progress.

Recommendation 4

Formative assessments should be carried out prior the first summative assessment.

- These formative assessments should be conducted in the same manner as summative assessments to:
  a. Allow students to become familiar with the assessment process.
  b. Identify struggling students as soon as possible.

In this research, most students who did not obtain a passing grade for the first summative assessment also did not complete the course. Students coming to tertiary education from the New Zealand schooling system have been assessed using the NCEA system and criteria. This system allows for internal assessment assistance by teachers to ensure all the performance criteria have been met. The tertiary system is designed for students to take responsibility for their own learning. A mismatch occurs when students come to tertiary education without having stayed at high school to the completion of Year 13. Students who have completed Year 13 have, in their last two years at school, been required to take more and more responsibility for their learning. They also have had time to work out how to juggle their social life and assessment imperatives. Students who enter tertiary after only three years secondary have not had the extra two years to make these adjustments. Early formative assessments (structured the same as summative assessments) would allow both the student and staff to identify who needs assistance making the transition to tertiary.
LIMITATIONS OF THE STUDY

The way this research project has been reasonably able meet the study aims and provide answers to the research questions suggests that the methods used were suitable for this study. However, because of the factors outlined in the introduction to this chapter, this study also has some limitations. Its usefulness is also limited due to the small sample size and narrow participant selection criteria. The main limitation is that it failed to gain an in-depth and personal account from the departed students themselves of why students prematurely depart from their courses. Until that has happened, conclusions drawn about this subject are inferences, however reasonable, and should be treated with caution. Additionally, the small sample size and limited timeframe of the project does not allow generalising the findings across the polytechnic, let alone the wider tertiary sector.

RECOMMENDATIONS FOR FURTHER STUDY

Based on the experiences and findings in this study, it is recommended that a larger study, across different trades and different institutions be carried out to validate the findings of this research project. This larger scale would allow for a bigger and more representative sample of students and therefore a greater likelihood of gaining feedback from prematurely-departed students.

It is further recommended that related future studies be more longitudinal in nature, tracking the students throughout their time at tertiary study, to assess the strength of the recommendations in assisting staff identify and support at risk students and to increase the likelihood that the students themselves have a positive experience during their time at tertiary study.
CONCLUSION

This researcher’s decade and a half of experience in the tertiary sector has led him to one inescapable conclusion: Every year, every cohort and every student is different and each comes with their own unique challenges, opportunities and rewards. Tertiary institutions need to redouble their efforts to ensure students do not waste their own (and society’s) time and money by pursuing training options in which they are predisposed to fail. To this end it is my fervent hope that no stone be left unturned until the number of students leaving a course prior to successfully completing it becomes a small fraction of the whole.
References:


Student 1105916


First_year_experience_survey


APPENDICES
APPENDIX ONE: STUDENT PRE-COURSE QUESTIONNAIRE

Student Questionnaire (Pre-course)

Please indicate your answer by putting a tick in the appropriate box ☒

A. Sociographic Information

1. Which of the following best describes your living arrangements?
   - ☐ Living alone
   - ☐ Living in student flat/hostel
   - ☐ Living with parents
   - ☐ Living with partner, no children
   - ☐ Living with partner with children
   - ☐ Other, please specify.

2. Are you working part time? ☐ Yes / ☐ No
   If yes, approximately how many hours a week on average? _________

3. Did you apply for any other courses (including non-Unitec ones) as well as this one? ☐ Yes / ☐ No

4. Was this your first choice of course for this year? ☐ Yes / ☐ No

5. Was Unitec your first choice as your training provider? ☐ Yes / ☐ No
A. Pre-course confidence

A. How well do you feel your previous education has prepared you for tertiary study? (Place an X directly below the number that best indicates your answer)

<table>
<thead>
<tr>
<th>Not at all prepared</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very well prepared</th>
</tr>
</thead>
</table>

B. How confident are you that you can cope with the maths aspects of this course?

<table>
<thead>
<tr>
<th>Not at all confident</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very confident</th>
</tr>
</thead>
</table>

C. How confident do you feel about writing essays and assignments?

<table>
<thead>
<tr>
<th>Not at all confident</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very confident</th>
</tr>
</thead>
</table>

D. How confident do you feel that you will pass this course?

<table>
<thead>
<tr>
<th>Not at all confident</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very confident</th>
</tr>
</thead>
</table>

E. Are there any issues you know of that may stop you from completing the course? ☐ Yes / ☐ No

If "yes" please indicate (you can tick more than one)

☐ Finances
☐ Travel time
☐ Travel cost
☐ Health
☐ I need to work evenings/nights to support myself and/or my family
☐ No place to study at home
☐ Other (please specify)
APPENDIX TWO: STUDENT POST-COURSE QUESTIONNAIRE

Student Questionnaire (Post-course) (Research no. )

Overall Education Experience

(Please circle the number that you feel is the most appropriate)

1. How would you rate your overall experience on the course?

<table>
<thead>
<tr>
<th>It was a really bad experience</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>It was a really good experience</th>
</tr>
</thead>
</table>

2. In general, how would you rate the teaching staff with respect to ...

   a) Approachability

<table>
<thead>
<tr>
<th>They were not approachable</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>They were very approachable</th>
</tr>
</thead>
</table>

   b) Helpfulness (when I asked a question or required extra help)

<table>
<thead>
<tr>
<th>They were not helpful at all</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>They were very helpful</th>
</tr>
</thead>
</table>

   c) Preparedness (with training materials, hand-outs etc.)

<table>
<thead>
<tr>
<th>They were not well prepared</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>They were very well prepared</th>
</tr>
</thead>
</table>

   d) Classroom management (how well did they keep the class 'on-task')

<table>
<thead>
<tr>
<th>They were unable to keep the class on-task</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>They easily kept the class on-task</th>
</tr>
</thead>
</table>

   e) Social interaction (how often did you do non-class-related activities with Unitec teaching staff eg. BBQs, sports, social gatherings or just chill out together etc.)

<table>
<thead>
<tr>
<th>Not at all</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very often</th>
</tr>
</thead>
</table>
3. In general, how would you describe your interaction with the other students?
   
a) Helped or hindered my learning
   
<table>
<thead>
<tr>
<th>The other students made it difficult for me to learn</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Working with other students helped my learning a lot</th>
</tr>
</thead>
</table>

b) Our social interaction (in break times and in combined activities)

<table>
<thead>
<tr>
<th>We did not get on well socially</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>We got on very well socially</th>
</tr>
</thead>
</table>

c) Outside of class time I spent time regularly with (how many) ________ other students from this class.

   i) How often did you spend time with these students?

<table>
<thead>
<tr>
<th>Not much</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>A lot</th>
</tr>
</thead>
</table>

d) Outside of class time I spent time with (how many) ________ other Unitec students.

   i) How often did you spend time with these students?

<table>
<thead>
<tr>
<th>Not much</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>A lot</th>
</tr>
</thead>
</table>
4. The course

a) How would you rate the course in terms of:

i) Coverage

<table>
<thead>
<tr>
<th>Not enough was covered</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Too much was covered</th>
</tr>
</thead>
</table>

ii) Level

<table>
<thead>
<tr>
<th>The course was too easy</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>The course was too hard</th>
</tr>
</thead>
</table>

iii) Theory Tests

<table>
<thead>
<tr>
<th>Too easy</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Too hard</th>
</tr>
</thead>
</table>

iv) Assignments

<table>
<thead>
<tr>
<th>Too easy</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Too much work</th>
</tr>
</thead>
</table>

b) How would you rate the course hand-out materials

<table>
<thead>
<tr>
<th>Not at all helpful</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very helpful</th>
</tr>
</thead>
</table>

c) How would you rate the online program Moodle

<table>
<thead>
<tr>
<th>Not at all helpful</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Very helpful</th>
</tr>
</thead>
</table>
5. Who at Unitec have you asked for help while you were on this course?

- [ ] no one - or ...

Please tick all that apply.

- [ ] Teaching staff
- [ ] Programme Leader or Head of Department
- [ ] Other electrical students (eg. Friday sessions)
- [ ] Student Union
- [ ] International Students Office
- [ ] Student Health Services
- [ ] Maia
- [ ] Pacifica Centre
- [ ] Chaplain
- [ ] Other (Please specify)
- [ ] Other (Please specify)
- [ ] Other (Please specify)

6. What sort of things did you need help with

<table>
<thead>
<tr>
<th>Area</th>
<th>Tick here if you had an issue in any of these areas</th>
<th>Was this issue resolved to your satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Personal issues</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>b. Financial Issues</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>c. Enrolment issues</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>d. Cultural Issues</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>e. Assignments</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>f. Issues regarding a tutor</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>g. Issues regarding other students</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>h. Other issue (Please specify)</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>i. Other Issue (Please specify)</td>
<td></td>
<td>Yes / No</td>
</tr>
<tr>
<td>j. Other Issue (Please specify)</td>
<td></td>
<td>Yes / No</td>
</tr>
</tbody>
</table>
Appendix Three: Interview Questions

Thesis title: Why trade student withdraw from their courses: Students’ perspectives.

Interview Schedule B (staying students)

1. What have you found the most difficult about being a student?

2. Did you ever think about leaving the course?
   
   If Yes:
   
   a. At what stage of the course was this?
   
   b. What prompted you wanting to leave?
      
      i. Was there one or many reasons?
      
      ii. What were the reasons?

   c. Did you talk to anyone about wanting to leave?

   If No – go to #5

3. Why did you decide to stay?
   
   a. Did you talk to anyone about your decision to stay?

4. As you look back now, how do you feel about that decision to stay?

5. In your pre-course questionnaire you identified ????? as possible issues,
   
   a. Did they turn out to be issues?
      
      i. What did you do about them?

   b. Were there other issues that you had not anticipated?
      
      i. What did you do about them?

6. Was there a particular part of Unitec that you would say either helped or hindered your tertiary study?

7. What specific suggestions would you have for the people in charge of this course to manage the situations you had problems with better in future?

8. Are you considering continuing studying at Unitec?
   
   If Yes - What would you do differently to negate any problems you may have had?
APPENDIX FOUR: INFORMATION AND CONSENT FORMS

INFORMATION SHEET (Pre-course)

Title of Thesis:
Why Trade Student withdraw from their courses: Students' perspectives.

My name is Philip Clague and I am currently enrolled in the Master of Education degree in the Department of Education at Unitec Institute of Technology. I am seeking your help in meeting the requirements of research for a Thesis course which forms a substantial part of this degree.

The aim of my project is to gain an in-depth understanding of the reasons why students decide to withdraw from their courses and may provide usable strategies for students and teachers to improve academic achievement.

I request your participation in the following way.

I will be collecting data using pre and post-course questionnaires and enrolment information.

And

I will be collecting data from interviews of those who decide to withdraw from the course or those who have completed the course.

I will also be asking you to sign a consent form regarding these events.

You, the course you are on and the institution will not be identified in any published material. All records relating to this project will be kept in a secure location in accordance with Unitec policy and accessible only to me and my supervisor.

Participation in voluntary and you may withdraw permission to use your data up to the stage when analysis of data has been completed.

If you have any queries about the project, you may contact my supervisor at Unitec Institute of Technology.

My supervisor is John Benseman and he may be contacted by email or phone.
Phone: (09) 815 4321 ext 8736 Email jbenseman@unitec.ac.nz

Yours sincerely

Philip Clague

UREC REGISTRATION NUMBER: 2012-1097.

This study has been approved by the Unitec Research Ethics Committee from Jan 2013 to Dec 2013. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 5162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
CONSENT FORM (Pre-course)

Research event: Individual questionnaire and enrolment information data collection

Researcher: Philip Clague

Programme: Master of Education

THESIS TITLE:
Why Trade Student withdraw from their courses: Students' perspectives.

I have been given and have understood an explanation of this research and I have had an opportunity to ask questions and have had them answered.

I give consent for the information in my enrolment form and the pre and post-course questionnaires to be used for this research.

I understand that my name, the course I am on and the institution will not be identified in any published material.

Should I decide to withdraw from the course prior to its completion I consent to be contacted to discuss the possibility of attending an interview regarding the factors necessitating my withdrawal.

Should the number of students withdrawing from this course be insufficient to gain meaningful data I consent to be contacted to discuss the possibility of attending an interview regarding the factors that assisted me staying on the course.

I am aware that I may withdraw myself and any information that has been provided by me for this project up to the stage when analysis of data has been completed.

I agree to take part in this project.

Signed: ________________________________

Name: ________________________________

Date: ________________________________

UREC REGISTRATION NUMBER: 2012-1097.
This study has been approved by the Unitec Research Ethics Committee from Jan 2013 to Dec 2013. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Declaration

Name of candidate: Philip Clague

This Dissertation/Research Project entitled:

Why Trade Student withdraw from their courses: Students' perspectives

is submitted in partial fulfilment for the requirements for the Unitec degree of Master of Education.

CANDIDATE’S DECLARATION

I confirm that:

- This Dissertation/Research Project represents my own work.
- The contribution of supervisors and others to this work was consistent with the Unitec Regulations and Policies.
- Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee.

Research Ethics Committee Approval Number: 2012-1097.

Candidate Signature: ............................................. Date: ......................

Student number: 1105916