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**Becoming a Baker:-
Factors Contributing to the
Successful Completion of the National
Certificate in Food Production –
Baking (level 4) by Apprentices in the
New Zealand Baking Industry.**

A thesis presented in partial fulfilment of the
requirements for the degree of
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Abstract

Following the changeover from a Trade Certificate qualification to the unit standards based New Zealand National Certificate in Food Production – Baking (level 4), the number of apprentices completing a qualification in baking declined dramatically. Using sociocultural theories of learning as the context, case studies of apprentices who had completed the National Certificate at level 4 were studied to find out if there were significant factors that may be used by the baking industry to increase the number of apprentices who will complete successfully.

The findings show that personal motivating factors play a large role in encouraging an apprentice to complete. One of the main motivating factors is the need for the apprentice to “become a baker”. Support factors provided to apprentices were also studied and the roles of the employer, workplace assessor and the ITO regional manager were all found to be important factors contributing to the eventual success of the apprentice.

This study concludes that in order for apprentices to succeed, not only must apprentices be self-motivated, but also the baking industry as a whole must take on the responsibility of ensuring that the members of the community of practice (that is the NZ baking industry) become conversant with the requirements for nurturing and guiding their apprentices towards the completion of the training, learning and assessments for obtaining National Certificate qualifications.

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Chapter 1

Introduction

Preface

JW works in a craft bakery¹ in a busy central city location. He has just completed his National Certificate in Food Production – Craft Baking (level 4) by undergoing ALL of his workplace assessments in the space of six months. His employer did not want to be involved with workplace assessments and the regional manager from Competenz² managed to find him a good workplace assessor to work with. JW was keen to complete his qualification so that he could move on from just being an apprentice and become a baker.

DH works in a craft bakery in a small town north of Wellington. He has been an apprentice for four years and is keen to complete his qualification. However, he works in a very busy workplace and the workplace assessor who was being trained to workplace assess him is still not quite ready to take on the task. DH feels that he has spent enough time being an apprentice and is ready to be a baker. All he needs to do is to have all his workplace assessments completed competently.

RV works in a large plant bakery³. He challenged himself to complete his qualification in the space of two years and completed it in two and a half years. He has had to do a lot of work in organizing and instigating his assessments but is now a qualified plant bread baker.

JR works in the bakery section of a busy institutional catering organisation⁴. He has almost completed his qualifications. His workplace assessments were done for him by a baker employed by another bakery. JR learned a lot from his workplace assessor and is almost a baker!

¹ A craft bakery is usually a small retail bakery that produces a large range of bakery products. It is often situated in a 'high street' type location.

² Competenz is the Industry Training Organisation (ITO) that looks after training needs in the baking industry

³ A plant bakery manufactures bakery products in large volume using automated equipment. Most plant bakeries produce bread products but there are also plant bakeries that produce cakes and pastry products.

⁴ Institutional catering organizations look after catering requirements for hospitals, boarding schools, workplace cafeterias, prisons and retirement homes. Baked products for institutional catering organizations are often produced in a centralized bakery that services parts of a city or geographical region.

The stories of these four apprentices in the NZ baking industry are used in this research project to study the reasons for their success in completing their National Certificates. Their views on the support structures that were made available to them and the strategies that they used to complete their qualifications contribute to the themes that have come out of this research.

These two themes are:-

Building a community of practice for the new qualification system to certify apprentices in baking requires the input of many players and this building process takes time;

and

The motivation for many apprentices to work towards completing their qualifications is their need to become a baker.

In this chapter, the background leading up to this research project is first presented.

A brief summary of the structure of the rest of this thesis then follows.

1.1 Background

Qualifications for bakers (in line with many other trades [Ministry of Education 1989, 1997,1998]) are now made up via the completion of a large number of credits accumulated by achieving unit standards to contribute towards National Certificates in Food Production – Baking (level 2, 3 & 4) (New Zealand Engineering, Food and Manufacturing Industry Training Organisation [NZEFMITO] 1998). The industry now takes on trainee bakers to level 2 (bakers assistants), level 3 (trained baker) and level 4 (trade certified baker). The move from the old Trade Certificate Board system has been a long and drawn out affair. The original Industry Training Organisation (ITO), the Food and Beverage ITO, started working on registering new baking qualifications in 1995. However, owing to financial instability, this ITO was taken over by the Engineering and Manufacturing ITO in 1997 (who then changed their name to the New Zealand Engineering, Food and Manufacturing Industry Training Organisation [NZEFMITO] and changed again in 2000, to Competenz). This meant that qualifications in the baking industry were not registered till 1998.

The new qualifications consist of National Certificates in Food Production – Craft / Plant Baking at levels 2, 3 and 4. Apprentices employed in the industry sign training agreements to complete the National Certificate at level 4 (equivalent to the old trade certificate). The old trade certificate consisted of the completion of time served in the apprenticeship (between 6000 to 10000 hours) and the successful completion of first qualifying, second qualifying and trade certificate practical and theory examinations. The learning for the Trade Certificate was work-based for practical skills, correspondence course for the theory and block courses for consolidation and practical assessments.

In the National Certificate qualifications at level 4, 279 credits (Craft) or 225 credits (Plant) must be completed. The unit standards contributing to the credits are made up of core generic units, compulsory units (knowledge units obtained via correspondence course study and block course units comprising practical assessments) and elective units chosen from the baking area, made up mainly of workplace based training and assessments. There is potential for around 60 separate units to be assessed in order for the qualification to be completed (see appendix 7 for the training guide that details the unit standards to be completed by craft baking apprentices at level 4).

With the old trade certificate, the number of apprentices completing averaged out at 76% (1994 to 2000 – see table 1). This is based on the number of apprentices passing who actually sat for the trade certificate final external theory examination. A number of apprentices “terminated” their apprenticeships and did not get as far as sitting for trade certificate. From records held at the New Zealand Baking Training Centre (NZBTC) based at Christchurch Polytechnic Institute of Technology (CPIT), there is seen to be an average attrition rate of 10%. The figures held at NZBTC may be deemed to be accurate as it has been the only training center in New Zealand offering block courses to apprentice bakers since the mid 1970s.

Table 1**Pass Rates for Trade Certificate Examinations 1994 to 2000**

(based on number of apprentices who actually enrolled for the examinations)

Year	Bread Baking		Cake and Pastry Cooking		Bread baking, Cake and Pastry Cooking (combined)	
	No. sitting exams	% passed	No. sitting exams	% passed	No. sitting exams	% passed
1994	18	61.1%	8	87.5%	22	77.2%
1995	15	66.6%	17	76.5%	26	73%
1996	17	82.3%	14	85.7%	45	62.2%
1997	20	85%	25	82.6%	72	62.5%
1998	9	100%	27	85%	56	82.1%
1999	16	75%	12	91.6%	47	78.7%
2000	5	100% ⁵	4	0%	14	78.5%
Average		81.4%		72.7%		73.8%

Overall average :- 76.4%

Under the new National Certificate, the first possible cohort of apprentices started on unit standards in 1999. These apprentices started their apprenticeships under the old trade certificate system and completed first qualifying in their relevant areas. In 1999, their stage 2 courses were converted into a transitional year and these apprentices were then assessed using unit standards. Since 1999, all apprentices have been signed into their training agreements to complete the National Certificate at level 4. The first full cohort of 'all unit standards' apprentices therefore would complete in 2001 and the first apprentice completed the qualification in mid 2000 (Competenz, 2000). However, of the 'transitional cohort', just under 20 (14 in craft baking and three in plant bread baking) have so far completed their National Certificates at level 4 (December 2002) out of a potential cohort of 99 craft baking apprentices and 17 plant bread baking apprentices (stage three numbers for 2000 and 2001).

⁵ This was the last year the trade examinations were offered and candidates were re-sitting the examinations.

The change from the old trade certificate and time served apprenticeship into the new unit standards based National Certificates did not start off well. The industry as a whole had to weather the change in training systems and emphasis along with changes in the administration and personnel related to the changeover in ITOs. This led to loss of confidence in the new system and the poor number of completions of the National Certificate at level 4 has accentuated a further decline in new apprentices being signed on to the baking trade.

This research project looks at the factors that contribute to the successful completion of the new National Certificate Level 4 by the small number of bakery apprentices. These individuals have had to surmount the many obstacles thrown at them by virtue of their being in the first cohort of apprentices to have to work through the new system. The apprentices, their supervisors, managers and workmates, the ITO and supporting system (regional managers, modern apprenticeship coordinators, assessment coaches), the training providers and the industry as a whole have had to come to grips with a whole new approach to training and assessment. This study has focused on the voices of the apprentices on whom the new system has been imposed.

1.2 The research questions

The main aim of this research study was to find out:-

- a) Why some apprentices were succeeding in completing their qualifications.
- b) How the apprentices who were successful worked through and completed the many parts of their qualification.
- c) The support structures that apprentices who were successful found useful or supportive.
- d) Whether there was something 'special' that was common to the apprentices who completed, and what that special factor(s) was.

1.3 Structure of thesis

This thesis is organized into the following chapters:-

Chapter 2, the **Literature Review**, is made up of two parts.

1. The first part explores work that has been undertaken by other researchers in the field of apprentice completion and attrition. Most of this research is from work that has been undertaken by the Australian National Centre for Vocational Educational Research (NCVER). This is because the area of apprentice completion and attrition is an important one from the point of view of government funding and employer financial input. A brief discussion of how other researchers have approached the topic of success and motivation to succeed is also included in this part of the literature review.
2. The second part looks at the contribution of the historical concept of apprenticeships including the 'time served' understanding of an apprenticeship being completed, and compares this to the present Competency Based Training (CBT) concept of meeting set standards before an apprentice is deemed to have completed the qualification. The contribution of sociocultural theories of learning with particular reference to the concept of Communities of Practice (Lave and Wenger, 1991, Wenger, 1998) is also introduced to support the methodology that has been chosen for doing this research.

Chapter 3, **Research Methodology and Process**, begins with a discussion of the reasons for using the constructive epistemology to underlie the research perspective of interpretivism, the case study method and the qualitative data analysis of the information collected. The method used (interview of four apprentices who have almost completed and a questionnaire of stage two and three apprentices attending block courses at NZBTC) is detailed along with the methods used to analyse the data collected.

Chapter 4, the **Findings and Results**, is developed using excerpts from transcribed interviews with apprentices, comments from apprentices collected from the questionnaire and data derived from the questionnaire. These are presented in two major sections. The first section addresses the effectiveness (or ineffectiveness) of support factors provided to apprentices working towards completing their qualifications

and the second section addresses strategies used by apprentices who have completed and succeeded in gaining their qualifications.

Chapter 5 on **Discussion and Interpretation**, links the first section in the findings and results chapter on the effectiveness (or ineffectiveness) of support factors provided to apprentices working towards completing their qualifications to the theme of building a community of practice for the new qualifications. The second section in the findings and results chapter, on strategies used by apprentices who have completed to succeed at completing their qualifications, is then linked to the concept of 'becoming a baker' being an important motivation for apprentices to complete. A list of recommendations that have arisen from this research project and discussion on future research directions is also included in this chapter.

Chapter 6, **Conclusion**, discusses the impact this research may have on the current way apprentices are supported on their journey in becoming bakers and brings in some of my reflections on my experiences in working through this research project.

Chapter 2

Literature Review

2.1 Part 1 - Review of studies undertaken by other researchers

This chapter is a summary of some of the research studies on three areas of research that have relevance to this research project. These areas are studies of apprentice/trainee completion or attrition rates; the study of success in other qualifications (other than apprenticeships) and the contribution of motivation towards the completion of study or work related activities. These three facets have been chosen as they contribute to the selection of the research method used for this project, the research methods used and provide information that is drawn on for the analysis and interpretation of the findings.

2.1.1 Studies on apprentice completions

The following studies have looked at completion and or attrition rates of apprentices in Australia. The factors contributing to eventual completion that have been studied have been varied. The concept of apprentice completion has been also difficult to pin down. Each research study seemed to assume that the term "apprentice completion" would be widely understood but when I investigated this area, I found that each study based the concept of apprentice completion on different criteria and that these criteria were not always clearly identified or explained. However, most of the studies were contracted research reports and it may have been the assumption of the researchers concerned that the reports would be distributed to a specialized audience that would be familiar with the concept of apprenticeship completion as defined in their set context.

The National Centre for Vocational Education Research (NCVER) in Australia provided funding for research to be carried out on a wide range of issues related to adult education, workplace learning and vocational education teaching in 2000. One of the sub-groups for research was the apprenticeship system. Out of three research projects approved in this sub-group, two were to do with the retention, completion or success rates of apprentices and trainees. (NCVER, 2000) The final research reports for these two research projects (Callan, 2001, Cully and Curtain, 2002) are summarized later in this section.

Other Australian studies include the report by Harris, Simons, Symons and Clayton (2001) that looked at the factors that contribute to retention and completion in apprenticeships and traineeships and Afrassa (2001) which looked at the factors that influence the completion of South Australian traineeships. The Harris et al work was part of an NCVET funded project in 1999 to investigate various aspects of Australia's apprenticeship and traineeship systems. The Australian system has some differences from the New Zealand apprenticeship and traineeship systems but overall tends to be very similar, as they both arose from roots based on the British apprenticeship systems. The main similarities in the present apprenticeship systems are that the Australian and New Zealand systems both use competency based training and assessment systems and workplace assessments that are completed on the job.

The studies by Harris et al (2001) Afrassa (2001) both reported that studies of attrition and completion rates within the vocational education and training (VET) sector had a long history in Australia. Harris et al (2001) listed and discussed studies going back to the early 1970's and Afrassa (2001) used studies in the late 1990's on Queensland's traineeship completion rates to support his analysis. In both of these studies, the high rate of non-completion amongst young people undertaking traineeships or apprenticeships was mentioned as a reason for starting their research.

The Harris et al (2001) report defined completion as the successful completion of a contract of training when a person leaves the training system with a nationally recognized qualification. Callan (2001) made the assumption that trainees or apprentices who had completed, had completed all of their off-job training requirements and completed their time served in workplace based training. Afrassa (2001) did not define completion as such but studied completion rates that were reported to the South Australian Department of Education, Training and Employment (the funding body for off and on job training for apprentices).

The report by Harris et al. (2001) included a summary from the literature (all Australian) that linked person and context orientated factors to the process of retention in traineeships and apprenticeships. Person factors included motivation to undertake a traineeship / apprenticeship, persistence, gender, interpersonal relationship with

employer, age, highest level of previous education and past life experiences including experiences of earlier schooling. Context orientated factors included type and quality of social networks at work, type and quality of social networks amongst peers, nature of work open to trainees / apprentices after they have completed their course, nature of contract of training, occupational area in which traineeship / apprenticeship is being taken, productive and meaningful work during the course of the apprenticeship / traineeship, quality of training, quality of employment conditions and nature of employer (enterprise, group training).

Qualitative data analysis was used in the Harris et al (2001) study. Twenty cases (two cases of high completion and two cases of high cancellation from each of the five states in Australia) were studied with a total of 318 trainees/ apprentices, 35 employers / workplace supervisors and 51 teachers / trainers being interviewed (face to face, by telephone or in groups). Details of which occupational groupings were assigned to high completion or high cancellation or how these groupings were chosen were not made available in the report.

Eleven occupational groupings were studied, which ranged from aircraft maintenance engineers, computing technicians and metal fabrication workers through to cooks, hairdressers and sales assistants. Fifteen factors that impact negatively on retention were distilled out of the interviews and distributed amongst the occupational groupings. For the cooks (the closest occupational grouping to bakers), the factors that impacted negatively on retention included: low pay / unpaid overtime; little / no support from family and peers; long / irregular working hours and shift work; poor working relationships with employers or harassment; not suited to the chosen area of employment or no enjoyment passion for work; unrealistic expectation requirements of contract of training and no extrinsic motivation (qualification, long term goals etc.). Many of these factors could be correlated to bakers but a full replicable study would need to be done.

From the above, ten general factors were identified as making a significant contribution to the process of retention. These were a strong sense of personal agency on the part of the individual taking up the contract; a support network (family, partner, friends) for the individual; an initial placement that was suitable and offered conditions conducive to establishing the necessary support to deal with the demands of the contract of training;

previous work experience related to the occupational area; supportive workplace supervisors / managers, supportive workplace culture; opportunities to participate in some form of structured training; reliable transport; availability of alternative career paths and value placed on the qualification.

This provided a wide and diverse range of data points to look into. The above study surmised that there were many factors that contributed to the eventual completion or retention of a trainee / apprentice. Some of these could be attributed to the trainee / apprentice but many other supportive factors are related to the workplace and work relationships and often beyond the control of the trainee / apprentice.

Callan (2001) specifically studied the experiences of trainees and apprentices who had successfully completed their training and the factors that assisted these trainees and apprentices to complete. These involved two questionnaire surveys. One was completed by 609 respondents (435 trainees and 174 apprentices) and the other completed by respondents involved in vocational education and training (VET) and included directors, senior managers, trainers and teachers. The results and findings from the first questionnaire survey are of relevance to my research.

The above study found that apprentices who had completed were more likely to have a training plan (only 14.6% did not as compared to non-completers where 26.6% did not). Completers were also more satisfied with their on the job training. In particular, they were more satisfied with their boss / supervisor / trainer. Aspects that contributed to better satisfaction with the contribution of their boss / supervisor / trainer included having a good trainer; skills that the trainee / apprentice had to learn being made clear to them; the apprentice / trainee being given time to practice new skills that they were learning; being able to learn useful and important skills at work; and being provided with regular feed back by their employer or supervisor.

Non-completers were especially critical of the quality of training provided on the job while completers provided the following reasons for completing their training. These included being confident and well organized; making the right choice of traineeship / apprenticeship; receiving support from their family and friends; working hard; and a having good relationships with their supervisors or trainers.

The study by Callan (2001) reiterates some of the findings of Harris et al (2001) and places importance on the role of the boss / supervisor / trainer in contributing to the eventual completion of training by trainees and apprentices.

Quantitative analysis using hierarchical linear modeling techniques was used by Afrassa (2001) to examine student and provider factors that influence the completion of students who began their contracts for traineeships / apprenticeships in 1997. The data was extracted from 1997 and 1998 South Australian Apprenticeship and Traineeship Statistics and included 20 providers and 913 trainees.

The study concluded that younger trainees and trainees who have completed high school are more likely to complete training programmes than older trainees who have not completed high school. Non-Aboriginal / Torres Straits Islanders were more likely to complete. Trainees who had 'professional work' and trainees involved in the agricultural and mining industries were also more likely to complete. Country of birth, language spoken at home and disability were found to have no effect on completion or non-completion.

Cully and Curtain (2002) focused their study on the reasons for 'new' apprentices⁶ not completing their apprentices and found that the main reasons for non-completion were work based rather than training issues (usually off job training). The main reasons for non-completion included being able to find a better job; having poor relationships with the boss; feeling that they were being treated like 'cheap labour'; the work was boring; and that they were not learning anything. Recommendations for improvement included improving the fit between apprentices and employers; improving the work place experience for new apprentices; and better assistance for older new apprentices to settle into their new roles.

No recent (late 1990s) or relevant (food industry or even apprenticeships in general) research in New Zealand could be tracked down. It is actually quite difficult to obtain

⁶ 'New' apprentices or trainees complete their qualifications by combining employment with off job training to complete nationally recognised qualifications as compared to 'normal' apprentices who complete most of their training on the job.

comparative figures on completion rates for pre National Qualifications Framework (NQF) qualifications like trade certificate and post NQF unit based qualifications in specific trades. This is due to the fact that many trade certificate qualifications do not have complete equivalents in the new National Certificate structure. Many of the trades that had existing apprenticeships and qualifications before the NQF are now working towards National Certificates. In most cases, these National Certificates contain exit points at levels 2, 3, 4 and 5. The trade certificate equivalents would be first and second qualifying for levels 2 and 3, trade certificate for level 4 and advanced trade certificate for level 5. However, in the trade certificate era, apprentices were deemed to have completed their qualification only when they had completed their time (usually 4 years or 8000 hours) as well as passing trade certificate practical and theory examinations. With the National Certificates, apprentices are able to complete their qualifications (at levels 2, 3, 4 or 5) as long as they have completed assessments against unit standards and accumulated the total credits required for the level of National Certificate.

There is no central repository for the accumulation of statistics on apprentices and their completion rates. Various ITOs maintain databases on their apprentice progress but these are not available to the general public. The NZQA provides a list of National Certificates most frequently gained (NZQA, 2000). Baking is categorized into the area of food processing where over 100 National Certificates have been gained. However, this number includes National Certificates for all the food processing trades and all the levels between 2 and 4. From records held at the NZBTC, it is unlikely that more than 10% of these 100 National Certificates would be attributed to level 4 baking apprentices. At the moment, the NZBTC at CPIT maintains a database of the unit standards completed (at CPIT) by apprentices registered to complete the National Certificate in Food Production – Baking at level 4. However, this database contains only a small proportion (20%) of the credits (unit standards) that the apprentices have to complete to obtain the National Certificate. Completion rates are so low at the moment that the industry grapevine keeps track of these apprentices so that any apprentice who completes his/her apprenticeship becomes known industry wide.

The New Zealand Government launched the concept of Modern Apprenticeships in the middle of 2000 to try to reverse the trend of falling apprenticeship numbers in the trades based industry areas and to increase the number of people being trained in the

workplace. The main aim of Modern Apprenticeships is to “boost the knowledge economy” and to provide “a significant number of young New Zealanders with a chance to gain tertiary skills and qualifications this country will need in a host of industries.” (Skill New Zealand, 2001a) The baking trade was included in the June 2001 contract for Modern Apprenticeship contracts and Skill New Zealand has forecast that the Modern Apprenticeship number as a whole should increase to three thousand by the middle of 2002. (Skill New Zealand, 2001b)

A closer look reveals that the major focuses (termed quality features) of Modern Apprenticeships are to include elements of completion of qualifications. These are included in the conclusion of the research project on Modern Apprenticeship Pilots (Skill New Zealand, 2001a). The quality features include an *individualized approach* to modern apprentices and their employers, through the development of individual training plans to address the learning needs of the modern apprentice and skill needs of the employer; an *achievement focus* where the modern apprenticeship coordinator mentors the modern apprentice and supports his/her employer to ensure successful completion of a level 3 and / or 4 National Certificate; and a *future orientated focus* to include opportunities for a range of skills to be addressed, including generic, transferable skills which will equip the modern apprentice for the future (such as information technology, problem solving and business skills).

This leads me to think that there is concern within the wider New Zealand industry training arena about the completion rates of trainees and apprentices and that the baking industry is not alone in its concerns. Completion rates are still an important indicator of the acceptance of the philosophies of the NQF and the current NZ government’s focus on working towards providing a better-trained work force for the ‘knowledge economy.’

2.1.2 Studies of success

The study of factors that contribute to the successful completion of various qualifications has not been an unusual avenue to pursue. Literature searches revealed several pathways used to look at the overall topic of success and achievement.

One approach was to look at the factors that impede success and to explore ways in which these barriers may be overcome. Smith (1996) uses this approach to investigate the barriers and constraints to Maori achievement at Maori boarding schools.

Another route was to explore the factors that contribute to success by studying the exemplars of success in the chosen field of endeavour. Csikszentmihalyi and associates (1993) looked at factors that contributed to the continued success of teenagers who were talented in various academic, artistic, musical and sporting pursuits. Arnold (1995) undertook a longitudinal study of high school 'valedictorians' (dux) in the state of Ohio in the United States of America. She tracked their career paths and their personal development over a period of fourteen years to see how they worked towards fulfilling their future aspirations after performing so well at high school.

Another avenue was to look at how people have overcome various odds (such as being disabled, being a member of a minority ethnic group or gender in some contexts) to succeed in their lives. Northcutt (1991) looked into the characteristics that support successful career women to continue being successful. Selby (1996) studied the factors that contribute to Maori women being successful in tertiary education; Ross (1997) looked into factors that supported the success of young African-American males at a black college; and Reiff, Gerber and Ginsberg (1997) presented a 'model of success' based on the research undertaken of adults who became successful (in professional occupations) despite having recognized learning disabilities.

In all the above, the focus of the studies was on the individual and in several, the impact of external social, cultural and historical factors beyond the control of the individual was also included.

From the above, it can be seen that many approaches can be adopted with regards to studying why some people successfully complete a qualification or continue to lead successful lives. The concept of success is also defined differently in each of the above studies. What may seem to be successful to one group of people might seem quite normal to others and be exceptional to another group.

2.1.3 The role of motivation in success

Arnold (1995) hypothesized that valedictorians succeeding better than their peers in later life had personality traits of hard work, perseverance and focus. These factors were found to be more important than natural ability in achieving success at tertiary level studies and into the early careers of individuals. Csikszentmihalyi et. al (1993) surveyed a wide range of personality traits that might contribute to the success of talented teenagers and found that learning to invest in 'difficult tasks' (eg facing up to and working through challenges) was indispensable to the development of life skills. Reiff et al (1997) found that a positive outlook on life was an important attribute of the adults with learning difficulties succeeding. Attitude and motivation are therefore important contributors to the eventual success in various endeavours for various individuals.

Many studies have been done on the motivation to learn and the motivation to work. Entwistle (1998) summarised a traditional classification of motivational factors. They are extrinsic motivation (external pressures and rewards), intrinsic motivation (personal goals) and achievement motivation (competitive). An overview of eight models of work motivation, along with the subsequent combination and integration of these models is provided by Locke (1997). Wigfield (1993) asked the fundamental question of "why should I learn this?" The achievement task values (importance and relevance of a task) of adolescents were looked at. In the main, adolescents performed better at the tasks they enjoyed or at the tasks to which they assigned greater importance or relevance.

Arnold (1995) also found that the commitment of faculty to the academic and career success of valedictorians was especially important for women, minorities, and first generation college students. Support of the family, community (church, faculty, workplace) and the social environment were all cited by Csikszentmihalyi et. al, Reiff et. al, Ross and Northcutt as significant factors that assisted in the eventual success of individuals.

There is also interest in studies of motivation and achievement that take on a sociocultural framework as the philosophical base of the research. Ruedo and Dembo (1995) provide a short history of the movement in studies of psychology from a behavioural framework to the cognitive psychology and human process frameworks, with a move from experiments taking place in rigid laboratory environments to a sociocultural

context where research is carried out in the situation where the activity takes place. They compare the cognitive perspective on motivation (goal setting, motivation and task values – Why am I doing this?); expectancy components – (Can I do this?); and affective values – (How do I feel about this task?) with the sociocultural focus of the task being socially negotiated (what is interesting?; what is motivating?; how is it displayed?), socially distributed and context specific. They conclude that motivation is not a fixed, finite or easily measured variable, and that motivation should be mediated (by the sociocultural factors that feed into the motivation) and re-mediated as and if required.

Salili (1995) based her study on Chinese students' motivation to achieve within a sociocultural framework. She based this on the premise that

“cultural values mediate achievement cognition and behaviour. The idea of achievement might mean different things and manifest in different ways in people of different cultures and circumstances” (page 73).

So although attitude and motivation are important in individuals who succeed, many other factors also contribute to how individuals view their motivation. Support factors also assist or hinder an individual's efforts to work towards eventual success. The sociocultural framework is therefore an important aspect to take into account when studying individual motivation and success in completing their qualifications.

From all the above background information, I made the decision to study the apprentices who had succeeded or were very close to succeeding (ie the exemplars of success) in completing their National Certificate qualifications. This provides a positive framework to work from and also has potential to suggest factors that the NZ baking industry could progress towards to help all their apprentices achieve. I also realized that there could be many possible variables to be explored with regards to factors that contribute to the eventual success of apprentices working towards completing their National qualifications.

2.2 Part 2 - Studies on apprenticeships and sociocultural aspects

This research study is based on the philosophies of sociocultural learning and the impact they have on workplace relationships and apprenticeship training, assessment

and eventual completion. This part of the chapter discusses apprenticeship and how it has evolved into its present form; the contribution sociocultural learning theories bring to this study; what competency based assessments bring into the sociocultural milieu; the contribution of workplace learning; and how these diverse factors eventually contribute to an apprentice undertaking his / her journey in becoming a baker.

2.2.1 Apprenticeships and a sociocultural context

The term apprentice is defined in the Concise Oxford Dictionary as:-

“learner of craft, bound to serve, and entitled to instruction from, his employer for specified term. “ (Sykes (ed) 1985)

However, the term apprenticeship is now also used more broadly as a model of learning. These two uses of the word apprenticeship sum up some of the direction for this section. The original intent of apprenticeships was to provide craft based businesses with a continual source of trained craftspeople. However, the modes of training used in apprenticeships (on the job training, learning by doing, mentor relationships between master and apprenticeship, guided and scaffolded learning) have now come back into use in the area of cognitive learning psychology known collectively as situated cognition or sociocultural learning theories. In this research project, apprentices who are employed in the NZ baking industry are defined using the traditional definition of the word as set out by Sykes above.

Historically, apprenticeship based training as an institution (with prescribed contracts and governing bodies) can be traced back to medieval times (Aldridge, 1999, Smits & Stromback, 2000). Both of these writers remark on the longevity of the concept of apprenticeship-based training and postulate that this is due to the system being adaptable to changes in social order although the basic components of apprenticeships remain the same (a contract between a master to teach and the apprentice to learn).

Rikowski (1999) tracked the development of apprenticeships and categorised them into various developmental stages. These are the *classical period* (pre – 1930s) where the apprenticeship was based on time served, training was by observation, learning was by doing and there was an overall emphasis on indentures, specialized training in a single craft and inculcation of “craft pride” and “mysteries”. The next stage was the *modern*

apprenticeship (1920 – 1980) where apprentices were trained to standards of craftsmanship via supervised on-job training, compulsory day release or block courses and there was an emphasis on the contract of apprenticeship, formal goals were set, entry was usually restricted and the outcomes were results orientated. The stage we are now at is termed *present apprenticeships* (1980 – present) and consists of training to national standards that are made up of key (craft), core (generic) and transferable skills that are set within a contract of employment placed within a context of lifelong learning. We therefore see a shift in perception as to what 'makes a tradesperson or craftsperson' from one of 'time served' to one of 'completing a qualification'.

Rikowski (1999) then goes on to propose that the end point of an apprenticeship is actually 'mastery'. A 'master' is defined as a

"continuous learner where problems solved are generated by engagement with the trade, the application of skill and knowledge with underlying confidence and attitude (craft pride) towards production and the product" (page 62).

Apprenticeships have also been viewed as a

"venerable form of education that is limited to special situations in past and present societies" (Wolek, 1999, page 395).

Wolek summarised some of the principles of skill development during an apprenticeship. These are that skill development during an apprenticeship tends to be continual, that there is a process focus to learning (which includes the concepts of proficiency, external knowledge for command of skill and a base for self direction and open-ended growth) and process development.

However, completing a qualification (especially under the more fragmented unit standard- based National Certificates) might not initially produce a 'master' even though the concept of the National Qualifications Framework is to promote lifelong learning and continuous improvement.

Wolek (1999) also goes on to suggest that learning during apprenticeship is a 'shared effort' and that 'learning organisations' have an effect on the actual learning that takes place. Fuller and Unwin explore the relationships between work and learning (1998) and

community and apprenticeship (1999). In the first article (1998), they propose that the key concepts of apprenticeships are

- (a) a contractual framework between employer and apprentice;
- (b) the cultural and social aspects of going to and being at work which socializes the apprentices to the workplace; and
- (c) formal and informal on and off job learning experiences.

In the second article (1999), the factors detailed in the first article are given more formal definitions. The four interrelated ways in which apprenticeships work include the pedagogical, occupational, locational and social. In the *pedagogical* area, young people learn by participating first in a peripheral manner and are then gradually absorbed more fully into a community of practitioners. In the *occupational* aspect, individuals are initiated into the occupational community that is in turn defined by the “solidarity formed around shared knowledge, competence and skills, values, customs and habits.” The *locational* feature is defined as apprentices become part of the “life of the community” when significant opportunities are made available by local employers. The *social* aspect includes the importance of success of the apprentice as this eventually influences the overall esteem or reputation the employer has in the local and wider community.

The above findings are also supported by Australian research (Schofield, 2001) that found context was an important aspect in the factors that impacted on the quality of apprenticeship and traineeship training. Three necessary ‘actors’ were found to be crucial in the eventual outcome of apprentice and traineeship training. These were the employer, the individual apprentice / trainee and the training provider. Each of these had different perspectives on what constituted quality of training. Each of the parties also understood training in different ways, looked at and saw different things in a training programme and judged training quality differently. The above studies set the learning of apprentices into a sociocultural learning arena.

In sociocultural theory terms, apprenticeships reflect learning that takes place in a ‘community of practice’. (Lave and Wenger, 1991). In order for learning to take place, an individual constructs elements of various forms of knowledge and this knowledge construction is affected by social, cultural and historical values found in the context the learning takes place in. The learning within a ‘community of practice’ is made up of four interconnecting sectors (Wenger, 1998). These are the community, the practice,

meaning and identity. In the New Zealand baking industry context, the *community* would include the industry sectors (craft, wholesale, in-store, plant etc.), the bakery the apprentice works in, the apprentice's peers (who they meet on block courses), and the training providers. The *practice* would include learning by doing, and the shared historical and social resources, framework and perspectives that sustain the apprentices's engagement in the industry. *Meaning* would be brought about by learning from experience, learning from others and constructing one's own concept of the baking process. *Identity* would be the learning that is involved in becoming a baker and this would include not only learning about the skills and knowledge of baking but also about their social acceptance into the community of practice that is the NZ baking industry.

In a study of learning and assessment issues of apprenticeships and traineeships (Robertson & Harford, 2000), five critical features that should be present in contemporary contracts of training between employers and apprentices / trainees were postulated. These features were :

- *breadth of experience and exposure to authentic work* that enabled the apprentice or trainee to gain a view of their current and future roles and the skills, knowledge and attributes they would need to fulfil current and future roles;
- *depth of learning* that provided the opportunity to develop and apply theoretical and conceptual knowledge in the work context and to further their capacity to think critically about their practice;
- *interactions and interpersonal relationships* that provided opportunities for the apprentices and trainees to make connections between what they had learned and the implications this had for their work;
- *provision of qualifications* that were seen not only as end points but also as a progressive step towards further learning and attainment and
- *communities of practice* that were build around partnerships between employers, training providers and apprentices and trainees.

Wenger (1998) presented the theory that a community of practice is defined by what the practice is about, how it functions and what capability it produces. He also proposed that communities of practices undergo various stages of development, from finding that potential for the existence of a community of practice to the community coalescing, becoming active, dispersing and communicating its presence and coming to an end

stage of being 'memorable' In New Zealand, the baking industry is an established entity and the original baking apprenticeship system has probably reached the memorable stage as former apprentices have moved on and are now the providers of apprenticeship training themselves. However, the new system of National Certificates with their added requirement for greater employer input through workplace training and assessments has still a long way to go with regards to general acceptance by the baking industry. Therefore, the 'revised' community of practice that is the new National Certificate apprenticeship system is yet to coalesce as an established community of practice. The process is also slowed down by the fact that the new system has been very much one that has been imposed by external forces outside the baking industry.

Wenger also proposed that providing the correct form of support via guidance and resources at each stage of the developmental process of the community of practice was crucial to the ongoing progress and growth of the community of practice. Creating links between the right people within the community was one important but often under-utilised resource.

Guile and Young (1998) view apprenticeships as a process of socialization rather than as an approach to learning. They use the term 'activity theory' to describe how the zone of proximal development (proposed by Vygotsky [1978]) may be used to enhance learning as a social practice. They then continue in a later work to propose that apprenticeship

"offers a way of conceptualizing learning that does not separate it from the production of knowledge or tie it to particular contexts but forms the basis of a general theory of learning that might link learning at work and learning in the classroom rather than see them as distinct contexts and outcomes." (Guile and Young, 1999, page 112)

There has been criticism of the emphasis on sociocultural learning theories. Anderson, Reder and Simon (2000) provide a summary of some of the central claims found in 'situated learning' and provide empirical evidence that some of these precepts might not hold true (especially in a formal education setting). The precepts of sociocultural learning theory that they critique include the claims that action is grounded in the concrete situation in which it occurs, evidence that knowledge does not transfer between

tasks, training by abstraction is of little use, and instruction must be done in complex social environments.

The completion of an apprenticeship is therefore more than the completion of a qualification and the conferment of a National Certificate. The apprentice begins as a novice to the skills and knowledge of the craft. He /she embarks on a voyage as a 'legitimate peripheral participant' (Lave and Wenger, 1991) before gradually becoming accepted as a full member in the bakery trade. The community of practice that the apprentice enters is a complex one and each apprentice will enter a unique workplace context based on the location of the workplace, the type of work or products that were made in the workplace, the affordance for training and assessment the workplace allows (Billett, 2001), the perception of the employer with regards to his / her role in training and assessment and the support systems available (and perceived by the apprentice and employer as being available). These factors are further complicated by the imposition of a new system onto employers who have an affectionate notion (the memorable stage in a community of practice) of the old apprenticeship system. The new systems entry into the training and assessments of apprentices in baking did not have an auspicious beginning. Articles in the media did not dispel the anxieties that the industry had with regard to a competency based system being imposed on to an existing system that (for all its faults) was seen by most employers as working for them and the industry.

2.2.2 Competency based Assessments (CBA) and the Sociocultural Context

Unit standards based qualifications are based on principles of competency. At the moment, the outcomes provided for the NZ baking industry are found in the elements and performance criteria of the various unit standards that are used as a base for competency based workplace and off-job (correspondence and block course) assessments. In the main, unit standard outcomes are not put into any organized or coherent form by the ITO for the actual training of an apprentice. Training in the baking industry (especially in the smaller craft bakeries who do not belong to any large corporate body or franchise) tends to be ad hoc and based on observation, modeling and informal learning. There is a natural friction between the production requirements of the workplace and the needs of the apprentice to be systematically trained and assessed. Billett (2001) summarizes his work on the interdependencies between

learning at work and learning through work. He uses the term 'affordance' to describe the opportunities that the workplace is able to provide in the way of training, and maintains that there is an ongoing tension between an individual's interest in participation and the routines and rituals in a workplace. An individual's ability to maintain their vocational practices is often constrained by the extent to which the workplace affords opportunities for engagement and interaction to learn. Findings made in another Australian study (Strickland, Simons, Harris, Robertson and Harford, 2001) support the concept that a monitoring of the balance between the competing tensions of the needs of the employer / business unit and the learning needs of the apprentice must be established to achieve quality learning and assessments in the workplace. Effective partnerships established between apprentices / trainees, the employers and training providers were found to be important factors.

In another study (Gillis, Griffin, Catts and Falk, 1999), it was found that many workplace assessors were actually unfamiliar with the standards that they were to assess and that it was important to develop strategies to ensure that workplace assessors were provided with professional development to maintain their current knowledge, understanding and skills in assessment and or training, the need to disseminate information about standards more extensively and to continue to examine the number and range of providers of workplace training and assessments to ensure that quality was maintained.

Workplace assessments take place via the collection of 'naturally occurring evidence' (NZEFMITO, 1997). This describes the ongoing process of observation and collection of documentary evidence (rosters, logs, recipe books etc.) that the apprentice has to undergo in order to complete workplace assessments for the skills and knowledge he / she learns in the bakery. Edwards and Usher (1994) question whether competence should be used as a valid basis for assessment, as competence may not be an "adequate conceptualization of human activity".

They also "doubt if competency based training (CBT) is able to deliver at a cost and standard of quality that will gain credibility." (page 2)

They see CBT (competency based training) and CBA (competency based assessments) as a

"strategy of governance, a means of consent without the need for oppression and force in the reproduction of social order" (page 10).

They warn that competence may be used not only as a matter of performance, but “of surveillance and control of the learner” (page 10).

Therefore the process of collecting ‘naturally occurring evidence’ may also be conceived along the lines that Edwards and Usher propose, in that it encourages power relationships to occur and that in the main, the employer tends to have the greater hold on power as he / she manages or owns the business the apprentice works, trains and is assessed in.

The above only touches on some of the criticisms that revolve around the implementation of CBT into the post-compulsory education and training (PCET) sectors in the United Kingdom, Australia, the United States of America and New Zealand. Cornford (2000) summarises some of the latest studies on the effectiveness of CBT from the point of view of vocational educators (effectiveness of CBT, problems with the implementation of CBT and challenges in the acceptance and implementation of CBT by business and industry) and Booth (2000) offers another similar viewpoint highlighting the concerns from practitioners about the quality of assessments and the issues related to consistency in assessment judgements.

There is also a growing volume of literature on how CBT may be improved and made more relevant to the learner. Some of the recommendations include aligning CBA more with adult learning principles (Kasworn and Marienau, 1997), integrating instruction with CBA (Tillema, Kessels and Meijers, 2000) and placing aspects of sociocultural learning theories into CBA (Gipps, 1999). There is therefore quite a lot of work that can be done with regards to adjusting imposed CBT and CBA systems to allow more relevant context and learner driven based systems to be put into use.

The literature review reveals many points of interest worth investigating in the pursuit of some answers to the question of “Why some apprentices are succeeding in completing their qualifications”. Many players are involved in the community of practice that an apprentice enters when he / she begins a journey that will eventually allow the apprentice to become part of the community of practice itself. This community (with its many players) is often thought of as being benign, however, the studies above on

affordances highlight the fact that not all the knowledge available in a community of practice may be available equally to all members of the community of practice.

This chapter then leads on to the next on the research methodology chosen and how the research process was organized. I have taken into account that there would be many variables worthy of investigation but have made the decision based on the literature reviewed, to concentrate on looking at the variables that directly affect apprentice completion rather than the perspectives of the other players in the community of practice for the implementation and organization of the new apprentice system. No recent research on this area has been undertaken within a New Zealand context and a study into the area of apprentice completion will therefore contribute to the literature into apprentice training in New Zealand and the vocational educational sector as a whole.

Chapter 3

Research Methodology and Process

This chapter details the methodology used in the research project. The chapter begins with a discussion of the reasons for the choice of the research method used. It then goes on to detail the research process itself. A summary of the overall planning involved in undertaking the research, the ethical considerations and a detailed overview of how the research was carried out is presented. The chapter then ends with a discussion of some of the anticipated limitations of this research given the choices made with regards to the research method used.

3.1 Theory Underpinning this Research

The research questions as presented in the introduction are to find out:-

- 1) Why some apprentices were succeeding in completing their qualifications.
- 2) How the apprentices who were successful worked through and completed the many parts of their qualification.
- 3) The support structures that apprentices who were successful found useful or supportive.
- 4) Whether there was something 'special' that was common to the apprentices who completed, and what that special factor(s) was.

Because the questions above are qualitative rather than quantitative, I have chosen to use the principles of interpretive research using a mainly qualitative approach to analyse the data collected. I wanted to find out more about how and why things had come about, not just what had happened.

Therefore, this research project uses the principles of interpretivism to underpin the practice of qualitative data analysis and interpretation. Interpretivism is an approach that looks for

“culturally derived and historically situated interpretations of the social life world”
(Crotty, 1998, page 67).

Interpretivism is in turn a theoretical perspective that has its roots in constructivism.

The choice of the epistemology of constructivism follows on from the material presented in the previous chapters on the literature review for this research project. Constructivism takes on the view that knowledge is

“contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context” (Crotty, 1998, page 42).

The goal of interpretive research is to try to “develop an understanding of social life and discover how people construct meanings in natural settings” (Neuman, 1997). In undertaking interpretive research, the social contribution to a persons' or community's makeup and the context in which the research takes place must be taken into account. Interpretive research takes the view that social reality is already there, it is a social world that exists as people experience it and give it meaning. This social world is a continually changing and evolving one as people interrelate, interact, communicate, negotiate and grow. Socially constructed meaning systems are important aspects to take into account when doing interpretive research.

Interpretive social science research tends to tell a story of what takes place using the interpretations of the people involved in the research project, and does not tend to come up with theorems, causal laws or axioms. Interpretive research may lead to some generalisations and lead to the building of themes or concepts instead. However, interpretive research also provides for the situation that theory that might be referred to or eventuate is true if it makes sense to the participants being studied and if it provides the opportunity for others to understand the reality of those being studied.

This research project seeks to find out the perceptions of apprentices. How are the imposed systems working (or not working) for them as they work towards completing their qualifications? What makes the difference for some of them? Is it just a matter of individual differences or will some workplaces offer support better than others? Interpretive research will hopefully provide the opportunity for apprentices to provide feedback on what they think of the system thus far. It will also provide them with an opportunity to voice some of their aspirations and provide the baking industry with an indication of how the new system is going from the viewpoint of the apprentice.

Apprentices complete their qualifications in a social arena within which there are many communities of practice. There are many contributors, supporters, training providers, mentors and other positive players who assist an apprentice to complete. However, there will also be many negative factors (often beyond the control of the apprentice) that will become barriers to an apprentice as he / she works towards completing their qualification. What may be a positive factor that supports one apprentice might seem to be a negative factor that impedes another apprentice. Factors that are positively or negatively individualised to the context would be very difficult to pin down using a research strategy that ignores the contribution of the many facets of social interaction that occurs in any community of practice. In order to develop an understanding of how various factors contribute to the eventual completion of a qualification by some apprentices, the realities of the workplace and the training and assessment practices in the NZ baking industry therefore have to be taken into account.

3.1.1 Choice of Research Approach

Interpretive research by case study was therefore chosen as the main methodology for this research. Case study provided an appropriate technique to undertake an in-depth study into the specialised area chosen. Yin (1994) proposes that case study

“investigates a contemporary phenomenon within its real life context, especially when the boundaries of the phenomenon are clearly not evident” (page 13).

He also advocates the use of the case study method where the research has to

“cope with a technically distinctive situation in which there will be many variables of interest than data points” (page 13).

In this research, factors that contribute to why some apprentices succeed in completing their qualifications are studied. As discussed in the literature review, many external factors beyond the control of the apprentice contribute to the process of completion. The motivation an apprentice brings into the picture also contributes to the entirety of the process. In this research I chose to focus on the perceptions of apprentices (rather than their employers) and on their struggles to complete the various requirements towards their qualifications. The major reason for this focus was that the apprentice does not have a choice as to the system of training or assessment that is used to complete a qualification in the trade that they are apprenticed in. They have to work with the system or end up not completing their qualification. Employers may opt out of the system by not

taking on an apprentice. Employers also have greater access to established networks within their community of practice when they require information or support with regards to new systems. Apprentices are generally more isolated and do not always have easy access to their peers for exchanging support strategies.

No pre-established propositions were adopted before the study began apart from the decision that the study would draw on the themes that underpin sociocultural theories of learning and that, within the community of learning, the viewpoints of the apprentices would be the ones to be looked into.

Yin (1994) identifies three types of case studies in terms of their outcomes. These are exploratory (as a pilot to other studies or research questions), descriptive (providing narrative accounts) and explanatory (testing theories). This research is made up of aspects of each of these case study types. It is mainly exploratory in the fact that this is the first research of this nature to be undertaken in New Zealand and that it raises many questions and issues for further study or research. It is narrative as it takes up the voice of the apprentice. It is also explanatory in that it tests sociocultural learning theories about how apprentices learn in the workplace and the contribution of the workplace culture to the eventual success of the apprentice in completing his/her qualification.

The many advantages and disadvantages of using case studies in educational research are discussed by Cohen, Manion and Morrison (2000). One of the advantages cited is that the case study method is "strong in reality", "down to earth" and provides a "natural basis for generalisation". Case studies also provide a "step to action" so that the results of insights that have been interpreted from the study may be put to use. This is a strong point for the main focus of this research as it will be important to have the main findings of this research reported back to industry representatives who are able to influence future practice.

The main disadvantages of using case study precepts for this research project are that the findings may not be easily open to cross-checking, and that bias, selectivity, personality and subjectivity may easily creep into the way in which the data is collected and how the data is analysed.

A choice was then made to carry out this case study using two techniques to collect data. One (a questionnaire – see appendix 1) would be quantitatively / objectively analysed; and the other, structured interview questions (see appendix 2) would be qualitatively analysed. Some of the questions used in both the questionnaire and the structured interview are similar. This would allow each set of research data to be looked at and common themes and threads drawn from both exercises would then provide (or not provide) support for various findings that eventuated from this research exercise.

Owing to the wide range possible within the concept of “support structures available”, the support structures chosen for exploration in the questionnaire and the interviews were based on items I believed to be easily thought through by the apprentices targeted to fill in the questionnaires and to participate in the interviews. How these questions were selected is further detailed below.

3.2 The Research Process

3.2.1 Planning Overall and Timeline Taken

A study of the possible research questions to be addressed was begun several months before the research project began. From this study, a research proposal following the guidelines set down by both the Massey University (MU) and the Christchurch Polytechnic Institute of Technology (CPIT) Academic Research Committees was prepared. An application to the Human Ethics Committee at Massey University (MUHEC) was also completed and submitted (see below for more detail on ethical considerations). The research study itself began only after the approval was granted for the research proposal and the ethical considerations application in May 2001.

The data collection consisted of the administration of the questionnaire to students attending stage two and three block courses at the NZBTC (a pilot was completed before the main questionnaire was developed and used) and the running of interview sessions with four apprentices who had “completed” their qualifications. This took place over a period of four months.

Data transcription of the interviews occurred as soon as the interviews took place. Data analysis took place over the space of two months (between October and November of 2001). The findings and initial results were collated in December of 2001.

3.2.2 Ethical considerations

Applications were made to the Massey University Human Ethics Committee (MUHEC) and the CPIT Academic Research Committee for this research project to be undertaken. Full approval of the proposed procedures to be used was confirmed before research began.

Permission from CPIT (as part of the research application) was sought to utilise student records held at the NZBTC to find and collate Trade Certificate results, to contact students who were likely candidates for interviews and to carry out the questionnaire data collection with apprentices who attended block courses at the NZBTC in 2001. The application made to MUHEC detailed ethical procedures for dealing with 'human subjects', privacy and confidentiality issues and arrangements for the security of research data. These items are further detailed below.

Participants for the questionnaires were provided with an information sheet (appendix 3) about the research project. The questionnaires and information sheets were distributed by a tutor other than myself to the classes (the pilot group used for the preparation of the questionnaire was an exception to this). A questionnaire return box was placed in the training bakery and emptied at the end of each block course. No names of participants were recorded or asked for.

Participants for the interviews responded to a letter posted out to 11 apprentices who came up on the CPIT NZBTC results database as having completed all of the block course units successfully. The four respondents who indicated that they would agree to be interviewed were then contacted by telephone and interview dates and venues were subsequently organised. The Christchurch participants were interviewed in an interview room at CPIT. The North Island apprentices were interviewed at venues that both the participants and I agreed to. One was therefore interviewed at the local public library and the other in the dining hall at the participant's workplace.

All participants for the interviews signed a form (appendix 5) giving me permission to use the outcomes of the interview in this research project. All participants for the interviews were assigned pseudonyms and the place/s where the participants currently work (or have worked) have not been named.

All the raw data collected (in the form of questionnaires, audio tapes and interview transcripts) were stored in a locked cupboard in my office. Analysed data was collated on paper and transferred to computer word processing and saved on disk. All data analysis material (paper and diskettes) was stored in a locked cupboard or accessible only via password on my networked personal computer situated in my office and on my laptop. At the end of this research project, the original questionnaires and interview transcripts will be shredded, audiotapes recorded over, diskettes overwritten and computer files deleted. The data mined from the data analysis will be used only for the purposes of completing this research project and any other written reports or articles that may arise from this research.

3.3 Overview of the research process

Two methods were used to collect raw data for this research, a questionnaire and interviews.

3.3.1 Questionnaire

First, a **questionnaire** (appendix 1) was distributed to most of the stage two and three apprentices attending block courses at the NZBTC in 2001. This questionnaire (along with an information sheet about this research project [appendix 3]) was distributed at the start of each block course by a tutor other than myself. A box was placed in the bakery for filled in questionnaires to be posted. At the end of each block course, the submissions were cleared and filled in questionnaires were then put aside for data analysis. 47.6% of apprentices (20 out of 42) who were asked to fill in the questionnaire, completed all or part of the questionnaire. This completion rate does not include the 13 in the pilot group who all filled in the questionnaire.

The items that were categorised as support structures for the questionnaire and question 3 in the structured interviews were gleaned from observation of the group sessions that

the regional manager for Competenz gives to all apprentices (stage 1 to stage 3) attending baking block courses at CPIT. In these sessions, the regional manager encourages the apprentices to make use of various training materials available for purchase from Competenz. These include a large box of folders containing the evidence guides (see appendix 6 for example of a small evidence guide, the average size for each unit is twelve pages); the colour coded training guide and credits completion 'ladder' (see appendix 7); and a thick spiral bound book detailing the qualification, the industry training requirements, assessment appeal forms and the unit standards themselves (see appendix 8 for copy of cover/index).

Other items were factors that the apprentices could easily relate to and included support from their Competenz regional manager, and the presentations given to them while they were on block course by the Christchurch based regional manager and the other major providers of training to the apprentice (employer, workplace assessor, correspondence course provider and block course provider). The item on receiving results from NZQA with regards to the record of learning (ROL) was included because the ROL is used by the ITO to track apprentice progress. Progress by an apprentice is therefore measured in terms of assessments / unit standards completed rather than learning or responsibility that an apprentice achieves.

I was also conscious of the fact that I wanted to find the support factors that were of most importance to apprentices and actually how effective apprentices thought these factors were for them. It was important to include the support from the sociocultural factors that contribute to the apprentices' eventual completion of their qualification.

Further items for the questionnaire were based on training materials (evidence guides etc) and support structures (regional managers + block course visit) made available to apprentices during 2000 and 2001. Apprentices were asked to complete two tasks in the questionnaire. In the first task, the apprentices were asked to evaluate each of the factors and to decide how supportive each of these factors may have been in helping them complete their qualification. The evaluative rating scale moved from being very helpful to not being applicable. In the second task, the apprentices were asked to look at each of the factors, choose five factors and prioritise these factors from most important

to least important. Space was also allowed for any comments that the apprentice might like to add.

The questionnaire was reviewed by my supervisor, my colleagues at the NZBTC and the research committee of the Faculty of Commerce at CPIT. Suggestions were made as to the wording and the organisation of the questionnaire and changes made to these.

The questionnaire was then piloted with a stage 3 group of 13 students. I distributed the questionnaire to the students at the beginning of the block course and explained to them the purpose of survey. A focus group meeting was then held on the second week of the course. The feedback was documented and changes were made to the original questionnaire. The main changes involved removing two factors asking about previous experience with unit standards, as the students felt that the majority of them had had no exposure to unit standards prior to encountering them in their apprenticeship qualification. In hindsight, these factors could still have been included as interesting data was gathered on this aspect during the interviews. This aspect will also be more useful as more school students complete unit standards based assessments as part of the National Certificate in Educational Achievement (NCEA).

Data from the questionnaire was than quantitatively analysed with each response mark recorded and collated. The patterns that emerged were then analysed and compared to the responses, themes and threads coming from the interview data. These links and quantitative support figures were transferred to a master sheet on which the interview data was collated to allow comparisons to be made.

Comments were treated like the responses from the interviews. Each set of comments was coded with an alphabetical code and number. Repeated readings tracked down comments that were pertinent to the data collection. These comments were highlighted (using different coloured marker pens for the themes), appended with an explanation and collated into similar common themes and common threads arising from the interview data analysis (see appendix 9 for example).

3.2.2 Interviews

The second part of data collection involved the **interviewing** of apprentices using structured questions (appendix 2). The interview questions were checked out before use with my supervisor, my colleagues at the NZBTC and the Faculty of Commerce research committee.

Four apprentices participated in the interviews. These apprentices had returned to me a form I had enclosed with a letter (appendix 4) asking for their participation. Eleven apprentices were written to. These eleven apprentices were selected out of the NZBTC results database as they had completed all of the compulsory block course units. Compulsory block course units must be completed before apprentices are able to complete the National Certificate at level 4. So the assumption was made that these apprentices would be closer to completing than the apprentices who had not completed the block course units.

The questions used for the interviews were semi-structured and some covered similar ground to the questionnaire. The questions asked during the interviews were similar to the questions outlined in appendix 2. *The questions for the interview were selected with the view of trying to find answers to the main theme of this research project: Why do some apprentices succeed?* The first question asked if the apprentice had had experience with unit standards before starting the apprenticeship. I really wanted to find out if prior experience with unit standards based assessment would be a common factor to help apprentices complete. The third question focused on support factors as described above for the questionnaire. The other four questions focused on the apprentices themselves. I wanted to find out what motivated them (was self motivation a key factor?), what strategies they found useful in surmounting difficulties they encountered during their assessments and what would they do to improve on how they had completed their qualifications.

The questions were provided to the interview participants prior to the interviews taking place. For the two interviews in Christchurch, the participants viewed the interview questions just prior to the actual interview beginning. For the two interviews outside of Christchurch, the interview questions were posted out to the participants along with the

letter asking for the participant's consent, a week before the interviews were to take place.

Interviews took from 24 minutes to 43 minutes to complete. The apprentices interviewed were articulate and provided me with a wide range of insights into the challenges they had to deal with in completing their qualifications. All four apprentices were in the 'transitional' group. This group started out on the 'old' trade certificate qualifications when they first signed up for their apprenticeships. In the second year of their apprenticeship, they were all switched over to the new unit standard system. This changeover meant that these apprentices were forced to learn the new system along with having to complete their apprenticeship and qualification.

The interviews were audio taped and I then transcribed them. Transcriptions were done immediately (on the evening of data collection) so that I still had a good feel for the information that had been collected during the interviews. *Transcribed interviews were then data analysed* using the structured questions as a beginning classification (see appendix 10 for example). Common themes and threads were pulled out of the data by repeated scanning, identification of likely themes, collation of the data into common groupings and introspection and evaluation. All lines in the transcriptions were numbered for ease of reference. The lines pertaining to each common theme or thread were then taken out of the transcripts (using cut and paste process on a word processor) and brought together (see appendix 11 for example page of data collation).

Question 1 on previous experience was analysed by looking at whether any previous experience with unit standards assessment was encountered by the interviewees. The ones who did were then further categorised as to type of unit standard experiences (school subjects or work related subject) and comments about whether the experience was helpful or unhelpful were collected.

In Question 2 on motivation, the comments with regards to motivation were sorted into comments that referred to intrinsic, extrinsic or achievement motivation (or in most cases to a mixture of motivational factors). Instances of each form of motivation were then totalled.

Question 3 responses on support factors (comments from the questionnaire and the collated quantitative figures were also included with this) were first sorted into various support categories (workplace or company, ITO (included regional manager), correspondence course, block course, workplace assessments, evidence guides and workplace assessors). Other factors that cropped up included assessment coaches, time synchronization for workplace assessments, advantages and disadvantages of the unit standard system, learning as the process progressed and differences between corporate and non-corporate (craft) opportunities. This question yielded the most data.

Question 4 addressed coping strategies that apprentices used to complete their qualifications. Links were made with the collated comments back to data collected with regards to motivation and support systems.

In question 5 and 6, links were again made to motivational factors and support structures. From all the above, the two themes of building a community of practice to support the new system of apprentice 'training' and the need of the successful apprentices to 'become bakers' were distilled.

3.4 Some of the anticipated limitations of this research

This study focuses on the perceptions of apprentices who are only one sector of a wide community of practice. It is very much a 'snapshot' taken at the period of time the research data was being collected. However, the viewpoints of apprentices have not always been sufficiently explored in previous research and I wanted to find out their opinions and suggestions on how improvements could be made to the current way things are done.

The sample size for the interview participants was relatively small. However, the number of apprentices who had completed (when I started this research project in May 2001) was also very small. The decision was therefore made to include apprentices who were close to completing as this provided a comparatively larger pool. Taken as a selection of this pool at the time the research project began in May 2001 (4 out of a potential of 11 about to complete) the number of participants who agreed to be interviewed provided a good representation geographically and a good mix from the occupational category (plant, craft) point of view.

The choices made about the support structures chosen and the questions used in the structured interview might have been better chosen if use was made of a buzz group to brainstorm questions. However, I decided not to use employers, colleagues or other providers, or ITO personnel as this might lead to the questions having a bias towards the members of the community of practice who have power over how apprenticeships worked.

A buzz group of apprentices would have been a good idea too but this would have lowered even more the remaining number of potential candidates to fill in the questionnaire. So I worked on the selection process for the questions used as described above with the view that the data would speak for itself and that this research project had an exploratory facet to it.

Chapter 4

Findings and Results

The findings and results from the interviews and the questionnaire are detailed in this section. The profile of the apprentices that participated in the interviews and who completed the questionnaire is presented first.

The findings and results are then presented in two sections, support factors and strategies for completion. In the findings on support factors, the importance apprentices placed on various support factors is reported first.

A review of the findings and results as they relate to the research questions is then detailed.

4.1 Profile of Participants

The participants for the **questionnaire** were divided into two groups (pilot group and actual) for the purposes of data analysis and the profiles of each group are presented separately.

Table 2 summarises the group profiles groups of apprentices who contributed to this study.

Table 2

Group profiles of the pilot group, the apprentices who were surveyed and the apprentices interviewed.

	Pilot group	Apprentices surveyed	Apprentices interviewed
Gender	10 males, 3 females	36 males, 6 females	All 4 males
Age range	20 to 27 years	19 to 34 years	21 to 37 years
Ethnicity	12 European / pakeha, 1 other	36 European / pakeha, 5 Maori and 1 Pacific Islander	All European / pakeha.
Total number	13	42	4

The *pilot group* consisted of thirteen apprentices in a stage three (year three) group. Their ages ranged from twenty to twenty-seven. All were European/Pakeha except for one "other" (of Asian heritage). All of these apprentices began their apprenticeships after the cut off date for 'transitional apprentices'. They have to complete their qualifications under the new National Certificate system. All of the apprentices completed the questionnaire but only the comments from the questionnaires are included in this section and not other data. This is because the questionnaire was changed slightly for final use with the other groups. A focus group session was also held with these pilot group apprentices: some of them might have been influenced by the comments from the other members of the class and this had to be taken into account when the data from the questions were collated. Data from this group was NOT used in the data analysis. However, comments the apprentices made were important and these comments were added into the overall collation of the comments collected from the main questionnaire and the interviews. Due to the small number of apprentices actually involved, all comments made assumed some measure of importance and should not therefore be lost.

The *main questionnaire* was completed (some only partially) by twenty out of a possible forty-two apprentices attending two stage three and two stage two block courses at the NZBTC between May and September of 2001. This produced a return rate of 47.6%. Out of the forty-two apprentices, six were female. All were European/Pakeha except for five Maoris and one Pacific Islander. The age range of the apprentices was from nineteen to thirty four.

All the questionnaires were collated and the frequency of responses on the helpfulness or unhelpfulness of each support factor was added up and expressed as a percentage of the total number of returned questionnaires (twenty). The same process was used with the prioritization of the factors. However, not all apprentices completed the prioritization process: Only fourteen out of the twenty questionnaires had the factors prioritized. The comments from the questionnaires were analysed in the same way as the interview transcripts. Comments were then transferred on to the transcript collation sheet used with the interview data and assigned reference numbers for ease of finding the original source of the comments. Eleven apprentices (including comments from the pilot group) took the opportunity to add in comments.

Four apprentices took part in the *interviews*. Of these four apprentices, 2 had completed their qualifications by the time the interviews took place. Two were still quite a way from actually completing the qualification. One had to complete his correspondence course and the other had a large amount of workplace assessment to be completed. However, both were very motivated to complete and were working hard at completing the requirements. By the time this was written (beginning of 2002), one of the non-complete apprentices completed his qualification.

All four apprentices interviewed started their apprenticeships in 1998 or 1999. They were therefore part of the first cohort of apprentices who make up the 'transitional group'. This group of apprentices completed their first year of their apprenticeship under the trade certificate system and was converted to the unit standards system in year two.

Two of the apprentices were from Christchurch, the other two apprentices came from smaller rural towns just north of Wellington. All of the apprentices were male and European/Pakeha. Their ages ranged from twenty-one to thirty seven but three were below twenty-five. Their profiles were very similar to the profiles of the apprentices who were asked to complete the questionnaire and similar to the profile of apprentices who attend block courses at the NZBTC. Two of the apprentices worked in typical craft bakeries with fewer than five people working in the bakery. A third craft apprentice worked in an institutional setting (hospital and boarding school catering) where the number of people working in the company was as large as the number of people who worked in the plant bakery. The fourth apprentice was employed in a plant bread bakery. At the time of the interviews held between May to July of 2001, the apprentices had been apprenticed for between three and four and a half years.

4.2 Findings

Findings are now detailed. I have divided the reporting into two major sections.

The first section reports on the SUPPORT FACTORS available from EXTERNAL SOURCES. These are basically support factors that have been provided to apprentices by their employers, the ITO Competenz, training providers and NZQA. The data for this section has been collated from both the interviews and the questionnaire. This area explores the contributions that have been made by the baking industry community of learning to the training and mentoring of their bakers for the future.

The second section deals with the STRATEGIES that the apprentices have used to complete their qualifications. The data from this is collated from the interview transcripts. This area details the contributions the apprentices put into the completion of their qualifications. Their motivation, hopes and aspirations as they journey towards their goal of becoming bakers.

The data mined from the interview transcripts and the comments from the questionnaire have been collated and presented together.

The raw data from the questionnaire has been collated into percentages and presented in tables. Table 3 presents overall results on how the apprentices prioritized the support factors. Subsequent tables focus on each support factor.

Comments are presented in *italics* with the line number references from the interview transcripts (two letter and number code) and the questionnaire (one letter and one number code). References to workplaces and names of various persons mentioned have been removed and replaced with dotted lines (ie.).

I have also included information pertinent to each finding that will help provide a richer background for the reader of the findings that are being presented. These explanatory comments and some initial interpretations are indicated with this change in typeface.

4.2.1 Findings and Results from Support Factors

This section is sub-divided into four areas. These are :-

1. The workplace and the employer,
2. the ITO Competenz and the support mechanisms it provides,
3. the training providers and
4. NZQA.

The above factors are reported in the ranking order that apprentices who filled in the questionnaire placed on the prioritization of factors that they found supportive.

The following table summarises the way the apprentices prioritized the support factors that are discussed more fully in the following pages.

Table 3

Factors that support an apprentice working through his/ her qualification in order of importance

(number of responses are shown in each box)

Factor	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5
Support from Employer	4	3	1	1	1
Support from work place assessor	2	4	4	0	1
Training guide and credits completion 'ladder'	2	1	1	3	0
Training materials	2	0	1	1	3
Support from block course provider	2	0	0	1	1
Support from regional manager	1	0	3	2	2
Record of learning	1	0	0	0	2
Support from correspondence course provider	0	2	2	3	1
Evidence guides	0	2	0	0	1
Presentation by regional manager on block course	0	1	0	0	0

Workplace and employers

This area is reported first because in the respondents' prioritization of factors that support apprentices completing, the support available from employers and workplace assessors was prioritized as most important in the majority of the questionnaire responses.

Each of these is now discussed.

Table 4

Employer support

Factor	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
Support from employer	30%	35%	20%	10%	5%	0%

From the above table, the majority of employers (65%) are considered "helpful or very helpful" by the apprentices as they work towards completing their apprenticeships. However, 15% of employers are seen to be unhelpful and 20% of apprentices surveyed held no strong opinion on their employer support.

Employer support was the factor given the highest priority towards supporting apprentices in completing their qualifications. Four out of the fourteen apprentices who completed the prioritization of factors ticked this factor as the most important and three apprentices ticked this as the second most important factor.

In view of the above allocation of importance to the role of employer support, the 35% of apprentices who considered that their employers were not supportive or who had no strong opinion about their employer is a disappointing figure. This might mean that these apprentices will need to soldier on through the complexities of the system on their own and this does not reflect well on the industry as a whole.

Finding out why these apprentices perceive that they do not receive support from their employers will be an important further exercise to undertake.

Comments about the support that employers provided included:-

My manager was very helpful. RV 54

..... had a lot of hesitation about the new system but like I said, stood by me and put me through it. JR117

Allowed time to get assessments done. JW152

Able to help out with baking. JW 150

The above comments were all from apprentices who were interviewed. In general, they were very grateful for the efforts that their managers, supervisors and bosses were putting in to help them complete their qualifications. The apprentices interviewed (unlike some questionnaire respondents) all remarked favourably about the support they obtained from their employers even if it was more in the form of moral rather than concrete support in the form of monetary incentives or involvement as workplace assessors.

He (the workplace assessor) did spend a lot of time at the beginning talking to my boss at the front of the shop. JW170

My direct supervisor. Did most of the credits for me as workplace assessor. RV 58

Comment about unfamiliarity with the system was one common theme.

Managers, supervisors and workplace assessors not being familiar with what had to be done. RV60

Probably they do the best under the circumstances because they are not familiar with the system and they were not informed well and basically they do what I tell them they have to do. DH94

But grey areas need clarification like 497. We thought this was done on block course. RV70

Both managers / supervisors and apprentices needed to work through the requirements for workplace assessments and this took up time and energy. The apprentices who were interviewed tended to take the initiative to get the process going.

In contrast, these were comments from the questionnaire.

Support from senior staff at work has been appalling with one or two exceptions.

C2

My boss is hardly ever there and I'm left to figure things out myself. B1

Workplace not that helpful, got to rely on yourself, in your own time after work, by yourself. P2

Employers should have a bigger role to play in being more helpful. P7

I don't see many people to help me eg. Other bakers, other trainers to help etc. C1

The apprentices who were interviewed had supportive employers who were in general willing to go out of their way to help the apprentice complete their qualification. A great deal of input was also required from the apprentices who completed as they had to be the ones who instigated the process. In contrast, the comments from the apprentices in the interviews indicated that many apprentices were struggling with a lack of employer support. Apprentices who did not have very good motivating factors to complete were therefore probably more likely to give up.

Table 5

Work place assessor support

Factor	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
Support from workplace assessor.	25%	20%	35%	5%	10%	5%

Compared with employer support, there is a wider spread of responses on support from workplace assessors (45% helpful / very helpful and 15% unhelpful). This is somewhat a surprise as the majority of apprentices work in small craft bakeries where the employer can also be the workplace assessor. However, feedback from industry also indicates that most employers prefer to use 'outside' assessors as they are not confident in their ability to be workplace assessors.

The 35% who had no strong opinions on workplace assessors (and the 5% who indicated that this was not applicable) is a high proportion of apprentices who do not seem to have had contact with workplace assessors or who might deem them to not be relevant. None of the apprentices surveyed in this cohort are transitional apprentices. They should ALL be qualifying under the new unit standards based system that requires a large component of the unit standards to be assessed at the workplace. The fact that 40% of the apprentices surveyed had no opinion or found workplace assessors not applicable is a worrying statistic. This is an area that will need to be further investigated as the assumption cannot be made that these apprentices have not as yet had much to do with workplace assessments.

The above concern is accentuated by the fact that workplace assessors received the second highest prioritization with regards to their importance in contributing to apprentices completing their qualifications. Two out of the fourteen respondents ticked this as the most important factor, four ticked this as the second most important and four ticked this as the third most important factor.

All the workplace assessors that the interviewed apprentices had had were very supportive. Comments from the questionnaire also supported this.

My workplace assessor was incredibly helpful. C2

I had a willing assessor. Just worked at it and got it out of the way. JW160

With some of the interviewed apprentices, the workplace assessor also played a role as a mentor.

I learnt a lot off him and he took me out to the bakery to see how it ran. He was really good. JR135

The workplace assessments themselves were commented on.

Workplace assessments seems to be a very vague thing. DH103

Workplace assessments are too repetitive and boring. C2

One of the main threads that came through during the analysis of this section was the concept of both the apprentice and the employer learning the process together (in an often uncoordinated fashion). This is supported in comments like the ones here:

It is like everybody you know, you learn as you went along. JR119

First couple of times it was a bit awkward, but after that it became comfortable and easier. We knew what to do. JW 196

The process for learning the system also took time.

Probably in the last six months, has been more clear that what it has been. JR125

The other important thread that came through was the challenge of fitting workplace assessments into a busy work day and production schedule. These comments highlight the struggle to balance the demands of the workplace with the needs of the apprentice to be assessed.

Also busy and often difficult to make a time to do the assessments. They might also work on a different shift. RV78

All the staff are busy, work six days and trying to fit in assessments and training and that sort of thing is really difficult because everyone is busy. DH107

Working different hours and it doesn't work all that well. DH107

For some apprentices, working out a system to have the assessments done worked well for them.

Because I did not have excess time. So we fitted in what was appropriate in relation to my unit standards into my daily routine. JR 188

Yes, he would come at anytime. If I started at four in the morning, he was quite happy to come then. JR190

Probably the fact that I kept a regular time slot available. Friday after work. JR194

There was also a noticeable difference in how 'corporate' and 'non-corporate' apprentices perceived how their workplace assessments progressed.

The following is a comment on 'corporate' based training available to an apprentice in a plant bakery:

Yes. They had a good training programme. They provide a course to attend before the block course. RV39

Time lines were in place and these were not negotiable and had to be completed. RV41

Contrasting this to an apprentice who was struggling to complete his workplace assessments in a craft bakery:

If offered an apprenticeship in a supermarket bakery, or a plant bakery, I will certainly go for it straight away because they have assessors and their managers and they are aware of what is happening. In a smaller bakery, I will say that it will be more difficult to finish. DH199

The ITO

This section looks at the support factors provided through the ITO Kompetenz that oversees qualifications in the baking industry.

Competenz is one of the largest ITOs in New Zealand. It has a diverse range of industries to assist in providing industry training. Competenz started out with looking after the engineering trades; since then, it has acquired the Food and Beverage manufacturing sectors (of which baking is one), the Marine industry (from deckhands to Merchant Navy captains) and a variety of associated engineering trades and crafts (such as aluminium joinery, gun smiths, jewellery manufacture).

The support that Competenz provides can be subdivided into two main sections for discussion. The first is the support in the form of regional managers and the second in the form of paper based assessment and 'training' materials.

Support from regional managers was prioritized as being predominantly the third or fourth most important factor in helping apprentices complete their qualifications.

Small numbers of apprentices also prioritized training materials, evidence guides or the training guides as being of importance to the completion of their qualifications.

Table 6

Regional Managers

Factors	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
Support from regional manager	10%	35%	25%	20%	5%	5%
Presentation given by regional manager at block courses	5%	55%	30%	5%	5%	0%

45% of the apprentices who completed the questionnaire indicated that their regional manager was helpful or very helpful. However, 25% felt that they had no opinion on regional managers (leading me to question whether they have met one yet) and 40% found that their regional managers were not helpful or provided poor support. This is a worrying statistic because with the new system, guidance is still required by apprentices and employers to work through the intricacies of workplace assessments.

When an apprentice signs up on a training agreement, a regional manager is assigned to the apprentice and employer as a resource person. The majority of the regional managers employed by Competenz have a background in the engineering trades. Regional managers look after all the apprentices in their area, the majority of whom are in the engineering trades. Regional managers therefore have to look after a large number of apprentices working in a diverse range of trades, and bakery apprentices will rarely have a regional manager with bakery experience. Each apprentice would be completing a range of unit standards that would have been selected to reflect the specialized nature of the workplace they are completing their apprenticeships in. By virtue of the original focus of Competenz and the predominance of apprentices in the engineering trades, almost all (seven out of the nine at the end of 2002) the regional managers had backgrounds in engineering.

This range of requirements placed on the regional manager means that they are often difficult to get hold of and when they are eventually contacted, they may not be as helpful as they should be.

Here are comments from the interviews and questionnaire.

I found it difficult to get hold of You would ring him and he would not be in is a busy man. You need to know the answers when you call and cannot wait for the time it takes to get an answer. RV66

Have you seen your regional manager? Interviewer

Once, I think. DH

In all the time! Interviewer

Yes. He came to see To get her trained as a workplace assessor. He came in once to see my boss. Apparently, another time I was not at work and basically he has only made his presence known and that is all he has done. DH88

My regional manager is hopeless. He never returns my calls and when he does, he cannot help me with the questions I have put to him. In the last three years I think that I have seen him three times. B2

Never see regional manager. P2

Regional manager should do his job and contact the apprentice. Help what we need to know. P5

The regional manager should be visiting the workplace more than once in three years, maybe every two to three months. P6

Competenz is useless I haven't seen or heard from them since I signed my papers (except for junk mail and course information). P7

However, one apprentice interviewed provided an excellent report on his regional manager.

My boss wasn't an assessor so that was when came and presented several options to me. He got in touch with an assessor and a meeting was set up between him and the other staff. JW140

From the above comments, it would seem that some areas or some apprentices enjoy the advantage of a conscientious and effective regional manager and others do not. This factor is beyond the control of the apprentice and yet is a crucial factor in the apprentice completing. This is because the system for workplace assessments is still relatively new and employers and apprentices rely on regional managers for information and assistance. The advent of Modern Apprenticeship Coordinators (MAC) might help relieve some of the workload placed on regional managers, as MACs visit apprentices at least once every three months and keep a check on the progress of individual apprentices as they work through their apprenticeships. However, MACs are not always available to all apprentices, and the apprentices without MACs will still have to rely on their regional managers for information and assistance.

One might argue that a well-motivated apprentice should be able to obtain information from other sources. However, on the whole, bakery apprentices work shifts and they are often difficult to get hold of during 'office hours' as they may be either very busy at work or in bed recovering from working a night shift. Shift work is common in the baking industry. This makes it difficult for a regional manager (who covers a large geographical area) to fit in all visits to various centres within his / her area of responsibility and to visit the bakery when the apprentice and the manager / owner of the bakery are both present.

The ITO is also challenged with the task of putting into a place a new community of practice based around the new unit standards based National Certificate qualifications. They have to do this as 'outsiders' coming into an already established community of practice that is the NZ baking industry. This makes the ITO's task one of establishing their place in an already existing community of practice while trying to 'coalesce' another wider community of practice around the new system.

The regional manager based in Christchurch comes in and presents a one-hour session to all apprentices while they are attending their block courses at NZBTC. 60% of the apprentices said that these sessions were helpful however most did not prioritise this factor down as an important factor. During the session, the regional manager stresses the importance of setting up a plan for working through the unit standards required to complete the National Certificate qualification. That regional manager meets all the apprentices who attend block courses as it is an ideal opportunity to present important information to apprentices. However, not all apprentices seem to see the sessions as helpful and this needs to be addressed. The regional manager based in Christchurch is also not the regional manager for all apprentices who attend block courses at CPIT. He is therefore unable to meet with apprentices when they return to their own cities or towns and needs to delegate contact with these apprentices via the regional managers who cover the relevant areas.

Table 7Assessment and Training material

Factors	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
Training materials	5%	50%	25%	15%	5%	0%
Evidence guides	5%	65%	20%	10%	0%	0%
Training guide and credits completion 'ladder'	30%	40%	25%	5%	0%	0%

Various training materials and assessment guides are purchased by the apprentice. In general, the apprentices found the content of the paperwork provided to be helpful, but the amount of paperwork involved to be unhelpful.

Here are some comments on the evidence guides.

Helpful but hard to follow at times. DH100

They are all different. It's like they were written by different people. Some are easy to follow and others are harder. DH100

I think it's because everything is written so formally and we are just a common baker. DH101

They were a bit repetitive. Like the biscuit one, of each different one, like they were all the same. They could have kind of abbreviated them a bit more. JW158

As well, it looked like a lot of effort required than what it actually was. JW158

The amount of paperwork can be hard to keep up with. P1

There needs to be less paperwork. P3

Too much books everywhere. Too hard to know where the unit credits you need. P5

I think that the questions in the assessment book (coloured) are very confusing and should be looked at and reworded. P6

There is far too much written work. P7.

Unit standards in baking for workplace assessment are 'divided up' along processes / methods of production. Each line of product (bread, cake, biscuit or pastry) is therefore divided up into between three and nine units. The same product range is used to assess all the units within each product line. For the nine units on bread making, five types of bread products are assessed. All the units have references to generic safety, hygiene and presentation requirements. Many of the units also have overlaps with regards to ingredient recognition and equipment handling. This leads to repetition in the evidence guides used to gather evidence for workplace assessments. In practice, these units should be integrated together and the assessment process should not become too involved. However, owing to unfamiliarity with the system, workplace assessors, apprentices and managers / supervisors take the evidence guides as definitive documents and tend to follow and assess all the steps separately. Better training of workplace assessors is therefore important so that the assessment process is not a drawn out affair but one that is a validation process for the skills and knowledge an apprentice completes on the job.

Training providers

The two major providers of off-job training to apprentices are the Crop and Food Research Ltd. (CFR) and the CPIT NZBTC. All the unit standards provided via correspondence by CFR and the training and assessments at the NZBTC are compulsory components to be completed by apprentices for the National Certificate at level 4.

This means that the providers have contact with all the apprentices working towards their level four qualifications and are often the first support (apart from their employers) they will contact when they need help with understanding what they need to complete.

Table 8

Correspondence course provider

Factor	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
Support from correspondence course provider	25%	40%	20%	0%	15%	0%

Three of the interviewed apprentices had no problems with the correspondence course and found it to be helpful.

The correspondence course was not hard, if things were not right, they were very helpful with information to complete. RV68

Good feedback. The people were excellent. They look after you well. Everything that has gone through them has been really good. Everything has been well set up and has run efficiently. Really easy to do. DH96

Correspondence course helpful. JW154

Some apprentices had started on the 'old' correspondence courses (as they were the transitional group) and the changeover was a bit messy for them

Started on the cake and pastry and then found out I had to do more, it has cost me a lot of money to get it done. So in the end, to cut a long story short, I had to do all but two of them. There was a lot of double handling but it was expensive. JW154

Some comments indicated that the new correspondence course could be improved.

Correspondence course hard to understand (wording) and photos provided that we have to identify haven't been very good really. C2

Table 9

Block course provider

Factor	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
Support from block course training provider	45%	55%	0%	0%	0%	0%

All the comments on the block courses were positive.

Block courses were excellent. RV68

Definitely. They are good, you learn a whole lot of things you wouldn't learn otherwise. DH98

Like the block course and stuff like that, they were brilliant, I didn't want to come home. They were great, you learn so much. JR110

The best part of the whole apprenticeship would actually have to be the block course. C2

I find coming to the polytech the most enjoyable part of my apprenticeship. I have learnt more from my block course than at work in a way. B1

Block courses provide apprentices with an opportunity not only to acquire new skills and knowledge but also to interact with their peers. In some senses, this enhances the community of practice as a whole, as knowledge is shared informally not only on baking but also on unit standards, workplace assessments, regional differences in product and so on. The contact during a block course also allows the apprentice to work out his/her progress as compared to his / her peers, and often this provides an added incentive to the apprentice to work at the various aspects of completing their qualifications once they return to their workplace.

NZQA

A record of learning (ROL) is provided to apprentices by NZQA at the beginning of each year. This is the only way some apprentices have of working out what they have completed and what more needs to be completed. Regional managers rely on the ROLs to track the progress of apprentices. This section in the questionnaire is intended to try to find out how useful the ROLs are as a tool for the purpose of offering information to the apprentice as to their progress through the unit standards they have to work through.

Table 10

NZQA

Factor	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
Receiving results recorded on Record of Learning from NZQA	5%	65%	25%	0%	0%	5%

Most apprentices found the ROL to be helpful as a tool to track their progress. One apprentice commented on NZQA bureaucracy!

NZQA very unorganized. The first year I never received any record of learning from them. When I changed address I rang them to notify them and was required to write them with change of address. This year 2001 I have not had a record of learning sent to me. They sent one to my old address. P8

4.2.2 Strategies used to complete qualifications

The majority of the data analysed and reported in this section is derived from the interview transcripts. However, there are some contributions from the comments section of the questionnaire as well.

This section is further sub-divided into the following areas for discussion:-

1. The contribution of previous experiences of unit standards assessments,
2. the motivational factors that apprentices had to complete their qualification and
3. the actual strategies the apprentices used to work through and complete their qualifications.

Contribution of previous experience

Two of the apprentices interviewed had prior experience with unit standards assessments before starting on their apprenticeships. One had experience with a school subject and the other with a “work focused” unit on food safety.

For the school based units, the apprentice found them to be of little relevance to his current situation.

How did you find them? Interviewer

They were easy. DH 13

Were they similar to the ones you are now doing in baking? Interviewer

Quite different. The teacher was with us all the time, looked at our work, and we filled out the assessment paperwork and the rest was done for us. There was no work involved. In chemistry, the set up was a bit better. We worked through and see how it sort of worked. DH

Did this give you more confidence when you finally got to unit standards?

Interviewer

Not really. Even today I am not confident with baking. DH

The response from the apprentice who completed unit standards on food safety was quite different.

I was completing the introduction to chef training so we did 167 and 168. JW 31

How did you find them? Interviewer

Good. The teachers were good and we had time to work through the material.

JW

Did the process give you confidence? Interviewer

Yes. There was a difference with some of the rest of my class (at Polytechnic). I sort of understood what had to be done, every one else did not know about it but I already knew. JW

As only two of the apprentices had prior experience with unit standards and only one of these had experience with 'work related' unit standards, it is difficult to provide generalizations based on this small sample. However, increased prior experience with working with competency based assessments might make it easier for the future cohorts of apprentices to work through their qualifications. This is because familiarity with the jargon and methods of assessment will at least help them understand some of the paper based training material that is provided and also signal to them the importance of self direction and motivation in ensuring that workplace assessments are planned and take place at required intervals during the course of their apprenticeship. This is an area that will be interesting to look into with further research. As school leaving students who have worked through the National Certificate in Educational Achievement (NCEA) move into the post secondary training system, it will be interesting to see if prior experience with competency based / standards based assessment system will help improve completion rates in apprenticeships.

Motivation to complete

Extrinsic motivational factors were mentioned by all the four apprentices interviewed.

These factors included:-

Money:

To tell you the truth. Money would be one. Apprentice wages are low and completing the qualification would mean that I would be on the higher baker's rates. RV37

Improved opportunities for the future:

I really hope to get it done and go and get more experience at different places and that sort of thing. DH45

..... also offered the opportunity after the apprenticeship to move into management. RV3

Employer and family expectations:

My employer stood by me, no matter what fees came up. And just the family. They wanted me to do well. JR47

About time:

Probably time. Like I was just cruising along and then I hit the three year mark. Just about time to get going and finish up. JW51

Start doing things rather than being stuck as an apprentice. Its been a while now, its been four years and the novelty is starting to wear off a bit. DH43

There was a great deal of intrinsic motivation as well.

Personal motivation figured highly:

Well, probably myself really. I was the prime motivator. JR47

I motivated myself, the maturity thing you know. There were other things going on in my life and I had to get them out of the way before getting on. JW51

I therefore was motivated to arrange and instigate the assessments to ensure that I completed in as short a time as possible. RV37

All four apprentices were also very motivated by achievement motivation factors, and the challenge to complete in as short a time as possible:

The company felt that three years should be taken so they were not in as much of a hurry as I was. RV37

My intention was to achieve the qualification in 2 years but they thought that it would take 3 and a half to four years. RV3

Completing the qualification and becoming a baker were strong motivators.

I want to become a baker. DH43

Become qualified and say I have a qualification. DH43

I was struck by the insistence of the apprentices interviewed that to become a baker, they had to complete their qualification. They all felt that to be a baker meant that you were a certified baker. Without the certification, you were not really a baker. This concept was a powerful incentive for apprentices to complete because, to become recognized within the community of practice that was the NZ baking industry, one had to complete a set range of tasks. In general, they did not question this requirement although some dissatisfaction was voiced about the system.

Strategies used to help complete qualifications

Various strategies were used by the apprentices to complete their qualifications. These were often aligned to their motivation to complete.

Setting goals was one important factor in completion:

You need to set goals that you will achieve the qualification in twenty- four months. RV174

Learning to set goals is just as important as learning about the trade. RV198

The other one that was related to setting goals was the one on planning and sticking to the time plan:

Don't procrastinate. Do yourself a good timeline. Don't leave it too late. JW206

The ideal that the apprentice should take control and be self-motivated to work things out was also an important point:

If you do not push it, no one else will get it done for you. Right at the start, the ITO should make it clear that the apprentice is responsible for getting the assessments done. RV174

Find out what evidence you have to go find and sort of prepare myself for the questions. DH176

Ideas for improving on the current system were also suggested.

*I will suggest to that a roving assessor should be employed by
Visit the apprentice every three months and get assessments done that way.
JR80*

The apprentices interviewed basically stressed that they were the ones that had to do the work to complete their qualifications. They expressed empathy for their peers who were perhaps not progressing as well in completing the work towards their own qualifications. On the whole, the apprentices interviewed were proud of their achievement in 'becoming a baker'.

4.3 Review of findings and results as they relate to the research question

A summary of the above findings and results as they relate to the research questions is detailed here.

The first research question is the widest in scope with some overlaps coming in when the other research questions are discussed.

Why were some apprentices succeeding in completing their qualifications?

In the main, the apprentices who have completed or are very close to completing tended to have very supportive employers and managers. This was especially so in the cases of JR & JW. JR in particular had very supportive employers and supervisors who went out of their way to assist him in completing his qualifications by obtaining more information, organising a workplace assessor, attending ITO information meetings, contacting the regional manager etc.

JW's employer did not want to be a workplace assessor but put in a lot of time with the assigned workplace assessor and provided the support necessary (materials, time, venue) for the assessments to take place.

In all the cases, the availability of a workplace assessor was also an important organisational prerequisite to completing the qualifications. DH could not complete his workplace assessments because the first workplace assessor assigned to him left his workplace before the assessments could be conducted. DH had to wait till another one was trained.

Both of the above, supportive employer and availability of workplace assessors, were important aspects of the community of practice to have in place for a successful outcome.

How did the apprentices who were successful work through and complete the many parts of their qualification?

All of the apprentices who were interviewed had set down a goal to be achieved. This was an important aspect of completing their qualification. They found out what had to be done and then worked out how to go about meeting the requirements.

RV in particular was very self motivated. He instigated assessments and organised himself along with his supervisor / workplace assessor to ensure that he met the goals that the company had set out and that he had also set up for himself. RV was the most mature of the four apprentices interviewed and had clear achievement objectives set out for himself at the beginning of his apprenticeship.

JR was well supported by his employer to make sure that he met timelines and he was fortunate to have a workplace assessor who also took on a mentor role with him.

Both JW and DH left things till quite late into their apprenticeships. However, JW realised that he had to get things moving and put in time and effort to ensure that *all* his workplace assessments were completed within the space of six months. DH was hampered by the organisational problems surrounding the provision of a workplace assessor for him to complete his workplace assessments. However, he has worked out what needs to be completed and will work through the requirements once his workplace assessor becomes ready.

What support structures did apprentices who were successful find useful or supportive?

As detailed above for the first question, supportive managers and the availability of a workplace assessor were crucial support factors.

A regional manager who could be easily contacted and who was able to respond quickly was also a support factor that would have been helpful.

All the apprentices interviewed were conscientious in gathering information and making use of what was available. RV, JR and JW made contact with whatever support mechanism they could, to find out about how to go about doing what needed to be done.

Was there something 'special' that was common to the apprentices who completed, and what was that special factor?

All of the apprentices interviewed 'wanted to become a baker'. They felt some pride in their trade and that they were working towards a qualification.

All of the apprentices interviewed had goals beyond their apprenticeship period. They saw the apprenticeships as a beginning step in their careers (and not just an end goal). I think that these factors came together for these apprentices and provided them with the extra incentive to work towards their qualifications. None of the apprentices interviewed had a 'challenge free' time working through their unit standards. There were times JR and JW had to back track (re-take some correspondence course units standards). RV had to really push hard to complete his qualifications in two and a half years. DH has been set back with workplace assessor availability. All the apprentices experienced uncertainty about what needed to be done.

However, all of them worked through these difficulties and their persistence was an important factor in ensuring that their qualification was completed. It must also be noted that all these apprentices also completed the compulsory block course units. Three of the compulsory block course units require the completion of portfolios and the preparation and presentation of these took time and effort. The apprentices who completed therefore were committed to their task.

All of the apprentices interviewed also took responsibility themselves for ensuring that their unit standards were completed. They were self-directed (especially RV) in obtaining information, instigating assessments and they provided the urgency within themselves to meet time lines (JW).

Chapter 5

Discussion, Interpretation and Recommendations

This chapter brings together the findings made in the previous chapter and discusses the themes that have emerged from the research exercise. The two major themes are related to the two sections the findings were presented in. The first theme deals with the support factors and these are brought together within the context that the community of practice for the unit standard-based training and assessing apprentices in the NZ baking industry is still in its beginning stages. The second theme summarises the motivators and strategies used by apprentices to complete their qualifications and proposes that the need to become a baker is a strong motivator for apprentices to succeed. Many other smaller sub - threads run through these two major themes and these are interwoven into the discussion.

This chapter thus draws together the themes discovered and provides some suggestions for improvements that might assist greater numbers of apprentices in the baking industry to complete their National Certificate in Food Production – Craft / Plant Baking (level 4).

A final look at the research questions, followed by a discussion on the possibilities for further research into the area of apprentices completing their qualifications, closes this chapter.

5.1 Building a Community of Practice for Workplace Assessments

The support factors that have emerged as having the most importance in helping apprentices complete their qualifications have been related to the human element (managers, workplace assessors and regional managers) and the context in which the apprenticeship has been undertaken (type of bakery, overall culture of the workplace, affordances within the workplace for workplace assessments to take place). At the moment, the community as a whole is still finding it difficult to work through the complexities of the new training and assessment system. Time is required for the information to percolate through the baking industry and for the new system to settle in to a more confident stance on the whole issue of apprentice training and assessment.

5.1.1 Nurturing a new community of practice based on the new qualification requirements.

The main purpose of the community of practice based on the baking trade is to build up a sustainable and profitable business. The new community of practice based on the additional need to provide support, training and workplace assessments for apprentices is a subset of the main purpose of the baking industry. Therefore, space and time have to be put aside to nurture the new community of practice. The new qualifications based community of practice has a long term goal of providing new crafts people into the industry to ensure that the main baking industry continues to maintain a viable community of practice. However, this longer term goal is often superseded by the need to maintain individual businesses' immediate profitability in the face of a competitive market.

5.1.2 Nurturing the managers and supervisors supportive of training.

One of the major findings has been that the direct line managers and supervisors of the apprentices who succeeded in completing their qualifications were unequivocally providers of great morale and monetary support. This group is therefore the key to ensuring that the community of practice established around the new qualifications thrives and grows. Processes and systems should be put in place by industry organizations (the NZ Baking Society of Employers Inc. would be one example) and the ITO Competenz to provide recognition for employers who take on the challenge of taking on apprentices and assisting them to complete their qualifications. These could take the form of nominal monetary incentives (the NZ Baking Society of Employers already do this by paying ITO fees for apprentices signed on by their members) or recognition in the form of certificates issued by the ITO.

5.1.3 Working through issues of equity

The issue of equity for all apprentices is raised when not all apprentices will be signed on with a supportive employer. On the whole, apprentices may not be aware of the importance of the support required from the workplace towards their eventual completion of their qualification. They will basically have to make the most of what the context that they work in provides for them. It is also very much up to them then to put in the effort to sort out the arrangements required for the appropriate assessments to be completed and for a workplace assessor to be organized. If they work in an area with an efficient

ITO regional manager, they will have some assistance in coming to grips with the challenges presented. But if they work in an area where the ITO regional manager covers a large area and has little time to spend with individual apprentices, then the struggle will be made more difficult.

Apprentices who fall into the category of being apprenticed to unsupportive employers need to be identified so that the extra support they require from regional managers or workplace assessors can be organized. At the moment, the Record of Learning (ROL) issued by NZQA seems to be the major tool used by regional managers to check on apprentice progress. This is but one instrument that helps identify apprentices who are slow in getting their assessment completed. There are no other mechanisms in place at present to identify and assist apprentices who are slow in getting their assessments completed because their workplace does not 'afford' the opportunities for the assessments to be instigated. Therefore, the ROL is only an indicator that assessments are not being completed, it does not provide the reasons why the assessments are not being done. The load still falls on the regional manager to try to find out what has to be done to assist the apprentice to get his / her assessments going.

5.1.4 The issue of information dissemination

Another factor to think about is the issue of information dissemination. The astute apprentice makes use of the information that has been provided by their employer, the ITO and training providers. However, the data gleaned from the questionnaire showed that many apprentices are not as self-directed as the completed apprentices who were interviewed. A surprising number of apprentices (one third) had no strong opinion about the presentation that was given by the Christchurch based regional manager when the apprentices attended block course at the NZBTC. This figure could be read several ways. The apprentices might be still befuddled by the overall system and could not see where the discussion and presentation on planning and completing their qualifications was leading. However, only stage two and three apprentices were surveyed and these apprentices should be well into working through the various aspects of their qualifications. The apprentices could have given up on the whole requirement and be quite willing to complete their apprenticeship as time served but not be certified as bakers.

The managers and supervisors of an apprentice play an important role in assisting an apprentice to complete. They are also the members of the community of practice who will train and nurture not just one apprentice but one hopes many apprentices in their journeys from apprentice to baker. Thought must therefore be given to emphasizing the importance of this role to employers, managers and supervisors. Also, training for trainers and workplace assessors needs to be ongoing and relevant. Without the support of these groups of the community, the new system will not move beyond the first stages of the development of a community of practice.

5.1.6 Improving apprentice peer interaction opportunities.

Apprentices also learn from their peers. Peer interaction opportunities for apprentices need to be increased. In general, most apprentices work in isolation from their peers and make good contact with their peers only when they attend block courses at the NZBTC. These block courses run only for two weeks over the span of three years, but they provide an invaluable opportunity for apprentices to interact and communicate together. A degree of peer pressure will emerge as apprentices often do not know how well they are individually progressing till they are able to make comparisons with others. All of the apprentices interviewed indicated that their third and final block course was a turning point for them as they were brought to the realization that they were coming to the end of their apprenticeship and that they would have to work hard at completing the unit standards still required to complete their qualifications.

5.1.7 Providing opportunities provided to apprentices to learn how assessments work.

During the third block course, apprentices are taken through a session to complete the unit standard number 4098 (Use standards to assess candidate performance). This is a compulsory unit standard that must be completed by apprentices who want to complete the National Certificate at level 4. It prepares apprentices for their future roles in industry as supervisors and team leaders in the near future and allows them to be eventually registered by the ITO as workplace assessors. One of the pieces of feedback obtained from apprentices during 4098 sessions, is that this information should have been provided to them before they started on their apprenticeship, as information on how workplace assessments are run provides an insight for them into how they could go

about organizing their own workplace assessments. 'How to run a workplace assessment' might be included in the regional manager's address to apprentices attending block courses at CPIT.

5.2 Becoming a Baker

The issue of becoming a baker is one of great importance to all apprentices. Their main aim in completing an apprenticeship is to learn the skills and knowledge of a craft and to be recognized by their peers, their family and the community of practice - that is the NZ baking industry - as being a baker. At this time, this entails that they complete the National Certificate at level four as it is seen as the equivalent of the former Trade Certificate. The industry has had a quarter of a century of recognition of the fact that a baker is recognized as being a true baker only if he / she is qualified at trade certificate level. Therefore, the need to qualify plays an important role in proving that an apprentice has now become a baker.

Without the official 'stamp of approval' provided by the qualification, an apprentice remains forever an apprentice or, at best, a baker without certification. He / she might be able to perform well as a baker but when he / she applies for another position, the fact that he / she is still 'not qualified' will remain apparent. The completion of the National Certificate at level four therefore meets the expectations of the community of NZ bakers that the 'new' baker meets the criteria the community of practice has set down.

5.3 Some Recommendations for Change

The following recommendations are related to the two themes discussed above.

For the first of them, building a community of practice for workplace assessments, the following may assist towards hastening the process of the formation of a community of practice for the NZ Baking Industry's apprentice training and assessment process.

5.3.1 Employer and / or manager / supervisor support systems

Support is at the moment provided for some apprentices by Modern Apprenticeship Coordinators (MACs) and some workplace assessors by workplace assessment coaches (Competenz, 2000b). Some employers belong to employer groups like the NZ

Baking Society of Employers Inc. or manage bakeries that belong to larger organizations like franchises and in-store bakeries. However, I think that employers and managers are the crucial group that must be supported as they employ and train apprentices. Without this segment of the community of practice becoming well versed in the intricacies of how the new system works, the community of practice that is in it's coalescing around the new system might not move much beyond this stage. More therefore has to be done to ensure that employers and managers are kept up to date with the way the new system works.

Competenz and the training providers mail out a large amount of information to employers about the new system. However, bakers are very busy people and this information is often not taken up when it is presented in paper form. Some lobbying has been done with Competenz to have regional managers with a background or passion for baking to liaise with bakers. However, the numbers of bakery apprentices is still (compared to engineering apprentices) low and a bakery focused regional manager will currently be economically difficult to sustain.

The second theme of encouraging apprentices to complete is to promote the ideal of 'becoming a baker' more as an end goal and the possibilities this entails.

5.3.2 The importance of setting goals

To start with, it is important for young people to have end goals beyond the completion of their qualifications. All four apprentices interviewed had made future plans beyond the time span of their apprenticeships. They could see that the apprenticeship was a beginning for them towards a fulfilling and enriching career. This emphasis on end goals is perhaps not encouraged too much by the employers themselves as it means that apprentices may leave the bakery they were trained in as soon as they complete their apprenticeships and employers then do not reap the benefits of the time and effort placed into training the apprentices. However, as a whole, the industry will thrive if employers look beyond their own individual requirements and towards the larger industry perspective.

5.3.3 Encouraging a spirit of competition

A spirit of competition is perhaps also to be encouraged. Many apprentices working in smaller bakeries do not have peers whom they are able to compare themselves against. Apprentices employed in some bakeries have their wage increases linked to the completion of a specified number of credits towards their National Certificates. This is especially common in plant bakeries and some franchise bakeries.

5.3.4 Providing better mechanisms to obtain prompt feedback of unit standard completion.

Consistent and prompt feedback as unit standards are achieved may also help provide apprentices with the incentive to work harder if they see themselves falling behind set goals. At the moment, NZQA provides a Record of Learning once a year. Extra requests for Records of Learning incur charges. However, a once a year Record of Learning might be too long a time span as within an average apprenticeship the apprentice receives only three records. MACs visit and review apprentice progress four times a year (once every four months). This at least provides impetus for assessments to take place on an on-going basis. For the apprentice without a MAC, the once a year Record of Learning, occasional visit by a regional manager and once a year attendance of block courses will be the only triggers for him / her to get going on working through the other requirements to complete their qualifications.

5.4 Comments on Research Questions

In the research methodology chapter, reference was made to the fact that this study would be of an exploratory nature. I set out on this project not quite knowing what I would find out about the factors that would contribute positively to apprentices eventually completing their qualifications. I had some hunches but these were based on long association with the subjects (the apprentices and the baking industry as a whole) and the systems (unit standards, NZQA and ITO policies) that underlie this research topic. I wanted to be careful that my preconceived biases and prior knowledge would not impinge on the findings and results that would eventuate from this research.

What has emerged is the notion that “we are all in this together”. Some apprentices will succeed regardless of the presence or absence of support structures. They are sufficiently self motivated to ensure that they work out what their goals are and then work towards obtaining those goals. At least one apprentice in the interview sample had this characteristic. However, the industry as a whole cannot sit by and rely on the assumption that self-motivated individuals will work through the training and assessment systems on their own. The NZ baking industry is already undergoing a shortage in skilled personnel and needs to work together to ensure that they bring in ‘new blood’ into the industry.

At present, I think that the findings and results that have eventuated from this research study have only touched the surface of what I attempted to find out. The small numbers of apprentices who are completing their qualifications are able to do so through a combination of personal motivation, and active and continuing support from their employers, supervisors, families and regional managers. They set themselves goals (albeit at quite a late stage for some of them) and worked towards completing these goals. For most of them, the goal of completing the qualification was but the first step in their career ladder and they could see a pathway to better prospects, travel and career opportunities. If there was something special about the apprentices who have completed then the ability for them to see the opportunities beyond the completion of their apprenticeship and qualification would be one.

The most exciting revelation for me was to see the link from my readings and studies in the area of sociocultural learning theories leading towards the eventual themes that emerged from this research work. The concept of communities of practice became much more realistic. This along with the realization that communities of practice are evolving and varied entities has provided me with much fruit for thought. The research into the area of how communities of practice evolve is still in its beginning stages (Wenger & Synder, 2000). The current research in this area is still very much focused on organizational management and the opportunities that the World Wide Web brings to the formation of a diverse range of possible communities of practice. Much therefore can still be done in this area to see how concepts of communities of practice fit into more traditional areas of commerce.

5.5 Possibilities for Future Research.

Owing to the exploratory nature of this research report, a large number of questions and possible research directions have been raised. These are now detailed:-

5.5.1 The apprentices.

The present study considers a small group of apprentices in one trade / industry in New Zealand. A comparative study of several trades / industries could be an important research exercise to undertake. As the sociocultural factors within different communities of practice may be subtly different, it would be a useful exercise to see if the ways in which apprentices are trained, assessed and supported with work communities are similar or dissimilar. Practices that work well within certain trade / industry areas could then be cross-pollinated to other areas so that better practices are propagated for the good of all apprentices.

Apprentices who have succeeded have been studied here but there is also a need to look into the factors that prevent other apprentices from succeeding in completing their qualifications. An action research project that looks at ways to help apprentices work through the intricacies of on the job training and assessment might be one way forward. If apprentices are involved in formulating strategies (and other apprentices see that the ideas are being introduced by their peers), the incentive to work through the perceived obstacles may become more apparent.

Identifying apprentices who are struggling with completion needs to be systematized as well. Too many apprentices are left on their own to figure out what needs to be done to complete the qualifications. One should not 'spoon feed' them all of the way, but provide intensive initial help and then maintain a robust system for tracking progress. This will be especially important for apprentices who do not have the assistance of a MAC, who have poor access to regional managers, or who have managers or supervisors who are not supportive. Identifying the factors and the apprentices will be a major challenge in itself.

This study also addressed what is really the first or transitional cohort of apprentices to be working through their qualifications under the National Certificate qualifications. What will happen to future cohorts of apprentices? Will the community of practice mature sufficiently to provide greater support? Will completion rates improve in the future? Early indications have not been optimistic but there may be the need for a 'critical mass' to be build up for the completion numbers to improve significantly. A study of the completion rates for the cohorts that begin their apprenticeships in the next year or so will be a good comparative exercise to undertake.

At present, the onus and responsibility for ensuring that the apprentices complete their qualifications are placed squarely on the shoulders of the individual apprentices. However, it will be an interesting exercise to find out what the apprentices think about this and how they work towards understanding the system and ensuring that they finally complete all the assessments required to complete their qualification. Not all apprentices will be as self-motivated as the four apprentices who were interviewed. What happens to apprentices who are not as motivated? What incentives will there be that will help motivate the majority of apprentices?

5.5.2 The supporting players

The major supporting players in the National Certificate qualifications are the managers / supervisors, workplace assessors and the regional managers. The impact of Modern Apprenticeship Coordinators (MACs) will be discussed in a later section as this new government initiative has a major role to play in contributing to improving apprentice completion rates.

Although this research project has found that supportive managers / supervisors are essential to the eventual success of apprentices in completing their National Certificates, not much else has been found out about them. A research study to find out the what workplace thinks about the concepts of on the job training, workplace assessments and the National Certificate qualification system will be important in working out strategies that will assist the workplace in becoming more proactive in supporting apprentices completing their qualifications. The perspective of the managers, supervisors, workmates, trainers and assessors are likely to be quite different from the perspectives of the apprentices, training providers and the ITO.

Workplace assessors are already provided with some support from Competenz in the form of workplace assessor coaches. (Competenz, 2000). However, workplace assessor coaches have been out in the field for only just over a year. Their main priority has been to put into place enough workplace assessors to ensure that workplace assessments may be completed. This is still a large task as the number of workplace assessors available is still relatively small (but growing). A longitudinal study of how workplace assessors learn their role and mature into their assigned tasks will be an interesting study to take up.

ITO regional managers play an important role in representing the new training, assessment and qualification systems to the industries they work for. As such, they need to present a positive and helpful view to the workplaces they visit and the apprentices that they support. However, regional managers also work within a wide range of possibilities and constraints. Finding out what will be helpful in their roles and the obstacles that prevent them completing their tasks should be an interesting start.

5.5.3 The community of practice that is being formed around the new qualifications

Tracking a new community of practice as it forms would be an interesting research exercise in itself. There is much to be learnt in this area. Some of the things that could be researched include:-

What is the original impetus for the formation of the community? In this research project, the impetus was from outside the original parameters of the existing community of practice. Does an imposed impetus slow down the formation or promote the formation of the new community of practice taking place?

What are the requirements for nurturing the new community of practice that is being formed around the new assessment requirements? Does it depend on who or what formed the original impetus to start the community? Will having influential members of the existing community support the formation of the new community make a difference? How will 'outside sponsors' (like a government agency) make an impact?

What actually keeps a community of practice going? This is an interesting point to look into especially with regards to a community of practice that is formed around what is more often perceived as a peripheral activity of the main community of practice. In this case, the community of practice that forms around the training, assessing and the completion of an apprenticeship / qualification by relatively junior members into an already mature community of practice founded around an established trade or industry.

5.5.4 The impact of Modern Apprenticeship Coordinators

Modern Apprenticeship Coordinators (MACs) began working within the baking industry from July 2001. At the time this report was written, there were just under 50 modern apprentices being supported by MACs in the baking industry (SkillNZ, 2002). The impact that MACs will have on the completion rates for National Certificates at level 4 will therefore not be quantifiable till well into 2004 (assuming that apprentices will take three years on average to complete their qualifications).

However, the advent of MACs as an important support factor will make possible a comparative study of apprentices working through their qualifications with or without a MAC. This will be a good opportunity to take an in-depth study into what support factors actually work.

Other research opportunities include:-

A study of the different outcomes expected of MACs. MACs are provided with a list of stated outcomes and expected targets by SkillNZ. However, what role do the apprentice, manager / supervisor, workplace trainer or assessor expect the MAC to play in helping the apprentice work through their qualification? Each of the parties that interact with the MAC will probably have different expectations of the role of the MAC.

At the moment, most MACs assigned to apprentices are familiar with the trade or industry that the assigned apprentice is working in. However, in smaller centers, MACs may be assigned to apprentices who work in trades that are not familiar to them. How does this impact on the effectiveness of the MAC? Does the MAC have to be an existing member of the community of practice to make his / her role effective? Is it important that MACs are familiar with the trade that they will be working with?

Therefore, there are many possibilities to explore, many questions still to ask, some answers still lurking out there to be found and meanwhile, many apprentices are still struggling to complete their qualifications. The research into vocational education and in particular trades-based training and apprentice training has been very much a neglected field in New Zealand. There is therefore, much more work to be done in the area that has only be touched on in this research project.

5.5.5 The effectiveness of current systems

Competenz has put major resources into the production of a range of training materials. The majority of these are actually assessment or evidence collection documents. The sheer volume of this material is daunting to the employer, the workplace assessor, the modern apprenticeship coordinator, the apprentice and the training providers. Some efforts have been made by colour coding the assessment books to 'break up' and organize the assessments required. Evidence guides have also been written to try to simplify the evidence collection process (but the simplification has also led to the evidence guides being extremely repetitious).

Clear research objectives need to be set out to try to find a clear route towards improving the current state of how evidence is collected at the workplace to meet the realities of both the workplace and the requirements for workplace assessment moderation. At the moment, the consensus is for the paperwork to be reduced. However, studies need to be undertaken to see what paperwork is actually effective and what can basically be removed entirely. The viewpoints of apprentices, employers, workplace assessors and training providers need to be balanced with the requirements for the ITOs' quality assurance systems.

Chapter 6

Conclusion

This chapter seeks to draw together the themes and threads brought up by this research project. An overview of the limitations and implications of this research project is discussed is followed by concluding statements that reiterate the recommendations that have come out of this research project.

6.1 Limitations and Implications

This study has embarked on the beginning stages of research into the topic of apprentice completion within a New Zealand context. However, it has based its findings on only one sector of a rich and varied community of practice that encompasses not only the propagation of the values and craft knowledge of a trade (baking) but the wider community of practice that encompasses many trades who are enmeshed into the realities of on-job training, competency based assessment systems and the increase in 'the knowledge economy'.

There is a need to look into the roles, perceptions and motivations of employers, workplace assessors, ITO regional managers and apprentices (the ones succeeding and the ones struggling) as each works their way through the intricacies of the new system for helping young people become part of the community NZ bakers.

The advent of Modern Apprenticeship Coordinators (MAC) may go a long way towards providing support for the beginning phases of the building of a community of practice for the practice of the new qualifications system. However, not all apprentices or all employers or for that matter all trades may have the advantage of being provided with MACs. Research into the effectiveness of MACs will no doubt be carried out to gauge its financial viability but research should also be carried out with regards to its effectiveness in putting the correct messages across to apprentices and employers and to their roles in training and assessing apprentices. Employers may use the MACs as a crutch and abrogate themselves of the responsibility that they should also take towards training and assessing the apprentice they have undertaken to mentor.

The growth of any community of practice takes an enormous amount of time, energy and resources. At the moment, the set up of a community of practice for the training and assessment of apprentices in the NZ baking industry is being led by government policies on workplace training and the overall theme of generating life long learning and contributions to the 'knowledge economy'.

The beginnings of the process (for better or worse) have now begun. In order for the community of practice to flourish, the sectors that are influential in the new community of practice need to be identified and nurtured. At the moment, the main users / receivers of the new system (the apprentices) have the least power to put into place changes that might help make the new system easier and more practical to use in the bakery industry context. Not all the other users / deliverers (the employers / managers) are entirely convinced that the new system will be better than the system it has replaced. These two players in the new community of practice are further disadvantaged by the fact that the new system has largely been imposed by political movements beyond their control. This has been and still is an ongoing challenge for Competenz to address. It not only has to try to form the new community of practice but also has to maintain the respect in the communities of practice of the many trades / industries they serve.

The apprentices who have completed were often learning the process involved with the new system as they went along. This is perhaps something that happens whenever one embarks on an undertaking that leads to a prescribed conclusion. I have found that as I undertake the study and research process to complete this thesis, I am very much undergoing the same experience. However, I am entering as a 'legitimate peripheral participant' into an already well-established community of practice based around the requirements to carry out research and complete a Masters thesis. I have peers who have gone on before me to provide advice, a supervisor who is able to mentor me, a body of knowledge that I am able to look up when I am unsure, there are courses to attend and hard copies of written theses to refer to. For the apprentices who have just completed under the new qualification, many of the support factors that I have had have not been present or are still in the process of being formed. This has provided them with a much more challenging process than the one that I am undertaking. Most of the established sources of support like former apprentices, employers, managers and supervisors are familiar with the 'old' system but are also in the process of learning about

the new system. To some of the 'old hands', this lack of familiarity with the new system must seem to be a challenge to their power and authority. The new system being imposed is also another factor to be taken into consideration. I therefore have the utmost admiration for the apprentices who have completed the National Certificate in Food Production – Baking (level 4) so far. They have not only proved that they are competent as bakers but also that they have been able to work into a new system.

6.2 Bringing it together

In this research project, I wanted to find out some answers to assist all bakery apprentices in eventually completing their National Certificate qualifications. I have found out that there are crucial players in the community of practice that is currently being formed around the conduct of workplace assessments and the training provided to an apprentice as they work towards completing their National qualifications. I have found that besides good workplace support from employers / managers / supervisors and workplace assessors, the motivation for an apprentice to become a baker is a strong incentive. More research needs to take place to find out how these factors interact and to see if positive results emerge if interventions by mentors, modern apprenticeship coordinators, regional managers or peer-support groups are provided.

This research has also shown that many diverse human and contextual elements contribute to the successful completion of an apprenticeship. The sociocultural arena that provides a young person with the opportunity to learn a craft or trade is rich in human and context based resources. However, for these resources to be tapped, the aspiring craftsperson relies on many guides through his / her journey from 'legitimate peripheral participant' to 'journey person / qualified trades person' to 'master'.

When the journey of an apprentice working towards his / her qualification is made alongside the journey of their craft / trade / industry community of practice towards instituting a new system of assessment / recognition, the parallel journeys provide a rich source of learning for both the apprentice and the industry concerned. Thousands of apprentices and a myriad of trades in New Zealand (and around the world) are undergoing this experience. This opens up a whole new area of possibilities for research in learning not only about how apprentices learn, but also how employers and others cope with the changes and how the workplace works through these challenges.

For me, this research process has shown me the importance placed by the apprentices interviewed and the NZ baking industry on the completion of a qualification. The National Certificate in Food Production – level 4 – Craft baking / Plant Bread Baking for all its faults and intricacies is still the qualification that apprentices aspire towards in order to be recognised as ‘being a baker’. It is therefore important to provide support systems and pathways that will make the goal of completing the National Certificate at level four, one that is attainable by all bakers who have reached the level of competence required. At the moment, not only is competence in baking required, but a large degree of self direction, discipline, persistence and personal organisation on the part of the apprentice and support from the employer / supervisor / workplace assessor involved is also required. Putting into place some of the systems for support will, I hope, provide more apprentices with the opportunity to complete their qualifications.

Postscript

JW completed his qualifications at the end of 2001. He plans to work another year to save up enough money to travel to Europe and the UK. He intends to continue ‘becoming a better baker’.

DH started his workplace assessments at the end of 2001 and hopes to complete his qualifications by the middle of 2002.

RV now works as a shift supervisor in the plant bakery he trained in. He is now on the corporate production management ladder and intends to move to another bakery in the North Island on his next promotion.

JR took on a position as second-in-charge of a franchise bakery in a busy suburban mall at the end of 2001. He has signed on as a ‘trainee’ to complete unit standards on yeast products, as the bakery he trained in specialised in cakes and pastries.

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Appendices

Appendix 1

Questionnaire

How helpful has each of the following been towards the completion of your National Certificate qualifications?

- 1) Please tick the most appropriate box below for each factor, to show how helpful you think it has been in contributing to completing your qualification.
- 2) Choose 5 factors that you think are the most important contributors to your eventual success in completing your qualifications.
- 3) Number those factors (in order of importance to you) from 1 (most important) to 5 (least important) and write these numbers in the boxes on the left side of the page.
- 4) Comments will also be most welcome and space is provided for these on the next page.

Importance of factors		Factors	Very helpful	Helpful	No strong opinion	Not helpful	Very unhelpful	Not applicable
	a)	Training materials (coloured folders in white plastic box)						
	b)	Evidence guides (assessment task and marking)						
	c)	Training guide and credits completion 'ladder' (laminated sheet with units to be completed)						
	d)	Support from Competenz regional manager						
	e)	Presentation given by regional manager at block course						
	f)	Support from employer						
	g)	Support from work place assessor						
	h)	Support from correspondence course provider						

	i)	Support from Block course training provider						
	j)	Receiving results recorded on Record of Learning from NZQA						

Comments:-

Thank you very much for your participation

Please place the completed survey forms into the box provided in the bakery before the end of the week.

Appendix 2

Questions for interviewing participants

- 1) Please tell me a bit about your past experiences at school, in training or with unit standards assessments before you started on your apprenticeship.
- 2) What were or are your own motivators to complete the National Certificate.
- 3) How have the following been helpful or unhelpful to your studies?
Competenz, your employer, correspondence course, block courses.
- 4) How have the following been helpful or unhelpful?
Evidence guides, workplaceassessments, workplaceassessor/s
- 5) What strategies did you use to complete the assessments required?
- 6) What advise would you give to a new bakery apprentice starting on unit based qualifications?

Appendix 3



Wellington Campus
Private Box 756,
Wellington,
New Zealand
Telephone: 64 4 801 2794
Facsimile: 64 4 801 2692

The purpose of this short survey is to find out about the **factors that contribute to apprentices completing their National Certificates in Food Production - Baking (level 4).**

This project has been reviewed and approved by Massey University Human Ethics Committee, WGTN Protocol 01/105.

This survey is part of a research project undertaken through Massey University.

The information from this survey will only be used for the purposes of this research project. No individual will be identifiable in the reports or papers generated from the research project.

At the end of the research project, this information will be destroyed. Your completion of this survey will be taken as permission for this data to be used for the research project.

If you have further questions regarding this survey, please contact:-

Researcher
Selena Chan M Ed (Adult Ed) student, Department of Social and Policy Studies in Education, Massey University College of Education.

Contact Details:-

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PO Box 22-095

Christchurch.

Telephone no:- (03) 364 9049 ext. 8438 Fax no:- (03) 364 9635

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Supervisor

Alison Viskovic lecturer, Department of Social and Policy Studies in Education, Massey
University College of Education.

Contact Details: _

PO Box 756,

Wellington.

Telephone no:- (04) 801 2794 ext. 6713 Fax no:- 801 2697

Email :- A.R.Viskovic@massey.ac.nz

6th June 2001

Dear

Re:- Participation in Research Project

I am writing to you to invite you to participate in a research project.

The case study research project is to find out about the **factors that contribute to the success of apprentices in completing the National Certificate in Food Production - Baking (level 4)**. You are invited to participate as you are one of the few apprentices who have so far completed or are very close to completing the National Certificate. The interview session with you is to find out the factors that motivated you to complete your qualification, the support structures within your work place and the ITO that were helpful and the strategies (for learning skills and knowledge, for ongoing assessments etc) you used to help you complete the qualification.

The interview session will take place at a date, time and venue that you and I will agree to. With your permission, the interview will be audio taped and will take about one hour. At any time you may ask for the tape to be turned off. The tape will then be transcribed. The transcription will then be returned to you for checking to ensure that the transcription is accurate. The transcription will then be analysed to look for strategies common to other apprentices and suggestions that might improve work place training and assessment procedures. The findings will be summarised in a short report and this will be available for you to comment on.

At the end of the research process, the audio taped interviews will be wiped and the transcripts will be shredded. Your anonymity will be maintained through out the research process. Your name, the bakery you completed your apprenticeship in, the bakery you currently work in and your town/city of residence will not be used in the final report.

You may decline to be part of the process. If you agree to participate, you do not have to answer all the questions and may withdraw from the study at any time.

You are welcome to contact me to ask questions about the interview and research process before you agree to take part. Your contribution to this research project will be extremely useful to your peers, the baking industry in New Zealand and the learning and assessment processes of other apprentices undertaking trades based training in New Zealand. Your cooperation and assistance will therefore be highly valued and very much appreciated.

If you will like to participate, please return the attached sheet in the enclosed envelope by the 15th of June 2001.

Please do not hesitate to contact me at any time to find out more about the research project.

Yours sincerely,

Selena Chan
Programme Leader /

Researcher & Master of Education (Adult Education) student

NZ Baking Training Centre

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Christchurch.

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Supervisor

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Wellington.

Telephone no:- (04) 801 2794 ext. 6713 Fax no:- 801 2697

Email :- A.R.Viskovic@massey.ac.nz

This project has been reviewed & approved by Massey University Human Ethics Committee, WGTN protocol 01/105

Please return this page in the enclosed envelope by the 15th of June 2001.

Participation in Research Project

I agree to participate in the research project :- Factors contributing to the successful completion of Nation Certificate (level 4) by apprentices in the NZ baking industry.

Name : _____

Address: _____

Telephone number: (home) _____ (work) _____

Consent form for interview

Research project

Factors contributing to the successful completion of National Certificate in Food Production - Baking (level 4) by apprentices in the NZ baking industry.

This project has been reviewed & approved by Massey University Human Ethics Committee, WGTN Protocol 01/105.

I have read the information letter and have had the details of the interview explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I understand I have the right to withdraw from the study at any time and to decline to answer any particular questions.

I agree to provide information to the researcher on the understanding that I and my employer/s will not be identified and the information be used only for this research and the publications that arise from this research project.

I agree / do not agree to the interview being audio taped.

I also understand that I have the right to ask for the audio tape recorder to be turned off at any time during the interview.

I agree to participate in the above study under the conditions set out in the information letter.

Signed:-

Name:-

Date:-

Appendix 6

Copy of evidence guide provided by Competenz to apprentices and workplace assessors for the gathering of evidence and the conduct of workplace assessments.

UNIT STANDARD NO: 7864 TITLE: Prepare and develop bread doughs using the bulk fermentation process.

It is recommended that **one** assessment tasks will be needed to assess:

Unit	7864	<i>Prepare and develop bread doughs using the bulk fermentation process. (Level 3) (10 credits)</i>
Element	1	Prepare to develop bread doughs using bulk fermentation processes.
Element	2	Mix and develop bread doughs using bulk fermentation processes.

Task 1: Mix and develop a white bread dough using the bulk fermentation process. (EG. French sticks, Sandwich bread)

ASSESSMENT SCHEDULE

TASK	ELEMENT & PC	SOURCES OF EVIDENCE (work place activity, set task, demonstration, skills test)	JUDGEMENT (How much evidence is enough? How good should it be?)	Planned Assessment Date	Assessor Signature and Date
1. Mix and develop a white bread dough using the bulk fermentation process.	1.1 – 1.8 2.1 – 2.8	<p>© Direct observation of work activity and</p> <p> skills test to be completed.</p>	<p>One observation required of each bread type.</p> <p>During the observation, trainees must be seen to be following the correct procedure while mixing and developing white bread dough.</p> <p>All questions in the skills test must be answered correctly.</p>		

ASSESSMENT TASKS

Task 1: Mix and develop a white bread dough using the bulk fermentation process.

Instructions

The assessor and trainee must select **One** white bread dough to be assessed.

The assessor and the trainee should meet to arrange a mutually convenient time for the trainee to be observed mixing and developing a bread dough. **One** or more separate observations must be made.

During the observation, the assessor will view the trainee while he/she is mixing and developing bread dough. The trainee's performance will be evaluated using the checklist and suggested oral questions. The trainee must work independently with no help from other bakers.

Task 1

Mix and develop a white bread dough.

- Using a spiral mixer and / or a cake mixer fitted with a dough hook.

Bulk ferment the dough in a suitable bin / fermentation bowl.

Assessment

Evidence	When completing the task, the trainee must:	Assessor Comments White bread dough
◎	Wear the correct uniform.	
◎	Ensure the work area is clean and safe.	
◎	<p>Ensure that ingredients are available in the correct amounts, in the correct condition and by the agreed time.</p> <p>Keep reactive ingredients separate during preparation.</p> <p>Documentation related to ingredient preparation is complete.</p>	
◎	<p>Ensure that equipment for mixing and developing the bread dough are appropriate, clean, free from contamination, operational and available on time.</p> <p>Calculate work input / or time requirements for the mixing of the dough correctly.</p>	
◎	<p>Set and run the dough mixer correctly, efficiently and in a safe way.</p> <p>Mix and develop bulk fermentation bread dough correctly.</p> <p>Follow the correct sequence of work.</p> <p>Mix and develop sufficient dough to the correct consistency, temperature and texture.</p> <p>Complete documentation on mixed dough correctly.</p>	

Evidence	When completing the task, the trainee must:	Assessor Comments White bread dough
©	<p>Bulk ferment the dough correctly to the correct degree of maturity.</p> <p>Ensure that the dough is kept at the correct temperature and conditions for efficient dough maturity.</p> <p>Complete documentation on mature fermented dough correctly.</p>	
©	<p>Ensure that equipment for mixing and developing is cleaned after use and ready for the next user.</p>	

TRAINEE COMPETENT / NOT YET COMPETENT.

Appendix 7

Copy of colour coded training guide and credits completion 'ladder' provided by
Competenz to apprentices.



This schedule shall form part of the Training Agreement between the Employer and the Trainee

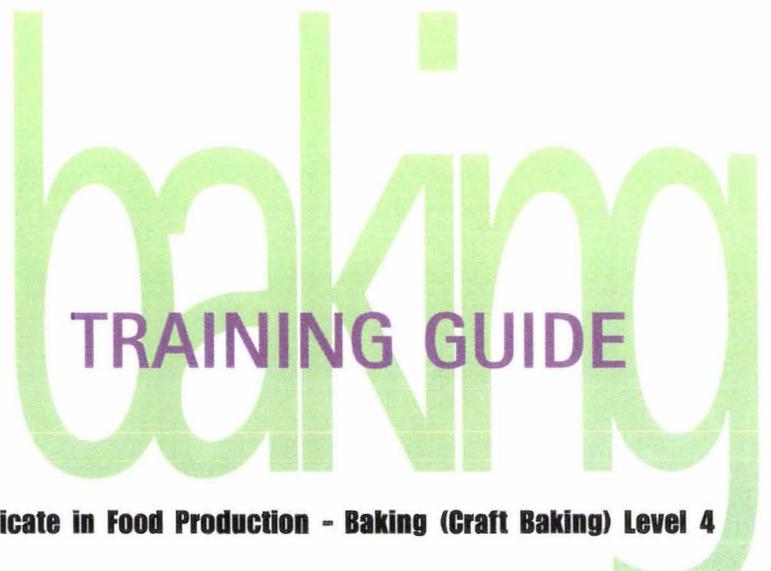
This training guide will help you select the unit standards you will need to achieve to gain the National Certificate in Food Production-Baking (Craft Baking) Level 4.

Credits for Compulsory Units	Credits for Industry Specific Units	Credits for Electives and/or Industry Specific Units
48	148	80
46	144	76
44	140	72
42	136	68
40	132	64
38	128	60
36	124	56
34	120	52
32	116	48
30	112	44
28	108	40
26	104	36
24	100	32
22	96	28
20	92	24
18	88	20
16	84	16
14	80	12
12	76	8
10	72	4
8	68	
6	64	
4	60	
2	56	
	52	
	48	
	44	
	40	
	36	
	32	
	28	
	24	
	20	
	16	
	12	
	8	
	4	

The total credits required = 279

You can use a white board pen to mark the units you plan to study in the Select column. Then when you are assessed as competent in a unit standard you can mark it off in the Achieved column for that unit. You can keep track of your credit total on the ladders below.

Remember: the compulsory unit standards on the back of this foldout must be completed in full to achieve your qualification.



INDUSTRY SPECIFIC

A minimum of 150 credits for a Level 4 Certificate (Craft) from the domain of food production – baking.

Unit standards which will be achieved by on-job training.

Unit No.	Unit Standard Title	Level	Credit	Select	Achieve
14728	Form and cut pastry doughs manually	2	6		
7842	Roll and laminate pastry doughs manually	3	8		
10605	Prepare and mix pastry doughs manually	3	12		
10608	Batch bake pastry products	3	10		
14719	Prepare, mix, and deposit cake batters manually	3	14		
14720	Batch bake cake products	3	12		
14725	Prepare and mix biscuit doughs manually	3	10		
14726	Form and cut biscuit doughs manually	3	10		
14727	Batch bake biscuit products	2	8		
14702	Prepare and weigh ingredients for white bread doughs manually	2	4		
14704	Prepare and weigh ingredients for grain and meal bread doughs manually	2	5		
14706	Prove products for batch baking	2	10		
14707	Batch bake bread products	2	10		
14708	Retard products for batch baking	2	8		
7841	Divide and mould bread doughs manually	3	12		
14703	Mix and develop white bread doughs manually	3	8		
14705	Mix and develop grain and meal bread doughs manually	3	10		
9954	Prepare and tray up frozen dough	1	1		
9955	Thaw and prove frozen dough products	2	2		
14709	Freeze products for batch baking	2	4		
15735	Develop and trial new bakery products	5	16		
15737	Demonstrate knowledge of automated mechanical and electrical bakery systems	4	5		
14721	Prepare and apply icings and glazes to bakery products manually	2	6		
14722	Prepare and decorate bakery products manually	2	6		
14723	Prepare and apply toppings to bakery products manually	2	6		
14724	Prepare and apply fillings to bakery products manually	2	6		
15738	Prepare sweet fillings and toppings using boiling methods	4	6		
15739	Prepare savoury fillings using boiling and steaming methods	4	6		
Total Credits					



Fillings, Toppings and Icings – Manual



Baking – Other

Cakes – Manual





Unit standards which will be achieved by off-job training.

Unit No.	Unit Standard Title	Level	Credit	Select	Achieved
15148	Prepare, mix, deposit, and bake chou paste products	3	4	<input type="checkbox"/>	<input type="checkbox"/>
15153	Assess pastry products for quality	4	4	<input type="checkbox"/>	<input type="checkbox"/>
15141	Demonstrate knowledge of pastry technology and pastry products	4	10	<input type="checkbox"/>	<input type="checkbox"/>
15150	Assess cake products for quality	4	4	<input type="checkbox"/>	<input type="checkbox"/>
15155	Prepare, mix, bake, and finish specialty gateau and torten	4	6	<input type="checkbox"/>	<input type="checkbox"/>
15142	Demonstrate knowledge of cake products and cake baking technology	4	5	<input type="checkbox"/>	<input type="checkbox"/>
15152	Assess biscuit products for quality	4	4	<input type="checkbox"/>	<input type="checkbox"/>
15143	Demonstrate knowledge of biscuit products and biscuit baking techniques	4	5	<input type="checkbox"/>	<input type="checkbox"/>
15151	Assess bread products for quality	4	4	<input type="checkbox"/>	<input type="checkbox"/>
15147	Prepare, mix, and bake bread products using sponge and dough, and liquid ferment processes	3	4	<input type="checkbox"/>	<input type="checkbox"/>
15154	Prepare, mix, and bake speciality breads	4	4	<input type="checkbox"/>	<input type="checkbox"/>
15139	Demonstrate knowledge of bread baking technology and products using manual systems	4	10	<input type="checkbox"/>	<input type="checkbox"/>
15144	Demonstrate knowledge of small goods and small good baking technology	4	4	<input type="checkbox"/>	<input type="checkbox"/>
15145	Prepare, mix, and cook hot plate bakery products	3	2	<input type="checkbox"/>	<input type="checkbox"/>
15146	Prepare, mix, shape, and fry deep fried bakery products	3	2	<input type="checkbox"/>	<input type="checkbox"/>
15149	Produce marshmallow and egg white-based bakery products	3	4	<input type="checkbox"/>	<input type="checkbox"/>
15736	Prepare, mould and finish moulded confectionery products	4	8	<input type="checkbox"/>	<input type="checkbox"/>
Total Credits					

Crop and Food Distance Learning

Polytechnic Block Courses

Use the colour codes below to identify each industry area



Pastry – Manual



Bread and Yeast Products – Manual

Biscuits – Manual



Appendix 8

Copy of the cover / index to the spiral bound book detailing the National Certificate qualifications.

**National Certificate
in
Food Production Baking
(Craft Baking) (Level 4)**

Reference Material

- Block Course Assessment Schedule
- Qualification
- Industry Training Requirements
- Assessment & Appeal Forms
- Unit Standards

Appendix 9

Sample of comments section of questionnaire sheet with various themes, threads highlighted and annotated.

	i)	Support from Block course training provider		✓				
	j)	Receiving results recorded on Record of Learning from NZQA		✓				

Comments:-

In General, I believe the whole process is well run on behalf of provider, My work place assessor has been incredibly helpful, but support from senior staff at work has been ~~less~~ rather appalling with one or two exceptions, and due to this lack of support there have been a few occasions when I have been on the verge of walking out of my job & giving up the apprenticeship.

Some of the information in the Correspondance Papers is hard to understand (wording) & photos provided that we have to identify haven't been very good at all really. Work place assessments are too repetitive & are rather boring. But the best part of the whole apprenticeship would actually have to be the block courses.

But it will be a relief to have the entire thing finished, & possibly there is a bit too much work (paperwork) involved, but overall I would say the entire apprenticeship is well done in general. Thank you very much for your participation

Please place the completed survey forms into the box provided in the bakery before the end of the week.

work place assessor

work place assessor

C2

still support for system despite all !!

no support

senior staff in bakery

throwing in due to lack of support

work place assessments

support 6 block course

Appendix 10

Sample of page of interview transcript with various themes, threads highlighted and annotated.

Question 2

36 SC

What was your main motivation to complete the qualification?

32 RV

To tell you the truth, Money would be one.

Apprentice wages are low & completing the qualification quickly would mean that I would be on the higher bakers rates.

Unit standards could also be completed in a shorter time, otherwise
under trade cert. You have to sign up for 3 or 4 years.

I therefore was motivated to arrange and instigate the assessments to ensure that I completed in as short a time as possible.

The company felt that three years should be taken so they were not in as much a hurry as I was.

38 SC

Did your company have a training programme in place?

39 RV

Yes. They have a good training programme.

They provide a course to attend before the block course.

40 SC

Did they set up timelines? & were these negotiable?

41 RV

Yes, timelines were set in place. They were not negotiable and had to be completed. (not w/s p.c.!!!)

42 SC

That's good. That is a good point.

Ok. What is your main motivator to completing the National Certificate?

43DH

Well, I want to get it done,

I want to become a baker.

Money
+ wanting to complete within time frame
+ opportunity for advancement

it's advantage

personal motivation

challenge to govt other way

Corporate training program in place

becoming a baker
get it done

Self satisfaction / actualisation

Basic motivation is to become qualified & to say I have a qualification.

Start doing things rather than being stuck as an apprentice baker. ← moving on

Its been a while now, its been 4 years and the novelty is starting to wear off abit!

44 SC Are you going to continue being an apprentice until you finish?

45 DH Hoping to, it is very hard keeping the motivation up I must admit.

I really hope to get it all done & go and get more experience at different places and that sort of thing.

improve opportunities in the future

level of education
kind of
employer support
family support
expectations

46 SC OK. That's good. So, what were the main motivators for you to complete the National Certificate then?

47 JR Well, probably, myself really, I was the prime motivator and my employer stood by me no matter what happened, no matter what fees came up.

And just with the family.

They all wanted me to do well.

So, along with your own motivation itself.

48 SC So your family supported you a lot.

49 JR. Yep.

got it
one +
done with

50 SC Ok. What were the main things that provided you with the motivation to complete your qualifications?

51 JW Probably time. Like I have kind of cruising along and then I hit the 3 year

mark.

I have been training long enough by then. — ready to qualify.

There was no pressure from the boss or anything like that. Just about time to get going and finish up. self motivation.

I motivated myself, the maturity thing you know. There were other things going on in my life and I had to get them out of the way before getting on.

ready to continue/progress.

self satisfaction to complete.

52 SC

Right. Good.

Appendix 11

Sample of a page showing the collation of data gleaned from interviews and comments extracted from the questionnaire.

Evidence guides-

Hard to follow *DH100*

All different, written by different people. *DH101*

Repetitive. *JW158*

Look more to so than really there. *JW158*

Formal language used. *DH101*

The amount of paperwork can be hard to keep up with P1

Record of learning needs to come more often and there needs to be less paperwork. P3

To much books from everywhere. To hard to know where the unit credits you need. P5.

I think that the questions in the assessment book (coloured) are very confusing and should be looked at & reworded. P6

There is far too much written work. P7

Summary:-

Too much paper involved. Seen as daunting when the number of units first encountered.

Workplace assessors

ALL helpful

1) mentor role of assessor. *JR 135*

2) workplace assessors had to be shown as well *DH 17,*

3) Idea of roving assessor. *RV80*

4) Needs time to learn the process *JR 137*

5) Relationship between candidate and assessor also needs time to build. *JW196.*

My workplace assessor was incredibly helpful *C2*

Assessors should be mad (sic) more readily available for those who don't have them. P7

Summary:-

Finding the right workplace assessor important. Workplace assessor also a mentor for baking.

Setting up a workplace assessor database easily accessible to ALL apprentices should be useful.