Belonging, Becoming and Being a Baker: The Role and Processes of Apprenticeship

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Abstract

The journey traversed by young people from being school-leavers to becoming qualified trade workers is a common, but far from fully understood process. Moreover, recent socio-historical changes exemplified by increased use of technology, the altering nature of work, and shifting patterns in the employment market are influencing both the apprenticeship journey and its destination. Central to this journey is how apprentices learn their skills and form identities as trades workers. Hence, there is a need to undertake detailed study of apprenticeship, as it is being currently enacted. In this dissertation, a contemporary account of apprenticeship is provided through mapping the experiences of 13 apprentice bakers and accounts of their bakeries. The dissertation proposes the apprentice journey as comprised of three phases—belonging to a workplace, becoming a baker, and being a baker—as descriptive metaphors of apprenticeship processes’ contribution to occupational identity formation processes. In this way, the dissertation conceptualises and illuminates aspects of apprentices’ indenture, including the role and influences of personal and situational factors that together shape how (a) young people begin participation in a trade-based occupation through processes of belonging to a workplace, (b) they identify with their occupation through a process of engagement with bakery work and practices, and (c) they commence the process of developing an occupational identity as bakers.

Key contributions to knowledge advanced in this study include, firstly, vocational identity formation as directed initially at belonging to a workplace, thereby emphasising the situational rather than occupational orientation in identity formation. Hence, this aspect of belonging to the workplace stands as a precursor to actual engagement in apprenticeship. Concurrently, the concept of “proximal participation” is advanced as an entry mechanism into the workplace for reluctant or undecided novices to craft or trade practice communities. Secondly, in the phase of becoming a baker, it was found that apprentices required conferment of occupational identity by others before they are able to self-infer their vocational identity as bakers. Additionally, the strong influences of workplaces on skill and knowledge acquisition and dispositional development were identified, as evidenced by apprentices transitioning progressively from being dependent learners to becoming independent trade workers. Thirdly, in the stage of being a baker, the findings include that deep engagement in specific workplaces
engenders passion for the work; individual agentic action by motivated apprentices can circumvent limited workplace learning affordances; and some apprentices transformed perceptions of the baking occupation from job to career to vocation. Hence, the study identifies and defines distinct processes of engagement and occupational identity transformation at each apprenticeship stage.

Finally, a model that illuminates this process of apprenticeship and its various contributions is synthesised from the study’s findings. This model is constructed through a process of case study theory building, summarising findings, and describing and rationalising contributions to apprentices’ vocational identity formation as bakers.
Statement of originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed: Date:
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The research project reported in this dissertation has been approved by Academic Research Committees at Griffith University and the Christchurch Polytechnic Institute of Technology.
Chapter 1

Belonging, becoming, and being a baker: A process and roles of apprenticeship

1.1 Vignettes of young people becoming bakers

John works in a café bakery in a small town near Wellington in the North Island of New Zealand. He began baking after initially indenturing as an apprentice electrician. At first, he found baking to be a challenge as the work was unfamiliar. John was also intimidated by the bakery owner but he built up an “older brother” relationship with the owner’s son. With the son’s support and encouragement, John developed as a baker. In his third year of baking, John concluded he was close to being the main baker at the bakery. Given the extended absence of the bakery owner’s son from the business, other staff, John explained, relied on him to manage the production side of the bakery.

Diane is now the supervisor in charge of the day shift at a busy café bakery in Wellington. She entered her baking apprenticeship after returning from travel overseas. She enjoys baking because it presents greater technical challenges than those associated with cooking. She also finds the shift work and working hours for baking consistent with her lifestyle. Diane is currently exploring the intricacies of sugar work, a form of confectionery production requiring many hours of practice to attain the skills needed to produce showpieces made entirely from boiled sugar.

William is now second-in-charge at a café bakery in a small town west of Christchurch. He began baking on leaving school. When William commenced bakery work, he was ambivalent about a career in baking. However, a supportive work environment and a good mentor in the form of his bakery owner/manager enabled William to absorb many of the business philosophies of his mentor. In interviews, William used many phrases similar to those his mentor used when describing how to keep a small business viable, efficient, and innovative.

Paula works in a small bakery in another small town to the west of Christchurch. At the beginning of her apprenticeship, she had difficulty in adjusting to her employers’ demands that she attain practical skills quickly and effectively. Her employer also had to learn new skills related to working with young people and to help initiate a new apprentice into the bakery’s culture. Paula now works confidently in the bakery and is responsible for bakery production when her employer is away from the bakery.
The vignettes above provide examples of the diverse pathways apprentice bakers in New Zealand traverse, as they develop their skills as bakers. The vignettes also illustrate the kinds of data that form the foundation of this dissertation of how young people engage in a process of belonging to a bakery and proceed to become and be bakers. These data also elaborate the roles and processes of apprenticeship, in ways that go beyond the relationship typically articulated in the literature, between apprentices and trade workers or workplaces.

Tracking the process of apprenticeship is important because the journey that young people travel as they move from being school-leavers to becoming qualified trade workers is a familiar but far from fully understood trajectory. For some—perhaps most—of these young people, the enactment of apprenticeship is more than the development of a set of occupational skills. An apprenticeship also constitutes a rite of passage, a form of induction into working life and adult responsibilities (Lehmann, 2007; E. Smith, 2003b), and the formation of occupational identity (Kirpal, 2004), such as that of a baker. An apprenticeship, therefore, does more than prepare young people for work: It provides them with a particular identity and positions them in a world where occupations are shorthand statements of their individuality (Hall & Chandler, 2005).

In general, the period of apprenticeship indenture also follows young people through the time that sees them develop from adolescence into adulthood (Vickerstaff, 2007). Given the diversity of these journeys and that they are often unfulfilled or incomplete, more detailed understanding of how young people become trade workers, as recognised by others and themselves, is important. So, too, is a study that seeks to illuminate the developmental and transformative processes through which young people adopt occupational or vocational identity (Vondracek & Porfeli, 2003) that is central to their sense of self, their identity as effective adult workers (Hall & Chandler, 2005). Also, because identity or subjectivity (Billett, 2006a) have dimensions that transcend the work-related aspects of young people’s lives and extend to life beyond work (Billett, Smith, & Barker, 2005), there is a need to understand how those dimensions intersect and mediate the development of a vocational or occupational identity. Therefore, this study offers explanations, through apprentices’ perspectives, on how individuals develop from inexperienced school-leaver or non-baker, to confident craft practitioner or trade
technician. In doing so, processes of identity transformation and skill acquisition occurring through apprenticeship are detailed and presented.

The central argument advanced in this dissertation is that apprentice bakers develop their occupational identity not only through engaging in baking work but through processes of belonging to a workplace, becoming and being a baker. Additionally, the processes of identity formation are negotiated individually and personally. Therefore, although seemingly linear in character, stages are arrived at, engaged in, and progressed through in quite personally distinct ways. These three phases of vocational identity formation comprise processes and outcomes and are summarised below.

**Belonging to a workplace** is a process, the ultimate outcome of which offers explanations of how these young people are introduced to a trade and begin their developmental and learning journey as apprentices. For apprentice bakers, belonging to a workplace is the process by which they are inducted into the craft of baking—the point at which they initially engage and participate in baking. With respect to the apprentices who feature in this study, what belonging to a workplace involved and meant for them not only allowed for discussion and evaluation of this process but also postulation of an alternative pathway (in terms of achievement) for young people who underachieved at school. Along this pathway, these young people are initiated into a trade through a process of “proximal participation” that prepares them for legitimate peripheral participation (Lave & Wenger, 1991) as apprentices in an established community of practice (Wenger, 1998) or practice community (Brown, Collins, & Duguid, 1989).

**Becoming** is the process through which these young people learn and acquire, primarily in the workplace, the skills and knowledge of their occupation. It is the process by which the 13 apprentice bakers who feature in this study develop baking skills, competency, and knowledge. For most of them, the on-going increase in their trade skills competency led to a point at which their co-workers, peers, and eventually the apprentices themselves recognised that they had become bakers.

**Being** encompasses the continual process of maintaining currency in a trade, of building passion for life-long learning, and for some of these apprentices, the attainment of baking as a
form of vocation. It is also about continual improvement and understanding roles that emergent bakers play in the local, national, and international baking industries.

In this chapter, the purposes, significance, and necessity of these three processes are presented as an overview of and an introduction to the dissertation. Introductory elements and a summary of the case made in each chapter of this dissertation now follow.

1.2 Background

The rationale for researching the apprentice journey

This dissertation had its genesis in my many years of being a baker and a teacher of baking. During this time, I developed, as an outcome of my own apprenticeship experiences and my relationships with young people as they proceed through indenture, a conceptualisation of a trade’s influence on young people’s personal development and identity formation. My desire to validate or refute this conceptualisation through a process of formal study resulted in the work documented in this thesis. While this aim was a primary impetus for this study, I also wanted to explore further the benefits that I saw young people gain by commencing an apprenticeship in a trade such as baking, as well as to understand the enablers and barriers to completing the journey from novice to practitioner.

An apprenticeship in baking offers young people an initial platform or entry point into work. Completion of an apprenticeship progresses, in most instances, to better wage gains (McIntosh, 2005) and long-term career pathways that afford choices and opportunities for further advancement. Baking industry management and leadership roles are not limited to bakery production. They include positions in marketing, human resource management, corporate management, and small business ownership. These are positive outcomes, perhaps not predicted by the initial school results of some young apprentices. However, all of these outcomes are premised on apprentices engaging in processes of skill and knowledge acquisition and identity formation. Therefore, trade-based indenture provides foundations for baking work and a platform for eventual further development.
During my almost 30 years of teaching baking to apprentice bakers, I have seen many young people move on to enriching and rewarding positions in the New Zealand baking industry. However, as Leach and Zepke (2005) point out, a good number of young people initially engage in apprenticeships because of a lack of choices brought about by poor academic performance at school. Certainly, many of these apprentices whom I have taught and with whom I have maintained contact, left school with very low levels of school achievement and struggled through the “theory aspects” of learning baking. Despite initially struggling with their apprenticeship, they went on to complete their indenture and to continue in the trade, securing a niche in the industry both in New Zealand and overseas. Some of these bakers are now the key skilled workers in their bakeries. They effectively manage routine baking tasks with consistency and efficacy and are relied upon as productive, reliable, and diligent workers. For these individuals, their apprenticeship not only supplied the route into rewarding and satisfying careers but also has given them identities as competent workers, supervisors, and managers. There are thus processes in the experience of apprenticeship and engaging in the working life that equip these young people for successes perhaps not predicted by their performance at school. My interest in what these processes might be provided me with another incentive for conducting this study.

Because apprentices who enter a trade as school-leavers generally do so as relatively inexperienced young people, their first real-world work experience can contribute significantly to their vocational identity formation (Dahlgren, Hult, Dahlgren, Segerstad, & Johannson, 2006). This consideration also underpinned my interest in exploring how aspects of the baking trade contribute to shaping young people into the lifestyle and practices of baking. That is, I wanted to investigate the process of learning which constitutes and arises through engagement in apprenticeship. I was mindful here of Brown et al.’s (1989) notion of a “culture of practice.” With respect to apprenticeship, this notion premises that learners gain not only the practical skills and knowledge that they need to be competent in the trade, but also the dispositions, the people and teamwork relationship skills, and the mind-set that are the hallmarks of the occupation (see also Felstead et al., 2005).

Coupled to the above rationale, I was also interested, during the course of my study, in investigating why some young people who complete their apprenticeships and continue on in the
industry as journeyman bakers (i.e., apprentice bakers who have completed an indenture) do not complete nationally recognised national certificate qualifications in baking (Mahoney, 2009). This consideration provided another impetus for gaining a more thorough understanding of the processes of apprenticeship.

My years of involvement with the apprenticeship system in New Zealand have kindled a commitment to conduct the conceptual and practical inquiry informing this dissertation as providing a forum for apprentices’ voices to be heard. Wanting to be faithful to the kinds of experiences among young people that formed my initial interest in the processes apparently influential in apprentices’ learning, this study is largely based on apprentices’ self-reported perceptions of their journey from novices to bakers. The narratives of the young people who agreed to participate in this study are archived in Appendix L. The findings presented, argued, and elucidated in this dissertation draw substantially on this material.

An overview of the research study

The main research question informing the methodological orientation and procedural premises for this study is:

- How do apprentices become bakers?

However, because this question could not be answered without consideration of the socio-cultural arena in which apprentices’ indentures are enacted, three supplementary research questions are also investigated:

- What are the main contributors to the identity formation of apprentices as they progress in their journey from apprentice to baker?
- In what ways does the work define bakers’ occupational identity?
• What part do the characteristics of bakers’ work play in shaping the identity formation of emergent bakers?\(^1\)

As noted above, the primary data for this study came from a series of interviews with, and workplace based observations of, 13 apprentice bakers (9 of whom were under 18 years of age at first interview) during the first, second, and third years of their indenture. These interviews and observations supplied snapshot views of each of the years of apprenticeship, particularly with respect to how these young people were developing trade skills and occupational identity and the extent to which they were finding personal and professional fulfilment in their work. The interview transcripts and field notes from observations were then used to construct rich narrative accounts of how the young people involved in this study initially entered the trade and their induction into an indenture. Twelve of the 13 apprentices had no preconceived career direction. However, it was evident from the transcripts that the majority of them enjoyed the opportunity to learn what they came to see as an interesting and rewarding craft. By the time the 3\(^{rd}\) year interviews were conducted, these apprentices had established work roles for themselves. They were content with the lifestyle associated with bakers’ work, and most had developed an affinity for aspects of baking along with constructed perceptions of occupational identity. Most were also able to articulate their career plans for the future.

The interview data were augmented with survey questionnaires detailing the participants/apprentices’ life histories and statistical information supplied by the apprentices and their workplaces, and field notes taken across the 3 years of the apprentices’ indenture, as a participant observer. These observations provided data on the apprentices’ skills-acquisition processes, their consolidation of theoretical knowledge and its application to baking practice, and the interactions and communications that took place in the workplace environments. Apprentices’ indenture is undertaken within the communities in which these young people live and within the societal context of their living and employment. The questionnaires and observation sessions were, therefore, important means of procuring the social and environmental

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\(^1\) The characteristics of bakery work include shift work, long hours, and often physically demanding activity. Different types of baking have their own characteristics, and these circumscribe the skills, knowledge, and dispositions to be learned.
context within which the cultural practices that denote the social enterprise of baking are embedded. These contexts exercise distinction between men and women, urban and rural communities, and people of indigenous and immigrant origins. They also accord varying degrees of esteem to different forms of employment. The questionnaire data interwoven with conversational threads from the interviews and the field notes help to build narratives for each research participant. Narratives offer an objective structure from which to compare data elicited from individual apprentices (Chase, 2005). They can be used to aid identification of factors in the socio-cultural milieu that influences and shapes apprenticeship experiences. These processes provide a coherent framework from which to present and analyse findings throughout this dissertation.

Analysis of data revealed, perhaps unsurprisingly, relationship between levels of skills acquisition and the types and depth of interactions between these apprentices and other workers (Billett, 1996, 2002b, 2006a). But what was particularly important here was to identify how these communications shaped and were shaped by apprentices’ progression. During their first year, the apprentices (again not surprisingly) were dependent on others for assistance as they worked on bakery tasks. Their interactions were predominantly with the person charged with supporting and supervising their work. By the second year, these apprentices had become more independent workers, able to complete several tasks concurrently and often responsible for completing tasks required to manufacture several products simultaneously. As such, their interactions in the workplace had extended to include other bakers in the bakery, working at a similar level of independent production. Their interactions with others at this time can be characterised as being interdependent: although still dependent on experienced workers for occasional advice, these apprentices were now working relatively autonomously. During the 3rd year in their indenture, apprentices were supervising other workers in the bakery and in many instances, working as totally independent workers. Their interactions with other workers were expanded to include not only workers in the bakery but also bakery retail staff. Most importantly, many of the 3rd-year apprentices were now assisting and supervising junior apprentices in the bakery. The apprentices’ journeys to become bakers was thus one of apprentices transitioning from being dependent on others for guidance, to becoming inter-dependent workers, and then developing to
being fully independent craft practitioners, able to participate in ways which were qualitatively distinct from those of earlier stages.

**Significance of this inquiry**

Studies of the apprenticeship experience have focused on the skills, knowledge formation, and dispositional adjustments of apprentices as they become acculturated into a trade. These studies include the seminal work of Lave and Wenger (1991) on apprentice tailors and midwives, Rogoff’s (1995) work with midwives, Keller and Keller’s (1996) ethnographical examination of blacksmithing, Gamble’s (2001) investigation of how cabinet makers learn tacit skills, Racca and Roth’s (2001) study of apprentices in electrical trades, Simpson’s (2006) research on apprentice ship-builders in western India, and Marchand’s (2008) study of minaret builders in North Africa. Studies such as these generally adopt an ethnographical approach whereby researchers immerse themselves into the lifestyles of the work culture and the society they are studying (Foley & Valenzuela, 2005). As such, they contribute a perspective exercised from the viewpoint of an observer, rather than from the perspective of research participants. Ethnography is a well-established and important approach to enquiry that contributes to a range of understandings about persons and places and the relationships between them (Foley & Valenzuela, 2005).

However, to supplement this approach and to understand the perspective of the research participant, the methodological orientation of this study privileges apprentices’ perspectives of their apprenticeship journey. The interviews conducted provide a rich descriptive data source and attempt to validate my previous informal observations of how young people (a) enter the trade of baking by first belonging to a workplace, (b) become bakers by having the identity of baker conferred on them by others in the workplace, and (c) eventually develop and are accepted, by others and then by themselves, as being bakers.

Relatively recent work in the area of workplace learning and life-long learning has focused on obtaining a wider perspective of how people “learn by becoming” (Field & Malcolm, 2006; Goodson & Adair, 2006; Hodkinson, Ford, Hawthorn, & Hodkinson, 2007; Hodkinson, Biesta, & James, 2008; Tedder & Biesta, 2007). These studies appear to be broadly influenced by acceptance of Wenger’s (1998) claims pertaining to the relationship between identity and practice. Moreover, they typically focus on workplace learning and life-long learning.
experiences of adults involved in workplace or life-long learning which provides a rationale for exploring how young people are inducted into a trade through processes of participation, directed by aspects of becoming. Learning about how young people embark on their working lives also provides an opportunity to collect and analyse data on life-long learning experiences from the inauguration of adults’ life-long learning journeys. It also offers opportunity to gather information on what awakens individual interests in self-directed learning, how individuals acquire vocational or occupational identity, and how work contributes towards identity formation. In this way, findings drawn from this study may form useful foundations for other potential longitudinal studies on life-long learning, workplace-based learning, and life development.

The study forming the basis of this dissertation is also timely with respect to its focus on following the journey of young people who leave school with limited academic achievement. Young people, in particular young men from “working-class” backgrounds living in “developed” countries, today face a society changed by the impact of “de-industrialisation, post-Fordism and globalisation” (McDowell, 2002, p. 39). As McDowell (2000) argues, these changes in the labour market have limited the vocational choices of these young men who face job prospects that are more restricted than the choices available to their parents. Apprenticeships offer one avenue for these young men and women to enter and engage with the work force, and from there map out career pathways (Higgins, 2002). Therefore, apprenticeships provide entry into the world of work and future career pathways for young people (E. Smith, 2003a). The practical inquiry informing this dissertation offers findings that suggest how apprenticeships may be used effectively to re-engage young people labelled as low achievers at school. The opportunity for disengaged young people to enter a trade, discover self-worth, achieve the completion of a national qualification, and become crafts people, is an aspect of the apprenticeship journey perhaps often alluded to, but not verified through formal study.

In essence, the significance of this study resides in its potential contributions to the scholarship associated with young people’s school-to-work pathways, workplace learning, apprenticeship systems, and vocational identity formation.
1.3 Structural overview of the dissertation

The following provides a summary not only of the structure of this dissertation but also its methodology and findings. This first chapter is followed by seven others.

*Learning through apprenticeship (Chapter 2)*

Chapter 2 has three parts. Each is organised around the three major directions of this study as detailed above: (a) how apprentices become bakers, (b) the influences of apprentices’ individual agency on the processes of becoming a baker, and (c) workplace characteristics which influence apprenticeship.

The first section establishes, in more depth than that given in this first chapter of the dissertation, the rationale for undertaking this study. The section commences with presentation and assessment of literature on apprenticeships. These studies provide a brief historical overview of apprenticeships and current understandings of the role of apprenticeships in modern society. Also included are accounts that give a description of the New Zealand apprenticeship system for bakers. This description documents how baking apprentices in New Zealand learn their trade and the specific learning in which the apprentices engage. The section continues with consideration of the relevance that socio-cultural theories of learning hold for apprenticeship, the role of identity formation with respect to apprentices’ indenture, and conceptualisations of vocational identity formation that inform this study. A particular focus at this point is on the means by which contemporary apprenticeship is enacted. Another is the need to extend the study of apprenticeship beyond that of the “master and apprenticeship” model towards one in which the occupation of baking and the baking workplace as the socio-cultural arena of apprenticeship, are seen as contributors to the identity formation of young apprentices as bakers.

The second section begins with a presentation and discussion of general as well as New Zealand pathways into apprenticeship or vocational occupations. It is followed with a discussion of issues and factors presently understood to influence identity formation in young people learning a trade. Additionally, the need to investigate the novices’ identity trajectory through the
indenture journey is introduced and substantiated, in particular to understand individuals’ agentic actions (Billett & Pavlova, 2005; Loftus & Higgs, 2010) during the course of apprenticeship. Furthermore, the rationalisation for the need to understand that the learning of the craft of baking encompasses not just overt trade skills, but many covert tacit skills (Gamble, 2001; Sennett, 2008), knowledge, and dispositions which are associated with becoming a baker (Colley, James, Tedder, & Diment, 2003) is undertaken.

The last section of Chapter 2 focuses on the workplace characteristics that influence apprenticeships. It begins by defining bakeries as communities of practice (Wenger, 2002) and practice of communities (Gherardi, 2010) that have distinct cultures of practice (Brown et al., 1989). Consideration is also given to young people as learners in the workplace. Aspects discussed include the workplace as a learning environment, an overview of recommendations for good workplace learning, the realities of workplace learning, and how workplaces in this study are characterised for purposes of comparison, using Fuller and Unwin’s (2003b) conceptualisation of workplaces as being on a continuum of “expansive or restrictive participative workplaces.” In particular, this section undertakes an overview of aspects of workplace organisation/management and workplace relationships which may influence apprentices’ affordances to workplace learning. Furthermore, this section establishes the need for workplace influences to be identified and explained. The chapter concludes by endeavouring to connect workplace learning with precepts of occupational/vocational identity formation.

**Investigating how apprentices become bakers (Chapter 3)**

Chapter 3 details, discusses, and justifies the research methodology used in this practical inquiry. The chapter commences by discussing the rationale for using a constructive epistemology approach and the theoretical research perspective of interpretivism. The qualitative foundation of the research methodology is explored, discussed, and justified, various research methods are evaluated, and how the research questions align is explained. Benefits and drawbacks of reliance on constructivist-interpretivist epistemology are also discussed.

In this chapter, rationales are provided for using case study methodology. The longitudinal multiple case methodology is described and discussed as are the processes of
analysing case study content according to qualitative and/or inductive and deductive analytical framework (George & Bennett, 2005) as a form of case study theory building. More specifically, the advantages and disadvantages of utilising case study in qualitative research are explored. The advantages of case study methodology and how it complements the research questions of this study are discussed and substantiated. The use of the case study process tracing method to identify causes and effects and develop theories is also discussed and assessed. In addition, ethical considerations such as participant confidentiality associated with the methodologies used are also discussed and detailed.

This chapter also provides a detailed account of the research process and research design followed by comprehensive descriptions of procedures used to produce, gather, and analyse data, and to derive findings and deductions. These descriptions focus on protocols used to select apprentices as research participants, the data collection procedures, the process of narrative building, the inductive and deductive data analyses, and efforts to find cause and effect. Also described are the methods used to develop a model of belonging, becoming, and being. In particular, how the identity metaphors of belonging, becoming and being are derived. Although these descriptive metaphors coincide with the beginning, continuance and culminating of apprenticeship, the identity metaphors also correlate with the themes derived through data analysis of participatory observations and interviews. The chapter concludes with a discussion of the limitations of this research study. These include issues of generalisation brought about by the small research participant cohort and the use of case study methodology, the researcher as subject expert, the researcher’s relationship with apprentices in her role as a tutor, the credibility of the research process, and the validity of the research findings.

*Overview of how apprentices become bakers (Chapters 4 to 6)*

Three chapters in this dissertation report on each phase of apprentices’ journeys and elucidate the findings for each stage.

Chapter 4—Belonging to a Bakery—is the first of these three chapters. It centres on the entry trajectory of the apprentices into baking work, and details how young people undergo workplace integration that enhances their perceptions of acceptance and belonging to a
workplace, before they embark on the learning specific to the baking trade. The first sections of the chapter provide demographic details of apprentices’ and bakery profiles. Together, these data describe apprentices’ ontological backgrounds and the situational contexts of this study.

The chapter proceeds by describing the process of belonging as identified through analysis of the data. The themes discussed in this chapter include (a) the unplanned entry trajectory of young people into the bakery workplace; (b) young people beginning baking as “hopeful reactors” (Vaughan, Roberts, & Gardiner, 2006) in a job they were compelled to enter; (c) the need for a review of Lave and Wenger’s (1991) concepts of legitimate peripheral participation, with respect to “reluctant” newcomers into a workplace; and (d) why and how apprentices establish intrinsic motivation to “want to become.”

Also in Chapter 4, the factors and mechanisms that appear to support the belonging stage are detailed. These factors include (a) the range of products available to learn in the workplace, (b) the apprentices’ personal agency in terms of accessing opportunities for workplace learning, and (c) the extent through which workplaces offer support in assisting young people to settle into the world of work. It argues that workplace contributions play a key role in inducting new entrants into a trade.

Chapter 5—Becoming a Baker—describes, evaluates, and discusses the skills and knowledge acquisition of the apprentices, along with their dispositional transformation. The social enterprises that are these apprentices’ bakeries contribute profoundly to the ways in which these young people become bakers. The becoming phase encompasses the length of time apprentices and then bakers engage in baking. In this chapter, various findings collated from interviews and observations are utilised to explain processes by which apprentices become bakers. In doing, this chapter addresses the main research question, “how do apprentices become bakers?”

The answer to this question resides in findings on two main aspects of identity formation as bakers. The first aspect concerns the individual agency in terms of the approaches apprentices used to progress their identity formation, skill progression, and dispositional transformation from novices to bakers. The second aspect pays heed to how workplace organisational structure and
interpersonal relationships contribute to overall identity trajectory and occupational identity formation. The themes discussed in this part of the chapter focus on (a) the factors that transform these apprentices from “hopeful reactors” to “passion honers,” (b) bakers’ identity formation; (c) the notion of others, rather than apprentices themselves, conferring the status of baker; and (d) how apprentices cope with workplace realities.

Additionally, Chapter 5 describes the skill progression of apprentices through observable role shifts. As the chapter proposes, apprentices move from dependence on others to guide their work, and then enter a stage of inter-dependency, before assuming independence as workers able to train and assist more junior workers. This part of the apprentices’ journey also necessitates exploration of the bakery as a workplace learning environment because skill progression needs to be viewed within the context of the specificities of each bakery, especially in terms of its work tasks and interactions of apprentices with other workers. The influence of apprentices’ bakery type and factors contributed by workplaces on both ends of the expansive and restrictive participatory continuum (Fuller & Unwin, 2003b) on the duties and skill acquisition of apprentices are also detailed, evaluated, compared, and discussed.

The chapter continues with a presentation of the factors that appear to contribute to apprentices becoming bakers. These relate to workplace support, opportunities for apprentices to accept and assume roles of responsibility, the type of workplace pedagogy in evidence, need for apprentices to make lifestyle adjustments to accommodate the baking lifestyle, the need for apprentices to be agentic, and to decide to “want to become bakers”. The findings presented in Chapter 5 suggest that expansive participatory workplaces offer particular advantages for apprentices during the process of becoming and emphasise the commitment that both apprentices and workplaces need to sustain and support skill and knowledge development. The chapter concludes by summarising the process of becoming as a form of identity formation. This summary further illuminates the concept of occupational identity, particularly in terms of its formation through apprentices’ personal agency accompanied by contributions from the workplace. In all, the chapter describes the skill acquisition and dispositional transformations of novices as they progress into becoming a trade worker.
Chapter 6—Being a Baker—follows on from Chapter 5’s description of becoming a baker. It documents the on-going learning journey towards being a baker and the contribution of workplaces to bakers’ perceptions of their vocational identity. Chapter 6 also details and discusses notions of what supports or hinders occupational identity formation. Near the end of their indenture, apprentices are practising as bakers. As the accounts of apprentices’ perceptions of their indenture show, apprentices come to realise that being a baker is actually a continuous process of becoming. The personal agency on the part of apprentice, the contribution of workplace learning and support, and the distinct nature of work tasks all contribute to overall identity formation of the emergent tradesperson (Bain, 2005). Although bakers are immersed in practice that is often repetitive and routine, much of the practice typifying the trade requires learning built on the deep engagement that comes from frequent and sustained hands-on involvement with the ingredients, procedures, and tasks that encompass and characterise bakery production. As various commentators point out, much learning can and does occur in seemingly repetitive work and mundane work environments (see for example Gomez, Bouty, & Drucker-Godard, 2003; Lee & Roth, 2005).

As is made evident in this dissertation, the identity formation trajectory of a novice baker to fully practising baker entails negotiation of various identities, all of which involve several instances of “boundary crossing” (Engestrom, 2004; Tanggaard, 2007), a notion that is explained in Chapter 2 and further detailed in Chapters 6 and 7. Among the themes that emerged from the data concerning being a baker was that of apprentices’ growing passion or sense of vocation for the trade in which they are apprenticed. Typically, the apprentices in this study reported the occupation of baker as firstly a job, then a career and for some, a vocation (see also in this regard Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). As new bakers become more aware of their increasing success in baking, they are better able to understand and articulate their strengths and weaknesses as bakers. This improved awareness affords opportunities for reflection on future goals and career plans. It is these actions and this progress that are argued in this chapter as providing evidence of apprentices having reached the stage of being a baker. Workplaces that encouraged a culture of innovation and pride in work, and that were involved in local and national bakery associations, appeared to expedite this process.
The remainder of Chapter 6 addresses the supplementary questions of this dissertation, the first of which called for the identification of the main contributors to identity formation as a baker. The answer, already evident in earlier chapters, centres on personal agency of the apprentices and the nature of the workplaces (i.e., restrictive or expansive). The second question sought understanding of which characteristics of bakers’ work define the bakers’ identity. Several conclusions emerged from the data. These relate to overall impact of workplaces, individual experiences within the workplace, the need for accommodation by apprentices, and the bakery lifestyle. Responses to the supplementary third question, the role the characteristics of the baking occupation play in shaping identity formation, drew out considerations relating to the extent to which apprentices evinced passion for the trade, that is, whether they were beginning to sense that the trade offered them a vocation, encouragement that they received from others to explore the possibilities of a career in baking beyond apprenticeship, and their realisation that learning baking would be a lifetime pursuit. The chapter concludes with an account that seeks to summarise and consolidate the processes that apprentices experience as they journey through the phases of belonging to a workplace, and of becoming and being a baker. In all, it holds that deep engagement in meaningful work tasks and routines, accompanied by positive workplace relationship and encouragement, leads these apprentices to the eventual adoption of the occupation of baking as a form of vocation.

_A model for belonging, becoming, and being (Chapter 7)_

In Chapter 7, the findings and deductions advanced in the previous three chapters are consolidated by elaborating a model for how young people may be assisted to belong, become, and be trade workers. Construction of this model was informed through process tracing (George & Bennett, 2005) of the case study data. Process tracing enabled the identification of the factors that appear to support young people to belong when they first come into a trade, that encourage apprentices to become trades workers, and that aid the continuing development of being a trades’ journeyperson. The model, presented in the form of a diagrammatical representation, is accompanied by an explanation of how each of the elements of the model was conceptualised and constructed. Some of the key findings are elaborated through explanation of how the model is derived and constructed.
Becoming bakers (Chapter 8)

This final chapter presents concluding discussion of the key findings of this study and the contributions they make to understanding the belonging, becoming, and being processes. A series of nine contributions are advanced through this dissertation, which are now summarised.

Key contributions

The first contribution from this dissertation is to provide an updated description of apprentices becoming trade workers. This account has relevance as a profile of young people and how their expectations have shifted (Brown, 2002; Vaughan, 2005; Zevenbergen, 2004), and also for understanding what constitutes a version of apprenticeship being enacted.

As a second contribution, this dissertation has identified significant situational and personal contributions that constitute the process of becoming trade workers. Consequently, apprenticeships need to be considered both as a personal and personally-directed journey and as institutional artefacts established to develop skills but having situational and personal dimensions, not the least being their enactment.

A third contribution is the synthesis of a model of apprenticeships based on descriptive metaphors of belonging to a workplace, becoming, and being a trade worker. A conceptual model (Figure 6) has been developed which provides an accessible resource to explain how indentures contribute to apprentices’ identity formation and the role workplaces play in the process.

A fourth contribution extends the scholarship on vocational identity formation with the description of apprenticeship as a phased process through various identity formation transitions. The phased process provides for a simplified metaphor to understand apprenticeship as firstly requiring young people to traverse the phase of “belonging to a workplace” before learning craft skills to “become” and then “be” bakers. The model and its metaphoric depiction of the phases of belonging to a workplace, becoming, and being, are helpful in providing an accessible construct for informing policies on support structures for apprenticeship systems, organisation of workplace learning, and industry training initiatives.
For the fifth contribution, the study has found that instead of direct peripheral legitimate participation (Lave & Wenger, 1991) with the trades’ culture of practice (Brown et al., 1989), undecided potential entrants’ initial encounters were through ancillary or support occupations, such as cleaner or retail assistant. This indirect entry into an established trade may be a less intimidating and measured induction for young people, not only into an occupation, but also into the world of work. In this study, ancillary jobs provide potential apprentices with an introductory period to evaluate the baking trade from a peripheral position. Thus the process of proximal participation has been described and is posited as a precursor to actual peripheral legitimate participation within trade or craft-based workplaces.

An important outcome and sixth contribution of this study has been the confirmation of an important socially situated aspect of the socio-cultural approach to identity formation (Penuel & Wertsch, 1995). This aspect is the requirement by apprentices for other bakery workers to recognise and acknowledge their nascent capabilities through the conferment of bakers’ status. Through this conferment, apprentices are able to match preconceptions of their own baking abilities with those availed through and modelled by other more experienced bakers.

A seventh contribution from this study is the alignment of observable role transitions enacted as apprentices traverse through apprenticeship, which reflect the phases of belonging to a workplace, becoming, and being a baker. Summary of skill acquisition into the progressive descriptors and the designation of identity way markers of dependent learner, inter-dependent co-worker, and independent baker reflect an observable transition of novice to practising trade worker.

The eighth contribution is a description and explanation of how deep engagement in meaningful work and workplace practice engenders passion for work. This transformation is perhaps premised on these apprentices’ individual agencies, in conjunction with the expected approaches to baking inherent within their workplaces. Engaging in bakery work leads to the ongoing development of deep interest in craft/trade practice and to the eventual engendering of passion for bakery work and, in turn, an intense attachment to occupational identity.
The final and ninth contribution is the observation, description, and discussion on the transformation of apprentices’ perception of trade occupation from job, to career, to vocation. Intense engagement in bakery work has afforded these apprentices opportunities to explore a range of production orientated skill sets. One outcome of this exploration may be for these apprentices to discover a correspondence or correlation between their extant affinities and specific bakery task orientations. This may then lead to a cycle of affirmation and success (Hall & Chandler, 2005), culminating with strengthening of occupational identity in relation to the source of subjective success. In turn, the work of baking becomes more than a job: it becomes a source of continual positive affirmation, and for some, a form of vocation.

Discussion also focuses on the possible implication of the study on current systems used to support apprentices on their journey towards becoming bakers, and then moves to actual recommendations on how to improve that journey.

In supporting the belonging of young people to a trade, recommendations include providing more opportunities for senior school students to experience real-world practice during transitions from school to work, and utilising an understanding of proximal participation to engage young people into trades-based industries. Assistance of apprentices in the process of becoming include providing apprentices and their employers with clearer guidelines written in plain language, and promoting emphasis on simplifying procedures for apprenticeships. Proposals which may enhance continued practice of being for all trades are more and extended opportunities for apprentices to network beyond the workplaces of their initial indenture, and employing techniques shown to be useful for engendering passion and/or a sense of vocation.

The dissertation concludes with some suggestions for further research on apprenticeships towards processes of young people becoming trades people, including young people’s entry into and learning in a trade, vocational identity, and the impact of workplaces and personal agency in the process of vocational identity formation.

“Ko nga kaihanga whare, ka riro ma te whare ano ratau e hanga.”
“Those who build the house are built by it.”
Attributed to a Maori Elder and translated by Professor Wharehuia Milroy
Chapter 2

Learning through apprenticeships

2.1 Learning about apprenticeships’ contribution to occupational identity formation

This chapter introduces, discusses, and appraises concepts and theoretical foundations pertinent to learning through apprenticeships. In doing so, it justifies the need for this study, which is to provide a contemporary account of apprenticeships in order to augment current scholarship on how people learn and become craft or trade practitioners and workers.

The chapter is organised around the study’s research questions, presented in the previous chapter. The first and main question focuses on how apprentices become bakers and the remaining three (supplementary questions) on the factors that contribute to and influence that process. The first section in this chapter thus identifies and discusses literature pertaining to the first question. The material is organised as follows:

- firstly, studies on apprenticeship and apprenticeship systems;
- secondly, studies relating to the skill and knowledge acquisition through the apprenticeship process; and
- thirdly, studies related to the development and consolidation of occupational identity.

To aid understanding of the apprentice journey, literature pertaining to the theoretical premises utilised in this study is also evaluated. The evaluation encompasses literature on situated learning (Lave & Wenger, 1991) and literature underpinned by two premises. The first is that trade and craft skills learning involves more than skill acquisition (Gamble, 2001; Sennett, 2008) and the second is that occupational identity formation involves a process of “learning as becoming” (Hodkinson et al., 2008).

The second part of this chapter focuses on literature pertinent to the study’s three supplementary questions. The material reviewed in this part, therefore, concerns the contributions that individual and social factors make to apprentices’ formation of occupational
identity. More specifically, the review encompasses two major socio-cultural aspects that appear to influence this process: the individual agency of apprentices and workplace factors. The literature relevant to individual agency addresses the entry trajectory and workplace adjustments required of young people as they are initiated into the workplace. Exploration of this material justifies the case for conducting a “real-world” investigation of how young people formulate career decisions and eventually become initiated into particular occupations. Consideration of the many ways that workplaces influence the affordances presented to individuals to learn work-based skills, knowledge, and dispositions advances the need to undertake comparative studies of workplaces to understand better how workplace practice communities influence individuals’ engagement with work. During the latter part of this chapter, connections are also made to features of occupational identity formation, and to the ways in which workplaces contribute to individuals’ work identity transitions and transformations.

In summary, the literature presented in this chapter provides a foundation and rationalisation for undertaking a study focused on the role and influences of personal and situational factors that affect how young people (a) begin participation in a trade-based occupation (i.e., belong to a workplace); (b) identify with their occupational identity through processes of engagement with trade culture and craft skill acquisition (i.e., become bakers); and (c) continue with life-long development of an occupational identity (i.e., continue being bakers).

2.2 Apprentices becoming trade workers

A brief historical overview of apprenticeships, along with a description of the New Zealand apprenticeship system, provides background information pertinent to understanding this study’s relevance, purpose, and focus. The literature considered in this section includes that informing how apprentices learn a craft or trade. It provides information not only on the breadth of skills, knowledge, and dispositional learning occurring over the course of apprentices’ indenture, but also evaluates precepts underpinning previous studies directed at understanding how apprentices learn. The latter includes literature related to socio-cultural learning and to occupational identity formation as a process of “learning as becoming.”
Antiquity of the apprenticeship system

The apprenticeship process has long sustained development of the occupational skills that society requires through the training of skilled workers (Ainley & Rainbird, 1999; Snell & Hart, 2008; Wolek, 1999). The long history of apprenticeships in the Western world is evident in archaeological sites at Boxgrove, West Sussex, in the United Kingdom dating back 10,000 years (Donkin, 2001), and in the existence of official records of apprentice indentures over the last 1,000 years (Aldrich, 1999). These two examples support Wolek’s (1999) view of “apprenticeship as a venerable form of education” (p. 395) that has existed from early human civilisation through to modern and post-modern times. However, the worth of apprenticeship is not universally accepted. Ainley and Rainbird (1999) cite two interpretations of apprenticeship, one negative, the other positive:

[Apprenticeships are viewed either as] … wasteful exercises in time serving, oppressing youth labour and excluding others from employment in trades that sought to protect themselves through union rules and restrictive practices in collusion with management [or]… a valuable legacy of the past in nurturing knowledge and skills in entrants to the labour market on which they continued to build for the rest of their lives.” (p. 3)

No matter one’s view on apprenticeship, the changing nature of work and society (New London Group, 1996) has led to a need to appraise the apprenticeship model of learning in terms of how well the current model prepare individuals to meet the challenges associated with such changes. The need to review apprenticeships is also signalled by current understandings about learning and practice. These understandings include those related to situated learning (Lave & Wenger, 1991), communities of practice (Wenger, 1998), the practices of particular communities (Gherardi, 2010), and the processes whereby individuals acquire occupational identity or subjectivities (Billett, 2008b), such as the process denoted by the concept of “learning as becoming” (Hodkinson et al., 2007, 2008). Taken together, these perspectives provide recent and informed deliberation of the roles that individual apprentices and their respective social milieu play in influencing how apprentices learn a trade.
Current accounts of apprenticeship

The realities of modern life, current workplace legislation, changes to work practices, and increased emphasis on educational achievement have all contributed to the changing nature of current apprenticeships, the work they support, how apprenticeships are enacted in workplaces, and how apprentices participate in work. In Western societies, the type of apprenticeship exemplified by the “live in” arrangements for cooking apprenticeships, such as in small hotels in 1950s France described by Pepin (2003) and Boulud (2003), have become arrangements of the past. New conceptions of “novice” and “expert” (Fuller & Unwin, 2003a) make apparent the realisation that today’s apprentices may typically bring skills or understanding into the workplace not possessed by workplace experts. Therefore, although apprentices tend to be novices in the craft, they can contribute to the learning of other workers in the workplace in various ways. An example is that of apprentices assisting older co-workers to use digital technology. The divide between novices and more experienced workers thus depends on the context within which individuals may be novice or experienced. These considerations inform the need to undertake a detailed study of how apprenticeship is enacted in contemporary times.

Such an account is important for another reason. Despite changes in how young people perceive the world of work (Loughlin & Barling, 2001), and despite the evolution of apprenticeship administrative and assessment systems (Snell & Hart, 1996), apprenticeships still contribute to the on-going survival of many trades and crafts, and to the profitability of the businesses in which those occupations are practised. Also, the conception of novice apprentice as a lay person who becomes a professional, evident in Pepin’s (2003) and Boulud’s (2003) aforementioned accounts, is also exemplified in more contemporary descriptions of the journey from novice to expert. Ruhlman (1997, 2000) for instance details in his two books the journey from enthusiastic home cook to professional chef. His accounts of the learning processes to become a chef align with Guile and Young’s view (1999) that apprenticeship is “underpinned by the dual assumptions of learning by doing and a master as a role model” (p. 111). Other more contemporary notions of apprenticeships position the process as a “shared effort” within which the “learning organisation” contributes towards how learning is enacted (Wolek, 1999); a form of
“mastery” (Rikowski, 1999) as a process of socialisation rather than an explicit approach to learning (Guile & Young, 1999).

To appraise the validity of the various accounts and perceptions, especially those wherein concepts of apprenticeship extend beyond the “apprentice and master model”, one must understand what constitutes the apprenticeship journey, ideally from the perspectives of the apprentices themselves (Billett & Pavlova, 2005). Within the context of this present study, this understanding can be gained from close documentation of how the occupation of baking and the baking workplace, as the socio-cultural arena of baking apprenticeships, contribute to the enculturation and identity formation of young apprentice bakers. Such documentation centres not only on the minutiae of skill acquisition but disposes apprentices to engage with the tasks and knowledge that inform their occupational identity formation as a baker.

The apprenticeship system for bakers in New Zealand

In New Zealand, an apprenticeship begins with the negotiation of an agreement between the apprentice candidate and an employer willing to offer an indenture. Once negotiations have been satisfactorily completed, the apprentices, his/her employer, and the Industry Training Organisation (ITO) Competenz sign a contract/training agreement. The employers then provide apprentices with the training and assessment opportunities they need to work towards completion of a national certificate in baking (craft baking, plant baking, or franchise/in-store baking), which sits at Level 4 of the New Zealand Qualifications Authority (NZQA) framework (NZQA, 2006). Copies of these qualifications can be found in Appendices M, N, and O.

During their indenture, apprentice bakers must complete and “pass” a large number of competency-based “unit standards” each of which denotes a particular skill or item of knowledge attainment. Workplace assessors within the apprentices’ bakeries conduct the majority of unit standards-based assessments. The apprentices’ on-the-job workplace learning is supplemented by

2 There are 38 ITOs in New Zealand. Each has a mandate to ensure the organisational and business training needs of the industry it represents are met and that relevant standards and qualifications are made available for use in structuring training and assessments.
correspondence courses, delivered through text-based learning material or on-line e-learning web-based courses. Apprentices also access “off-the-job” block or day-release courses offered by polytechnics or other training providers. These provide apprentices with the opportunities to complete learning and assessments on particulars about baking not covered elsewhere, and on products not manufactured in every bakery. Baking apprenticeships are not wholly time based; instead they are determined by skill competency attainment. However, the time taken to complete all the requirements of a national certificate is four to five years. Most New Zealand bakery apprentices commence apprenticeship after completion of Year 11 or 12 at secondary school which means that they typically begin their period of indenture when they are between 16 to 17 years of age.

*Learning content of apprenticeships*

The learning content of New Zealand’s National Certificates (Level 4) in craft baking (NZQA, 2006), do not address all the learning required to transform novices, with minimal baking knowledge, into competent bakers. For apprentice bakers, acquisition of requisite skills encompasses not only the technical capabilities and knowledge set down in a formal qualification but also the prepositional (i.e., the “how to do”) and declarative (i.e., the “what with”) forms of knowledge that lead to the development of strategic knowledge (i.e., the “what to use to do”) (Gott, 1989). By applying strategic knowledge, apprentices can learn and apply the many tacit skills and understandings (Farrar & Trorey, 2008; Gamble, 2001; Sennett, 2008) that contribute to the sum of knowledge and attitudes held by experienced trade practitioners.

Because the national certificates define only some of the quantifiable skills and knowledge of baking, they do not capture the inherent diversity of the products made by bakers or the breadth of underlying knowledge and attitudes apprentices have to assimilate before they can identify themselves as fully competent and capable bakers. Essentially, bakers’ work extends well beyond the acquisition of technical knowledge (i.e., baking); it also relies on the skills and capacities that someone identifying as a baker, and employed as such, needs to learn, understand, and deploy. It furthermore requires the adoption of and ability to use workplaces’ inter-subjective understandings (Hutchins & Klausen, 1998) of how to conduct oneself as a baker.
This type of thinking is captured by Ainley (1993) in his consideration of the knowledge that the novice needs to acquire to become an experienced practitioner:

Neither bookish knowledge (things than can be said and read but cannot be done) nor the unformulated but tacit knowledge of the practice of a craft (things we know but cannot tell) is alone sufficient to manage the considerable uncertainties involved in occupations like motor mechanics, computer system analyst, scientist, artist or brain surgeon. (p. 9)

People, Ainley continues,

do not acquire skill by learning and performing its fragments, they must also discover the knack of coordinating them effectively. It must be discovered by an intelligent effort on the part of the learner to integrate the parts of a whole that is greater than the sum of its parts. (p. 13)

Ainley’s explanations were in part inspired by the work of Pye (1968) who defined craft skills as being “workmanship [sic] using any kind of technique or apparatus, in which the quality of the result is not predetermined, but depends on judgement, dexterity and care which the makers exercises as they work with it” (p. 12). Sennett (2008) offers a similar definition. He argues that every human being is capable of achieving the potentialities of “craftsmanship” which he defines as “an enduring basic human impulse, the desire to do a job well for its own sake” (p. 9). Within the baking indenture, these are the capacities and attributes which are not represented in curriculum documents, yet are encountered, negotiated, and constructed (i.e., either mastered or appropriated) throughout the period of apprenticeship, and it is this aspect of the apprenticeship process that provides validity for a study that closely follows the skill, knowledge, and attitudinal transformation of novice to baker.

The lack of coverage of many aspects of occupational identity formation in the formal NZQA certification system currently employed to recognise vocational practitioners’ capabilities has two particular implications. The first and more obvious one is that the implicit customs or rituals recognised by practice communities (Brown et al., 1989), or the practices of those communities (Gherardi, 2010), tend to be disregarded in qualification descriptions. The second is that identity as an experienced practitioner of a person’s particular occupation is not fully conferred by those qualifications, or that one needs to have the qualification to identify as a practitioner. Furthermore, many apprentices who complete indenture do not complete formalised
recognition of their standing as bakers in the form of national qualifications (Mahoney, 2009). Aspects of social conferment of occupational identity are examined in this study to understand why trade workers choose not to complete national qualifications, despite recognition from industry peers of competency or capability. From the more generalised views detailed in this section, connections are made to how bakery apprentices’ learning may be currently understood.

The skill sets required of New Zealand bakery apprentices

Skill acquisition is a requisite of apprenticeship learning (Vickerstaff, 2003, 2007). To become competent workers, apprentices must acquire technical expertise in a wide range of personal, generic, and specific skills (Stevenson, 2003). E. Smith (2003a) offers an updated list of 10 domains of learning that young people typically encounter in their first year at work. Of the 10 domains, three are explicitly included in the national certificates in craft baking (Level 4) (see Appendix M). They are (a) technical skills, (b) generic competencies, and (c) knowledge. Inclusion of the other seven domains within the national certificates is largely tacit. Four of the seven can be aligned with certificate-based content that focuses on helping apprentices become better participants in workplace-based practice communities. These domains encompass learning the occupation, the organisation in which the occupation takes place, the industry of which the occupation is a part, and industrial relations. The remaining three can be related to attitudinal or dispositional skills identified in the qualifications. Examples of these include “job-keeping” skills, political skills, understanding oneself, and learning about learning. The inclusion of these dispositional skills presumably provides employers with a means of assessing an individual’s ability to meet workplace requirements. The dispositional skills related to retaining a job, that is, being punctual, showing initiative, or being able to follow instructions that are important (Hill & Dalley-Trim, 2008), provide obvious examples.

Apprentices also have to learn those aspects of their trade that are not readily described or easily quantifiable in formal qualifications. Somerville and Abrahamsson (2003), describing the learning experiences of miners with respect to aspects of mine safety, refer to miners’ “bodily interaction” with the physical environments of the mine as “pit sense.” Pit sense relies on sound, smell, and touch along with many kinaesthetic senses that cannot be easily quantified or explained. Examples provided include a sense of heaviness in the air, a particular feeling of the
air on the hairs of the legs or back of the ears, and/or an uncanny sense of being uncomfortable. These important practice skills for miners are not encapsulated in mining qualifications. Lee and Roth (2005), having studied the practice of salmon hatchery workers, describe the many unquantifiable aspects of expertise involved in reading nuances associated with the action of feeding fish. Ability to “read the fish” is an important attribute of salmon farming, requiring acute observation of fishes’ reactions to feeding. Observations of fish-feeding behaviour, over time, are consolidated with formally taught theoretical conceptions of fish behaviour and applied in terms of adjustments in levels of fish feeding, care, and husbandry.

Many of the senses bakers use to evaluate fine and nuanced distinctions relating to ingredients, dough, finished products, bakery machinery, and the baking environment are only inferred in national qualifications. Yet the ability to utilise these senses-related skills is an important indicator of how well bakers perform their occupational tasks. Tacit skills and knowledge, “which are a realm of skills and knowledge perhaps beyond human verbal capacities to explain” (Sennett, 2008, p. 95), are thus ones that novices have to learn as part of their progression into practice as effective craft workers. As such, apprentice bakers engage not only in learning a trade but also absorb the nuanced information and skills associated with becoming bakers. In short, they learn the composite of capacities and identity associated with practising the occupation of baker.

In becoming bakers, apprentices are possibly afforded guidance, modelling, scaffolding, encouragement, and affirmation from more experienced co-workers. Through these co-workers, apprentices learn not only the requisite skills and knowledge, both overt and tacit, of how to bake, but also imbibe dispositional attributes of the trade, including the methods that bakers use to communicate, think, and problem solve. Hutchins and Klausen (1998) refer to this process as the acquisition of inter-subjective understanding. The apprenticeship process thus needs to be appraised in terms of how apprentices secure these kinds of capacities which in turn define occupational identity. The next section overviews recent studies on and approaches to understanding how apprentices learn a craft or trade.
Recent studies on apprenticeship

According to Guile and Young (1999), apprenticeships can be used as a conceptualisation from which to build a theory of learning, based around social theories. The notion of apprenticeship holds the assumption that learning involves transmission of knowledge and skills from master (as role model) to learner, and that learning is a process realised through the learner’s immersion in the practice context (Lave, 1996). More recent literature on the contribution of the apprenticeship model of workplace-based learning focuses on the notion that occupational learning best occurs in workplaces that offer creative and motivating learning environments (Senker, 2000). Gamble (2001) details the substantial amount of tacit knowledge learned through involvement in apprenticeship learning while Farrar and Trorey (2008) observes that learning a skill occurs through shared understandings of the “tricks of the trade” or maxims that summarise covert craft principles. Barber (2003) highlights the advantages and disadvantages of the role that informal learning plays in workplace skill acquisition. Gomez et al. (2003) and Lee and Roth (2005) remind us that learning also occurs in work environments encompassing repetitive and mundane work environments. As Gomez et al. (2003) and Ericsson (2006) note, deliberate practice undertaken over a period of time is required to acquire and hone expertise and skill. As summarised in a study by P. J. Smith (2000) of Australian apprentices from the electrical trades and hairdressing, individuals learned in the workplace by observation of other workers completing tasks; having other workers demonstrate the skills for them; discussing the work with other workers and/or their supervisors; observing the work environment itself; and trying out, experimenting with, and practising the tasks to be learned. The majority of these workplace learning interactions required apprentice interaction with co-workers.

The conceptualisation of workplace learning as not just “learning as acquisition” but encompassing “learning as participation” (Felstead et al., 2005; Sfard, 1998) is an important one underpinning this dissertation, especially with respect to understanding the extent to which workplace interactions contribute to the formation of the “whole” trade worker, the quality of those interactions, and the acquisition of inter-subjective understandings (Hutchins & Klausen, 1998). So, too, are the non-quantifiable “pit sense” and “reading the fish” aspects and nuances of a trade (Somerville & Abrahamsson, 2003, and Lee & Roth, 2005, respectively), especially in
terms of how novice learners assimilate these. In their account of “knowing how to become a chef”, Gomez et al. (2003) describe the consolidation of covert and often difficult to measure skill acquisition with overt and observable skill acquisition as “a mix of personal disposition, knowledge acquired through tough training and repetitive practice, knowledge of the roles integrated and internalised by cooks and knowledge acquired through reflexive thinking about practice” (p. 101). Gott (1989) identifies the types of knowledge learnt during apprenticeship to be procedural, declarative, and strategic. In her account, procedural knowledge comprises the cognitive and kinaesthetic knowing needed to carry out a task (i.e., the “how to do”). Declarative or domain knowledge encompasses understanding of the tools, ingredients, and processes and the like required to accomplish work tasks. Strategic knowledge is knowledge of how to prioritise tasks and procedures and to problem solve (i.e., to work out the “when, where, and what”).

These understandings of the types of knowledge that apprentices gain and employ while in their actual places of work make obvious the need to position workplace-based observations as an integral part of any study seeking to understand the apprenticeship process of today. But these understandings also require, as indicated earlier, to be grounded within socio-cultural perspectives because these provide insight into the broader influences on apprenticeship. The next section discusses and rationalises the decision to adopt socio-cultural approaches when conducting this study.

2.3 Theoretical underpinnings adopted to support this study

In this section, the contribution of various theories of learning and identity formation are introduced and evaluated. The discussion then leads to the substantiation for the adoption of the conceptualisation of “learning as becoming” to inform the conduct of this study.

The relevance of socio-cultural theories of learning for this study

Socio-cultural theories or socio-cultural perspectives are premised on the notion that learning is more than an individualised pursuit because it encompasses contributions from individuals’ social milieu (Good & Brophy, 1995; Slavin, 2000). When setting out the conceptualisations underlying this premise, Gruber, Law, Mandl, and Renkl (1996) review various theoretical frameworks. Included are Lave’s (1990) cognition in practice, Rogoff’s (1990) apprenticeship in
thinking, Greeno’s (1997) situated cognition as perceiving affordances, Resnick’s (1991) situated cognition as socially shared cognition, and Clancey’s (1993) situated cognition as coordinating with deliberation. This body of work extends work by Scribner (1984, 1996) and Scribner and Cole (1981). Dissatisfied that learning was being studied primarily in controlled laboratory environments, they conducted a series of seminal authentic workplace-based research studies that included examination of common interactions that comprise everyday activities. Scribner (1984), for example, studied the workplace activities of milk distribution centre workers. Lave (1988), drawing on a similar research approach, investigated consumers’ deployment of numerical calculations while shopping in a supermarket.

Jean Lave, in collaboration with Etienne Wenger, went on to develop the theoretical framework known as situated learning (Lave & Wenger, 1991), a framework that has strongly influenced thinking on workplace-based learning (see, for example, Fuller, Hodkinson, Hodkinson, & Unwin, 2005). The conception of situated learning and its associated premise that novices need to engage in legitimate peripheral participation before they can enter into practice communities originated in the work of Dewey (1916) and Vygotsky (for accounts, see Guile & Young, 1999; Penuel & Wertsch, 1995). Therefore, as Barab and Duffy (2000) argue, the “unit of analysis” for researchers considering learning from the situated perspective is the learner. They propose that learning therefore needs to be investigated in terms of the interaction of the learner with the practices being performed, why the learner is performing particular tasks, the resources he or she uses when engaged in those tasks, and the constraints the particular task poses for the learner’s learning.

Although the concepts of situated learning (Lave & Wenger, 1991) and communities of practice (Wenger, 1998) have become widely accepted, they have limitations in terms of their explanatory power. Critical appraisals include those by Cornford (1997) on situated learning, Hodkinson and Hodkinson (2004a) and Gherardi (2010) on the practices of communities, and Fuller et al. (2005) on legitimate peripheral participation. For instance, Cornford (1997) contends there is insufficient research evidence to support the concept of situated learning. He argues that cognitive theory and various psychological schools of thought have not developed in the direction of situated learning. However, work in the last decade by Fuller, Hodkinson, et al.
(2005), for example, represents more support for the situated learning concept, especially when considered within the context of workplace-based learning.

Hodkinson and Hodkinson (2004a) provide contemporary and constructive critique of the notions of legitimate peripheral participation and communities of practice. Both, they say, are loosely defined in the original Lave and Wenger (1991) work. Although they acknowledge that Wenger in his later work (1998, 2002) offers tighter definitions on both concepts, they consider he still does not address all the limitations that they identify relative to the definition of communities of practice. Hodkinson and Hodkinson suggest that both conceptions could be made more explicit and amenable to studying workplace learning through reference to Pierre Bourdieu’s body of work on “field” and “habitus.” Additionally, Gherardi (2010) proposes a shift of emphasis that involves studying the actual practices undertaken by communities rather than the communities of practice themselves. She argues that it is the practices, influenced as they are by socio-cultural obligations and/or constraints enacted by community members, that distinguish one practice community from another.

Fuller, Hodkinson, et al. (2005) build on Hodkinson and Hodkinson’s (2004a) critique by proposing that the communities of practice concept needs to be enhanced by understandings drawn from newer contributions that perceive communities of practice not as static communities but as communities that can be transformed. Fuller et al. also extend the concepts of novice versus expert inherent in traditional explanations of situated learning, explain and discuss the different learning trajectories that can occur through legitimate peripheral participation within community of practice, and maintain that people tend to learn across several communities of practice.

These critiques have relevance for the present study in terms of providing the rationale for a longitudinal study. Gathering data over time enables capture of the fluid nature of the changes and dynamic transformations that novices, en route to expert practitioners, engage in when involved with situated learning within a community and/or across communities of practice. The comparative elements of the present study are also signalled by the above critiques because the data collected allow, through comparison with other data sets, understanding of how diverse
workplaces (i.e., situated learning environments) where indentures are enacted, contribute to and influence the development of apprentices’ occupational practice. As such, socio-cultural perspectives appear to provide an appropriate—if not the most appropriate—explanatory framework for this study. This framework is also warranted given this study’s focus on the aforementioned work of Vygotsky (1974). This focus requires examination of both socio-cultural and individual contributions because individual agentic action and the socio-cultural milieu in which identity formation is enacted are intertwined, as several researchers and commentators note. Ashmore and Jussim (1997), for example, state that identity can be conceptualised as personal or collective or as “individual-level phenomenon” or “societal-level phenomenon” (p. 5). They note that individual contributions to identity include aspects of self-concept, self-evaluation, self-perception, self-esteem, self-confidence, self-efficacy, self-narrative, and self-reporting, and that identity formation is enacted against a background of history, culture, and society. These background features further impinge on individuals’ self and identity. For instance, Virtanen, Tynjala, and Stenstrom (2008) found that when students learn specific vocationally-oriented practices, they tend to attain related forms of vocational identity formation. Billett (1998) also brings into play the individual/collective dichotomy. He draws on cognitive and socio-cultural constructivist theories to propose that adult development involves participation in various social activities that individuals encounter as they live, work, and play. He also proposes that knowledge development of concepts, procedures, and dispositions are products of personal history (i.e., ontogenic development), participation in routine and non-routine problem-solving (i.e., microgenetic development), and engagement in communities of practice where goal-orientated activity occurs. An apprenticeship can therefore be construed as a means by which individuals engage in microgenetic development within specialised workplaces that, in turn, leads to the development of craft skills, knowledge, and dispositions and, from there, to personal identification with the craft/trade or occupation.

The concepts discussed in this section are adopted as the basis for this investigation’s approach. Data collection and analysis are therefore informed by socio-cultural philosophies and paradigms. Within the approach directed by these paradigms, emphasis is placed on collecting, through interviews, questionnaires, and observations, demographical and ontological data from apprentices and their workplaces. Data analysis can then be conducted in a way that allows
consolidation of the many disparate research artefacts within the framework, with the aim of gaining a better understanding of the socio-cultural milieu within which apprenticeships are enacted. Data can also be consolidated into narrative vignettes of each apprentice’s story so as to capture a holistic perspective of the apprentices’ respective journeys. This approach not only provides a means of combining aspects of the apprentices’ personal and social identity transformation into coherent artefacts but also helps trace the distinct ways in which individuals inter-relate with the social-cultural milieu wherein occupational identity formation occurs.

**The relevance and contribution of notions of identity to this study**

Concepts of occupational identity formation are integral to this study because references to them help explain first how young people belong to a bakery, and then become bakers. As Fenwick (2002) observes, “… identity issues are central in any adult learning theory” (p. 19). In their account of the foundational theories of identity development, Torres, Howard-Hamilton, and Cooper (2003) overview the work of Erik Erickson, James Marcia, Ruthellen Josselson, Arthur Chickering, and Linda Reisser, and note that research on identity development appears to be relatively recent. They also observe that each of the theories considered is developed out of earlier work and also that they may be overly simplistic in their explanatory validity, given that they are conceptualised from data derived predominantly from North American white middle-class cultures. They also critique the theories for lack of consideration of socio-cultural processes, a criticism that is discussed further below.

In analysing identity formation based on socio-cultural frameworks, Fenwick (2002) identifies several approaches to comprehending identity, including those based on psychoanalytic, autobiographical, and post-modern views. The post-modern view positions identity as vibrant and flexible because individuals’ self-perception of their identity changes from one work context to another as they respond and adapt to situational social forces. Billett (2004) favours this viewpoint. He recommends that any study of workplace learning, or any venture designed to prepare workers for work within off-job training establishments, should “look beyond highly situated accounts of learning… [to] consider individuals’ identity and sense of self that has risen from a history of relations with social practices” (p. 7). Individuals’ prior
and current experiences are thus, he suggests, central to negotiated processes of identity formation.

Vondracek (1992) explores the more specific issue of vocational identity. He argues for explanations regarding wider issues of identity formation because these may influence the process of apprentices’ occupational identity formation. Vondaracek, in association with colleague Skorikov, also reports minimal research into the concept of identity formation relative to career development (Skorikov & Vondracek, 1998). However, Torres et al. (2003) criticise many of the studies on, and approaches to, identity formation for their lack of emphasis on socio-cultural processes (see also, in this regard, Billett, 2006b; Fenwick & Somerville, 2006; Kirpal, 2004; Penuel & Wertsch, 1995). Torres et al. observe that although Erickson included factors of socio-cultural, historical, and psychological perspectives in his treatise on identity, later researchers, exemplified by the prominent contemporary psychologist James Marcia, shifted the focus to individual choices, setting socio-cultural factors aside as less important contributors to overall identity formation (see also Good & Brophy, 1995). However, other researchers argue that both perspectives are needed. Penuel and Wertsch (1995, p. 91), for example, posit that explanations directed at identity formation need to recognise that both socio-cultural processes and individual functioning are “dynamic, irreducible tensions” (p. 84). Identity formation, they continue, is “situated culturally and historically and … has particular meaning for individuals” (p. 91). Using socio-cultural approaches as a research paradigm means allowing individuals opportunity to persuade others (and themselves) about who they are and what they value (Penuel & Wertsch, 1995).

Historically, apprenticeships have provided young people—young men in particular—with the opportunity to be socialised into work (Goodwin & O’Connor, 2005; Vickerstaff, 2003, 2007). Various explanations of how this socialisation occurs have been offered over the years. Wenger’s (1998) notion of communities of practice is one. Wenger posits that four interconnecting sectors constitute a community of practice: the community, the practice that occurs in that community, the meaning that participants ascribe to those practices, and the identity that they form while engaged in the community. Fuller and Unwin (1999) reconceptualised this framework as a means of understanding apprenticeship processes. More
recent work by a European consortium (Kirpal, 2004) commissioned to study vocational identity, flexibility, and mobility in the European market also refined theoretical considerations for researching the concept of workplace-based identity. The consortium’s conclusions were as follows: Firstly, the development of workplace-based identity is dynamic and is influenced by organisational and social structural conditions and individual orientations and resources. Secondly, work identity is multi-layered and multi-dimensional and is influenced by historical, economic, social, and individual-psychological factors. Thirdly, identity formation processes in the workplace are based on inter-relationships between socialisation and learning. Fourthly, because identities are collective, membership of a community and interaction with others is important. Fifthly, work identity has to acknowledge the scope for individual agency.

Lave and Wenger (1991) explain that, according to their theory of legitimate peripheral participation, apprentices engaged in a community of practice become “in-bound” and “insiders” (pp. 154-155) as they establish themselves in the workplace and build confidence and craft/trade skills. Billett and Somerville (2004) claim that engagement in work leads to transformation of both learning and identity. Through work, individuals experience events that present them with a basis from which to reflect on and decide on the standards and values they support with regards to technical and moral issues (see also Gomez et al., 2003; Schön, 1983). These reflective experiences cause workers or learners to evaluate their identities and to instigate changes in their workplace or themselves and thereby accommodate or improve workplace practices. Fenwick and Somerville (2006) position work communities as places in which workplace practices, workplace knowledge, and workplace-based identity contribute to the recognition, competence, and participation of workers. Taken together, these studies show how individual conceptualisations of occupational identity are enmeshed within specific issues affecting workplace operations.

Lave and Wenger’s (1991) studies of apprentices in traditional societies (i.e., Yucatec midwives and Liberian tailors), of workers in contemporary Western society (i.e., quartermasters and butchers), and of adults participating in a community group (i.e., non-drinking former alcoholics) also have relevance for this study when considered from the perspective of occupational identity. Lave and Wenger’s studies help explain the process whereby novices gain
occupational identity. Learning within specialised groups (e.g., communities of practice) provides novices with situated contextualised learning, brought about by access to real-world work experiences that leads to authentic understanding of principles and concepts important to accomplishing specific organisational objectives. This legitimate, initially peripheral, process of participatory learning can thus be positioned as the process involved in learning an identity (Lave, 1996; Pelissier, 1991) and of “learning as becoming” (Hodkinson et al., 2008).

The adoption of the conceptualisation of learning as becoming

Interest in research and discussion on the notion of learning as becoming is relatively recent. This interest can be traced in various studies in the literature, culminating in work by Hodkinson et al. (2008) which provide articulation and examination of this notion. A series of working papers published as part of the United Kingdom’s Teaching and Learning Research Programme comprised work on “learning as being” (Hodkinson et al., 2007), “learning lives” relative to becoming and belonging (Goodson & Adair, 2006), “learning from life” and “learning for life” (Tedder & Biesta, 2007), and “learning working lives” (Field & Malcolm, 2006). Specific research on work and its contribution to identities include case studies of hair stylists (Lee et al., 2007) and of service-based occupations (e.g., fitness training), “knowledge”-based occupations (e.g., software development), and traditional manufacturing spheres of work (e.g., automotive component suppliers) (Felstead et al., 2005, 2007). These studies are complemented by case studies on child care, health care, and engineering workers in the United Kingdom conducted by Colley et al. (2003).

As an outcome of their work, Felstead et al. (2007) came to define identity as an “active [rather than a passive] sense of belonging”; for them, identity is “the process of becoming which occurs through participation in a community of practice” (p. 3). This relatively recent consideration of learning as becoming, and the fact that much of the above research on vocational identity focuses on the perspectives of older, experienced adults, gives impetus to a study that explores this notion of learning within the context of research directed at gaining the perspectives of young people undertaking vocational training, either through full-time tertiary programmes or workplace-based apprenticeships. One study that has explored the notion of identity within the young students’ vocational sphere is that by Davies and Tedder (2003). Their
conclusion that the students’ vocational aspirations were “inextricably bound up with other aspects of their lives, with issues of identity, with becoming a person” (p. 3) supports research designed to show how young people “become” in terms of vocational identity. Accordingly, this present inquiry into how young people become bakers involves consideration of (a) how the characteristics and experiences of individuals contribute to identity transformation from novice to experienced practitioner or craftsperson, (b) the influences of the workplace on this process, and (c) the interrelationship of these two tenets of individual agency and workplace contribution. The next section, which outlines research relating to young people’s transition from school, through apprenticeship, to employment, provides further elaboration of these contributions to occupational identity.

2.4 Learning about individuals’ characteristics influencing apprenticeships

This section discusses the literature that describes and explains individuals’ contributions to occupational identity formation as bakers.

Pathways into apprenticeship or career

According to Higgins (2002), the transition in earlier times from apprenticeship training to employment in skilled trades or from university education into professional employment tended to be relatively uncomplicated. However, the last two decades, with their multiplicity of post-compulsory education options, fragmentation of the labour market, and reduction in the relationship between education-training and the workplace (McDowell, 2000, 2002), have greatly complicated the transition between education and employment (Higgins, 2002; Stokes & Wyn, 2007; Vaughan, 2005).

This complexity is mediated, in turn, by other factors that influence young people’s post-school decisions relative to further study and employment. Two studies by Karlsen (2001) and Wright (2005) indicate that socio-economic status, ethnicity, gender, educational background, and geographical location are contributors towards how young people decide on post-school destinations. Both Karlsen and Wright found that socio-economic background was a particularly strong indicator of how directly young people moved on from school to further study or work. Similarly, McDowell (2000) found that young people from disadvantaged backgrounds are much
more restricted than their peers from more advantaged backgrounds in their career choices and are more likely to move from school into work, instead of from school to tertiary study. Bloomer and Hodkinson (2000) describe how young people’s “learning careers”, as the two authors put it, change over time. This transformation generally occurs over short time periods and is often linked, in complex ways, to the wider social, economic, and cultural contexts of young people’s lives. Another study by Bloomer (2001), which followed school-leavers for several years beyond leaving compulsory schooling, provides a framework from which to view young people’s experiences of learning as they transition from school into higher education or into work; it observed substantial change in the young people’s values, attitudes, and interests over the duration of his study. A pertinent understanding gained from the study was that the young people exhibited behaviour that suggested they did not entirely achieve free choice as regards their study and work options, despite their own accounts of their experiences suggesting a sense of individual agency. Therefore, despite policies in many developed countries designed to ameliorate the effect of socio-economic status origins, the above studies provide evidence that this factor still has a marked influence on the post-school choices of young people. As stated in the introductory chapter, occupational choices of young working-class men are more restricted in the present economic climate than in previous generations. McDowell (2000) suggests that situation is partly due to modifications in the economic foundations of many developed countries, from reliance on manufacturing toward reliance on knowledge-based technologies.

The above group of studies again highlight the importance of a longitudinal study encompassing the timeframe of indenture. Such a timeframe allows for identification of changes in apprentices’ perceptions, attitudes, and interests and for changes in these individuals’ identity formation to be located, tracked, and examined. The studies also favour exploration of the role that apprenticeships can play in providing young, sometimes disenfranchised, youth with meaningful work identity. As McDowell (2000) reminds us, understanding of how to re-engage disenfranchised youth leads to better social outcomes not only for the individuals concerned but also for society overall.

In New Zealand, work by Vaughan (2005) indicates that young people are often reluctant to commit to career pathways. They tend, Vaughan concludes, to postpone attainment of a fixed
work identity in favour of forming an identity influenced by culture and lifestyle. Wanting to explore this idea further, Vaughan and colleagues Roberts and Gardiner (2006) conducted a longitudinal research project of over 100 New Zealand school-leavers. Based on the interview responses of these young people, the researchers argued that school-leavers “operate” in one of four ways with respect to their study/employment options: They are either “hopeful reactors” (14% of the cohort), “confident explorers” (29%), “anxious seekers” (24%), or “passion honers” (24%). *Hopeful reactors* are people who leave school with few or no school qualifications. They are usually directed into a career or training by family, friends, or their school, but remain concerned about their lack of options and planning on leaving school, and yet, their need for financial security. They are also concerned about the possibility of failure. *Confident explorers*, in contrast, believe there is a good range of options available to them and focus on seeking personal and career challenges. Many confident explorers engage in full-time tertiary study. *Anxious seekers* are undecided about and unsettled in their current post-school pathway. They are still trying to find a personal alignment with an occupation or subject and are overwhelmed by the multitude and complexity of information they need to consider with respect to their work/study trajectories. Those in the last category, *passion honers*, are happy with their career choice and contented with their specific occupation or tertiary education. These young people are more liable to be engaged in apprenticeships or the armed forces or enrolled in vocational courses of study. The four clusters proposed by Vaughan et al. (2006) are used to impart direction to this investigation and assist with understanding young people’s career choices. In particular, the clusters are helpful to comprehend how young people commence work. Additionally, the pathways apprentices choose and utilise, as they transition from one cluster to another (e.g., hopeful reactor to passion honer), are employed in this study to help explain identity trajectories of apprentices into and through the outset of indenture. Hence, these clusters are useful representations to assist with studying and explaining the complex process of occupational identity transformations.

The New Zealand government has implemented several strategies aimed at assisting young people’s transition from school into the world of work (Higgins, 2002). These include the modern apprenticeship system, the Gateway programme, an initiative called the Secondary Tertiary Alignment Resource (STAR), and a careers advisory service in schools called Career
Services Rapuara (Vaughan, 2005). This transition-to-work framework is characterised by “pathways” (Vaughan, 2005). The Gateway programme, for example, provides senior high school students with opportunities to engage in work experiences while still attending school. Gateway allows for skills and knowledge acquired in workplace settings and assessed through workplace-based assessments, to be integrated with general education. Credits accumulated from assessed competencies are credited to National Certificates in Educational Attainment (NCEA), Levels 1 to 3 (Tertiary Education Commission, 2009).

The STAR programme, established in 1996 as the result of a recommendation from a ministerial reference group, enables secondary schools to apply for funding needed to organise programmes in non-national curriculum courses for senior students. STAR courses must lead to assessment against unit standards on the National Qualifications Framework (NQF) or to other tertiary qualifications (Ministry of Education, 2008). STAR programme courses are usually offered by post-school training providers and comprise sub-sets of pre-apprenticeship training programmes. Several of the apprentices in this study participated either in Gateway or STAR programmes while still at school. For them, the programmes provided an introduction into a workplace and acted as a precursor to official indenture.

One of the focuses of this present inquiry is to reveal and elucidate the factors that assist young people eventually embracing an occupation for which they initially have no initial affinity or interest. Understanding this transformation has implications with respect to supporting young people to make more informed occupational choices and in motivating them to undertake study towards occupational qualifications. Some indications in this respect are evident in a New Zealand Industry Training Federation (ITF) report (2007), which cites the reasons given by building and engineering apprentices for entering their respective industries. The reasons included an intrinsic interest in the trade, the variety of work on offer, the security that accrues from attaining a trade, pleasing working conditions, and good pay and career opportunities. These explanations are similar to those listed by Lehmann (2005), who studied apprentices in

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3 The ITF is a collective made up of New Zealand-based industry training organisations (ITOs) in New Zealand.
Canada and Germany. The apprentices interviewed in the ITF report were also focused on obtaining qualifications in their vocational area.

Identity formation in young people learning a trade

Young apprentices are engaged in various dimensions of identity formation, given that they are in the late adolescent stage of the human life cycle and on the cusp of early adulthood (Peterson, 2004). These years are characterised by physical, emotional, and sexual development as part of attaining biological puberty, coupled with cognitive, moral, and personality development that is often mediated by relationships with others (Peterson, 2004; Stokes & Wyn, 2007). Vondracek (1992), citing Waterman, claims that there is a

shared view that during adolescence there is an increasing clarification and crystallization of a sense of self, that there are significant individual differences in how identity development takes place, and social and historical contexts within which individual functions will greatly influence the outcome of the process of identity formation. (p. 135)

Thus, occupational affiliation is but one aspect of young apprentices’ identity formation (Drewery & Bird, 2004; Stokes & Wyn, 2007) and needs to be considered when endeavouring to illuminate the influences on the formation of work-based identity.

One possible route is to explore of how individuals develop a passion for an occupation. There is very little research on the contribution that passion makes in terms of realising life goals (Vallerand et al., 2003). There also appears to be very little literature on the extent to which passion sustains occupational identity building or, indeed, the role of passion in the identity formation of young people. Vallerand et al. helpfully define two types of passion—harmonious and obsessive. Harmonious passion occurs when an activity becomes internalised into a person’s identity by way of autonomous means. This passion appears to produce a motivational force (i.e., intentionality and agency) that compels individuals to engage willingly in the chosen activity. It also occupies an important, but not overpowering, part of a person’s overall self-identity. In comparison, obsessive passion arises from intra-personal or inter-personal pressure or a sense of excitement derived from engaging in an activity. Individuals engage in these activities because
internal controlling contingencies compel them to do so. Examples of obsessive passion include compulsive gambling and over-indulgence in computer-based gaming activities.

Csikszentmihalyi’s (1990, 1993) studies on “flow” or optimal experience elucidate experiences that are analogous to the above notion of passion. Earlier, Csikszentmihalyi defines flow or optimal experience as “the holistic experience that people feel when they act with total involvement” (1975, p. 36). Unlike passion, however, flow occurs only during the discreet sectors of time when individuals are fully engaged with their work, studies, or hobbies. Passion is more all-encompassing and forms the basis of individuals’ life work. Hall and Chandler (2005) propose that intense interest in and engagement with an occupation may lead to individuals establishing intrinsic motivation to continue with an occupation, culminating in some individuals accepting a vocation as a “calling.” Within apprenticeships, this stage tends to occur toward or on completion of the period of indenture.

**Considering baking as a job, a career, or a vocation**

In general, according to Wrzesniewski et al. (1997), people tend to perceive work either as jobs that offer financial rewards and are a necessity rather than a fulfilling aspect of life, or as a means of securing a career and advancement within that career, or as a vocation (calling) that offers the enjoyment of a fulfilling and socially useful occupation. Because literature on viewing work as a form of vocation focuses primarily on religious occupations (Reber, 1988) and professions related to medicine (White, 2002) and teaching (Hansen, 1994), studies such as this present one which explore the development and influence of passion on occupational identity relating to other spheres of work are indicated. For instance, Gamble (2009) advises trades people and vocational educators to ensure apprentices are taught not only the practical skills of a trade but are also provided opportunities to adopt the trade as a form of vocation.

Positioning work as a job, career, or vocation is useful within the context of apprenticeship because it helps describe and explain some of the outcomes of apprentices’ identity trajectory during their time of indenture. The trajectory for any one individual is delineated not only by the sum of his or her personal characteristics and experiences prior to indenture, but also by the craft or occupation chosen and by the workplace and/or educational
institution in which the indenture takes place, and by the membership (and/or status) accorded that individual within his or her particular community of practice (Wenger, 1998). Identity can thus also be understood through the learning trajectories that apprentices experience as they move from novice through apprentice to experienced practitioner. The concept of boundary crossing (Engestrom, 2004; Tanggaard, 2007) provides a helpful metaphor for explaining how novices cross from one boundary to the next (i.e., belonging to a workplace, becoming a practitioner, and then being an experienced practitioner) during their indenture. Traversing each of these boundaries or stages requires behavioural and dispositional modification. These transformations may dwell not only in how apprentices perceive their work roles, but also in how other bakery workers recognise apprentices’ developing and changing contributions to workplace productivity. Gaining understanding of this journey accordingly necessitates gathering data (e.g., through interviews) from the beginning, middle, and end of indenture. The data gathered at each stage need to focus on how novices build relationships in the workplace, learn new skills and knowledge, and acquire new dispositions.

2.5 Learning about workplace characteristics influencing apprenticeships

The theoretical underpinnings of this study position the workplace as a community of practice (Lave & Wenger, 1991) in which the practices enacted bind and consolidate the particular practices of that community (Gherardi, 2010). Fuller and Unwin’s (2003b) concept of “expansive versus restrictive” participative workplaces provides a basis from which to compare the particularities of diverse workplaces. These above two notions, in turn, provide a platform from which to impartially examine how workplaces—in the case of the present study, bakeries—contribute to apprentices’ occupational identity formation. These two precepts are now further discussed.

Workplaces as practice communities

Wenger and Synder (2000) describe communities of practice as “groups of people informally bound together by shared expertise and passion for a joint enterprise” (p. 139) whose purpose is to develop members’ capabilities, typically through exchanges of knowledge. Wenger and Synder explain that the members of these communities are usually self-selecting, identify with
the group’s expertise, and are committed to and may even have a passion for drawing from and contributing to that expertise, and remain affiliates as long as their interest is maintained. However, it is the practice, practices, and practising that characterise each community and is what differentiates each community from other specialised occupations, organisations, and teams (Gherardi, 2010). Extrapolation from these two concepts sets bakeries as individual communities of practice and each bakery as part of a wider practice community encompassing the trade of baking. Although members of bakery-based practice communities do not self-select to join a bakery, a degree of personal choice is involved in accepting bakery work. The preference to commence with bakery employment can be juxtaposed with the agency of workers to leave baking for other occupational opportunities. The New Zealand baking industry community of practice and their contribution to apprentices’ vocational identity formation is now explained.

New Zealand has many distinct types of bakery (see Figure 1). A view identifies retail bakeries, wholesale bakeries, and large mechanised plant bakeries. Within each classification are many sub-classifications of bakery, each of which encompasses bakeries exhibiting idiosyncratic individual practices. For example, the retail bakery grouping in Figure 1 includes café bakeries, traditional retail bakeries, in-store bakeries, and franchise bakeries, each of which has specific overall business objectives and specialised market requirements. These objectives and market position affect not only the type, range, presentation, and quality of products each bakery manufactures, but also the skills repertoire, knowledge range, and attitudinal capabilities afforded to the workers and apprentices employed in each bakery (i.e., the practice of the community). This range of types of bakery is partially acknowledged in the titles and structure of the New Zealand national certificate qualifications (NZQA, 2006) used to accredit apprentices’ trade skills and knowledge. The certificates are organised according to bakery product groups. New Zealand therefore offers three national certificates in baking— for craft, in-store, and plant bakers (see Appendices M, N, & O). At the beginning of their indenture, apprentices may be unaware of the influence of bakery type, in particular, the distinct practice communities and approaches to bakery practice premised by bakery type. Each apprentice is introduced to a practice community that reproduces a bakery culture typified by the bakery type of their indenture. In turn, each bakery creates the form of inter-subjective understanding (Hutchins & Klausen, 1998) held by its workers. Because novice bakers enter what is essentially a specialised
culture of practice (Brown et al., 1989), they tend to have limited awareness of the career pathways or development imposed by their particular bakery.

Members of active practice communities continually evolve and develop practice in order to enhance and further develop their business objectives. Many bakeries in New Zealand participate in the wider industry through such organisations as the Baking Industry Association of New Zealand (BIANZ) for craft bakers, individual franchise organisations for franchise bakers (examples include Bakers Delight and Brumbies), and individual supermarket cooperatives for supermarket in-store bakeries, such as those in the New World chain of supermarkets. Membership of these associations gives individual bakeries information about wider industry practices including food safety programmes, business management practices, employer/human resources support, legislative requirements, and apprenticeship support systems. Participation in these associations also helps assist bakeries manage and maintain profitable businesses, maintain currency with trends in food consumption, and receive support directed at providing better overall working environments for all bakery workers. Therefore, membership of external organisations contributes towards bakeries enhancing, intensifying, and maintaining practices that categorise bakeries as craft, in-store, plant, or franchise bakeries.
Figure 1. Types of bakeries in New Zealand.
Influence of bakery type on work skills

It is also important to note at this point that the identity that each apprentice baker assumes, and is ascribed by others, impinges on his or her future career prospects within the national and international industry job market. This realisation reinforces the need to collect evidence on how and when apprentice bakers realise that they are bakers and adopt occupational identity as a specific type of baker. There is also, as Loftus and Higgs (2010) point out, a need to collect information from the apprentices themselves on how they rationalise their career choices and confirm their decisions to engage with a particular occupation or facets of that occupation. The features of the chosen occupation that advantage or disadvantage that process also merit study.

The baking industry has a number of disadvantages peculiar to it that can dissuade young people from entering or persisting with a baking job. Baking’s continued reputation for poor wages (Volker, 1996), brought about by the lower profit potential from low-cost bakery products, is probably the most obvious. The other disadvantages are ones that young people may not be aware of when they enter their indenture. Shift work and shift hours can become a deterrent to staying in the industry. Most bakers begin work either late at night (i.e., working from 10 p.m. to 6 a.m.) or very early in the morning (i.e., beginning between 2 a.m. and 4 a.m.). Shift work not only circumscribes the working life of a worker but also contributes to variances in their domestic arrangements and social interactions (Monk & Folkard, 1992). Consequently, the effects of disrupted sleep patterns due to engagement in long-term shift work can adversely affect performance efficiencies and general health and well-being (Colquhoun & Rutenfranz, 1980). Furthermore, bakers’ work separates practitioners from the usual daily cycle of lived activities experienced by most in the community. Additionally, the physical nature of bakery work can expose bakery workers to a range of health issues related to workplace accidents and workplace-induced disabilities such as back pain, hearing loss, and occupational overuse syndrome. Exposure to large amounts of dust-forming ingredients, such as flour and icing sugar, as well as ongoing exposure to commercial cleaning agents, can exacerbate allergic reactions such as asthma, hay fever, and dermatitis (Wadsworth, 2000).

An acceptance that the occupation of baking is not risk-free is, perhaps, an outcome of bakers’ identity formation. Because the acceptance of occupational risk factors likely differs from individual to individual, it is important to capture personal perspectives of this kind of
phenomenon. Therefore, one of the supplementary focuses of this study is to identify and establish how much young people measure risks and disadvantages when continuing in their chosen occupation as bakers.

**The workplace as a learning environment**

The last two decades have seen a considerable amount of research on the workplace as a site for learning. Lee et al. (2004) summarise many of the main themes and perspectives that have accrued on workplace learning. These include the shift from the standard paradigm of viewing learning as acquisition of knowledge and skills towards one of learning as participation within a group, community, or organisation. Gibbs and McRoy (2006, p. 284) state that “regardless of discipline, mode, form or level of study, connectedness within a community of practice, legitimised by society, is critical for the development of a well-educated and competent practitioner.” They propose that vocational education, whether experienced off- or on-the-job, aids this process by helping workers learn practical wisdom or phronesis. Goodwin (2007) proposes that workplaces assist young people in their transition into adulthood. Bakeries as sites for learning thus encompass workplace relationships, interactions, and teamwork. These aspects are central to participation in bakery workplace learning and are explored and need to be accounted for through the use of workplace observations of apprentices. While the notion of peripheral legitimate participation within a community of practice proposed and described by Lave and Wenger (1991) is useful in providing a broad-sweep indication of how the novice is inducted into a community of practice, it does not necessarily provide understanding of the mechanisms at play in this process.

So just how are young learners initiated into work? And how are they supported while there? These questions feature in work by Boote (1998), Choy and Delahaye (2000), E. Smith (2003b), and P. J. Smith (2001, 2003), although they are only implicitly answered there. These authors report that young apprentice learners are generally unprepared and ill-equipped for adult-preferred methods of self-directed learning, which is the hallmark of adult learning theories (Knowles, 1973; Schön, 1983). Cornford (2002) claims that young school-leavers have not fully developed and learned the cognitive and meta-cognitive acumen and strategies needed to achieve lifelong learning goals, and that they will not reach this stage until near the end of adolescence or the beginning of early adulthood. These matters indicate the need for
greater understanding of how young apprentices’ workplace learning is organised and supported. This claim is supported by Cornford and Beven’s (1999) and E. Smith’s (2003b) noting of differences between the needs of novice and experienced workers. Novice workers, according to these researchers, generally require more time than experienced workers to learn tasks and utilise different forms of learning. They also need more time to manage newly acquired information and tasks. Dahlgren et al. (2006) similarly observe that novices entering a workplace from school or university have to learn many workplace skills not previously encountered. Because more experienced workers tend to adopt a “tuning” mode, they are better able to accommodate new skills and learning into their existing knowledge networks. Novices have to employ extra effort to structure new information because they lack the “pre-constructed databases” that allow them to scaffold knowledge. In addition, novice learners are less productive workers because of the time they need to practise new skills. They require close supervision because if they do not receive careful training, they are prone, as Cornford and Beven (1999) and E. Smith (2003b) found, to learn inappropriate workplace practices and attitudes. In the workplace, young people’s learning thus comprises two important strands: learning how to “do the job” from older workers and how to conform to appropriate standards of adult behaviour expected in a workplace.

According to the National Centre of Vocational Education Research in Australia (2003), ideal workplace learning situations become evident when workplaces increase their innovative capacity and develop organisational cultures that support and value training and learning in their various forms. Such workplaces not only make a culture of training and learning a part of normal practices but also customise it to meet individual workers’ needs. These workplaces further develop and use networks, partnerships, and supply chains to facilitate training. Schofield (2001) also identifies these factors as important influences on the quality of apprenticeship and traineeship training. Unwin et al. (2005) emphasise that workplace learning is influenced by the manner in which an organisation organises its work, the extent of employee involvement in their work and work-based learning, how well the organisation is performing, and the economic, regulatory, and social context within which the organisation operates. Other influences on young people’s workplace learning include the supervisor (Hughes, 2004), the manager (Eraut, Alderton, Cole, & Senker, 2002), the enthusiasm, standards, knowledge, attitudinal values, and skills of workplace-based mentors.
(Evanciew & Rojewski, 1999), and the nature of both the educational (Virtanen et al., 2008) and workplace (Harris, Willis, Simons, & Collins, 2001) environment.

In the New Zealand bakery context, the scope of this study’s analysis necessarily needs to include consideration of the perspectives and practices of bakery apprentices, their employers, and also individuals and organisations such as government-appointed modern apprenticeship coordinators that support apprentices during their learning trajectory. The need for this study to consider all of these groups is reinforced by the realisation that workplace learning can be, as recent literature reveals, a contested environment. Not all workers receive equitable access to training and learning opportunities (Billett, 2001b). In earlier work, Billett (1996) identified common barriers to these opportunities including (a) limited access to authentic workplace learning activities, (b) reluctance of workplace experts to help learners, (c) lack of opportunities to access experts, and (d) poor or limited access to instructional material. He also noted as a barrier, workplace-based knowledge that is opaque and thus not accessible to learners because they do not realise they need to know it. An outcome of these barriers, Billett (1996) concludes, can be construction of inappropriate knowledge. Brooker and Butler (1997) found that apprentices’ learning can be compromised by major tensions between the demands of workplace production and learning requirements. According to Cornford and Gunn (1998), small and medium-size businesses, such as commercial catering enterprises, usually display little concern about employees’ learning and have limited understanding of the conditions required to promote good workplace learning.

Another concern is that of the wider educational context within which contemporary apprenticeships are enacted in New Zealand. Competency-based training systems were promulgated in the early 1990s. Yet, this is a system of apprenticeship that its industry leaders still perceive as relatively new and so do not always understand (Chan, 2002). Moreover, introducing and settling the competency-based training system implemented by Competenz, the ITO that oversees training needs in the baking industry, was a prolonged and at times disorganised affair (Chan, 2002). This research inquiry accordingly represents an updated description of how young people become trade workers despite ineffective organisational arrangements for “supporting” apprenticeship.

Interestingly, given these barriers to workplace learning, the New Zealand Industry Training Federation (2007) report stated that the building-trade and engineering apprentices
surveyed typically said that their employers were supportive of their training, that they gained sufficient peer support, that they received ample opportunities to learn on the job, and that their on-the-job training complemented their off-the-job vocational education. Only a small number of engineering apprentices reported being unsupported or afforded insufficient opportunities to learn at work. However, both the trades surveyed in the ITF report have long-established cultures of training apprentices, in contrast to the small- and medium-size catering enterprises considered in Cornford and Gunn’s (1998) study. This discrepancy supports the idea that workplace training is not equitable across all trades, or even across individual workplaces, and that any study focused on workplace learning needs to try to quantify affordances to training.

One method of doing so that aligns well with the ethos of this study is that of categorising a diverse range of workplaces for the purposes of comparative study. Fuller and Unwin (2003b) propose an “expansive–restrictive participative continuum” to classify workplaces as supportive or expansive towards workplace-based training. The authors constructed their continuum according to socio-cultural considerations and on the basis of studies of apprentices’ learning in a variety of workplaces. Reference to the continuum during the data analysis phase of this study offers an objective framework for categorising workplaces and then comparing the training practices and attitudes toward training that occur in workplaces supportive of training (i.e., expansive participative) with the practices and attitudes evident in less supportive (i.e., restrictive participative) workplaces. Adoption of this framework also enhances the comparative research component of this study because it allows identification of how the training milieus and cultures of the various bakeries influence and contribute to apprentices’ occupational identity formation. Furthermore, it provides a means of gaining insight into whether personal agency on the part of the apprentices working in restrictive participative workplaces is sufficiently robust or resilient to counteract the potentially negative effects of working in such an environment.

**The workplace as a source of occupational identity**

The studies discussed above indicate that sound vocational learning requires the forging of quality relationships among employers, apprentices, and providers of vocational education. All three parties need to work together to ensure shared understandings about expectations, roles, and responsibilities. Consequently, there is a requirement to explain the contribution of
workplace relationships in apprentice learning and to comprehend inter-relational dynamics. This contribution needs to be considered not only in terms of workplace learning but also in terms of occupational identity.

As a study by Collin (2009) indicates, workplaces are fluid organisations, subject to change. They are also collections of individuals who have to be organised towards achieving similar objectives, despite change factors. In her study, Collin investigated the influence of workplace organisational changes on workers’ work-related identities. She found that whenever organisational changes were made to the workplace that featured in the study, the workers’ personal motivations and directions shifted, which led to modification of their perceptions of workplace identity. Her study provides evidence that workplaces’ organisational management ethos, including handling of change, affects how individuals engage with and enact their work and the identity that they accord themselves with respect to that work.

2.6 Conclusion

In exploring extant literature on how apprentices learn and gain occupational identity during their indenture, this chapter has provided a rationale for shifting the study of apprenticeships from a reliance on studying either individual apprentices or workplaces of indenture towards a study encompassing the wider socio-cultural milieu in which apprenticeships are conducted. In particular, there is a need to understand the inter-relationships between apprentices’ agency and the workplaces of their indenture. A study designed to investigate the dual contributions of individuals’ engagement in apprenticeship learning and the workplace structures that afford learning opportunities has the potential to offer a broader and more thorough understanding of the role of apprenticeships in contributing to apprentices’ occupational identity formation. The next chapter presents the procedures used to investigate, describe, and illuminate this role, and offers a justification for the methodology and methods selected.
Chapter 3

Investigating how apprentices become bakers: Methods and procedures

3.1 Studying apprenticeship as a form of occupational identity formation

The previous chapter—Learning through Apprenticeships—argued for the need to understand the apprenticeship journey from apprentices’ points of view, by investigating and illuminating the process of becoming a baker. Such an investigation also needs to include a means of gathering information about the socio-cultural milieu in which baking is enacted in order to gain a full appreciation of the processes steering this particular type of apprenticeship. A decision was therefore made to adopt case study methodology, underpinned by a qualitative social-constructivist-interpretative approach. Consistent with this approach, data were collected from two major sources: the apprentices themselves, and their workplaces (i.e., social contexts). The data collection instruments included semi-structured interviews with each apprentice as well as structured questionnaires and workplace observations.

This chapter commences by making a more detailed case for the research methods selected for and used in this study. They are discussed and justified in terms of their alignment with the intent of the research questions, especially the key question that calls for consideration of how young people become bakers and the accompanying supplementary questions focused on the apprentices’ social-cultural milieu. A case is also made for selecting the qualitative social-constructivist-interpretative research approach. Discussion centres on the adequacy of this approach as a foundational research method in general and how it shaped the conduct of the study’s research procedures in particular.

The next part of this chapter considers case study methodology and the justification for using it in this study. The utility of a particular case study procedure known as process tracing (George & Bennett, 2005) is explored especially in terms of its usefulness in bringing validity to the data analysis process, affording triangulation with data procured through this investigation, and helping to build an explanatory model of apprenticeship progression. From here, the chapter continues with a discussion on the ethical procedures used during the study. These include adherence to peer-reviewed codes of conduct and ensuring that participants
gave their informed consent to participate and were granted anonymity and confidentiality. The final part of this chapter presents a detailed description of how this study was conducted. The description includes study concept, timeline and design, selection of apprentices as study participants, and data-collection processes including the use of narrative vignettes, data analysis, gauging of cause and effect, and development of a model of belonging, becoming, and being. The chapter concludes with a discussion of the limitations that the various research methods selected for this study placed on its findings.

3.2 Orientation of the research method

In this section, the selected research approaches underpinning this study are presented and rationalised.

*The decision to adopt a qualitative stance*

In the previous chapter, the majority of the studies cited with regard to the theoretical underpinnings of this study employed qualitative research methods. Similar in intent to this present investigation, these studies sought to understand how learning and identity formation occur in real-world situations. The research methodology that they used therefore seemed to suit the needs of the current study.

Denzin and Lincoln (2005) qualify their definition of qualitative research inquiry by observing that this mode of investigation has held different meanings over time. Findings derived from qualitative approaches are grounded in historical and social contexts and in situations peculiar to when research data were gathered. According to Denzin and Lincoln (2005, p. 3), “a situated activity that locates the observer in the world consisting of a set of interpretive, material practices that make the world visible” ideally should be conducted by researchers based in real-world contexts. One of the roles of qualitative research is to “turn the world into a series of representations” or viewpoints collected through such devices as “field notes, interviews, conversations, photographs, recordings and memos to self” (p. 3) and it can assist in recording some of what happens in real-life contexts. These devices thus assist in recording some of what happens in real-life contexts: they allow “study of things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them” (p. 3). As this present study was enacted in the real, lived world of apprenticeship, the tools used to collect data—to provide representations of how
apprentices experience indenture—included interviews, survey questionnaires, and participant observations. More specifically, these tools were deemed a useful means of capturing individual apprentices’ perceptions of their indenture and of observing, interpreting, and presenting apprentices’ work and practices during apprenticeship. They were also selected as a valid means of obtaining data that could be used to analyse and form connections between characteristics of the apprentices’ workplaces and workplace relationships (i.e., the practice community of indenture) and their journeying towards experienced baker.

An awareness and application of post-modern sensibilities also informed the orientation of this study. A post-modern mindset aligns with the “series of representations” scope of qualitative research because it suggests there can be no “objective” view of reality but rather several subjective views (Babbie, 2004). This consideration suggests the need for researchers to work within a selected interpretive approach that is as well suited as possible to the questions the study seeks to answer. The approach chosen places demands on how a study’s research questions are interpreted and on how interpretations formulated from the data are derived. As Denzin and Lincoln (2005) point out, the approach taken is likely to arise out of and be shaped by the researcher’s ontology and epistemology. Therefore, although this study was positioned as a record of the apprenticeship journey from apprentices’ viewpoints, it had to be acknowledged that the subjective lens of the researcher would, to a greater or lesser extent, shape how these perspectives were collated, examined, and represented. Although researchers need to keep these matters in mind when employing qualitative research methods, the qualitative approach nonetheless permits the asking of questions and the gaining of understandings that quantitative research cannot. Qualitative research enables researchers to gather the type of rich data that allow the close description, elaboration, and explanations of phenomena that quantitative measures can only point towards.

Despite these advantages, there has been a long history of resistance to the use of qualitative studies from researchers who use quantitative methods (Denzin & Lincoln, 2005). Most of this resistance arose from the tradition of using quantifiable research in the fields of science and, latterly, in such areas as economics and psychology (Ponterotto, 2005). Quantitative research employs a positivist approach in terms of drawing out findings that are measurable and can be subject to statistical analyses of cause and effects (Ponterotto, 2005).
Hard evidence requiring well-defined variables and observations and measurements are the foundation of quantitative research. Early in the formulation of this study, the interpretive-constructivist approach, unlike the positivist and post-positivist approaches, appeared to offer the means of deep and rich investigation of the multiple influences of apprentices’ socio-cultural milieu on indenture. The constructivist approach is also unlike the critical or Marxist/emancipator and feminist post-structural approaches, which focus on power-relationships between organisational structures and individuals. The interpretive-constructivist approach seemed to meet this study’s objective of describing, analysing, evaluating, and comprehending how apprentices become bakers. However, the decision to use this approach was not made before careful critique was undertaken of how well it would meet the objectives of this study, as detailed in the next section of this chapter.

The decision to adopt the social interpretive-constructivist approach

Filstead, cited in Ponterotto (2005, p. 127), defines a research approach as “a set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the organised study of the world.” Guba and Lincoln (2005) identify and discuss the research-based issues associated with the four approaches identified in the previous section of this chapter. These critical issues were examined at the study’s commencement, to align the constructivist approach chosen with the study’s objectives and to determine if the constructivist paradigm would be an effective orientation for investigating how young people become bakers. This process led to the decision to adopt the interpretative-constructivist approach because its methods and procedures were found to correspond well with the types of issues that would be addressed during the study’s practical investigation. The ontology and epistemology selected also supported the decision to adopt this particular paradigm. Within the context of constructivism, ontology offers relativity between local and specific co-constructed realities. In this investigation, tracing the journey that begins with belonging to a bakery and progressing on to becoming and being a baker meant situating the enquiry in a specific context, that is, the New Zealand baking industry, the nature of which influences the learning and attitudes of young people entering the trade as well as the process by which they are transformed into competent trade workers. The apprentices’ perceptions in this respect were accessed by way of semi-structured interviews. The resultant interview data were supported by demographic information about the apprentice bakers that was obtained through use of structured survey questions. Taken together, the two sets of data had the
potential to aid understanding not only of apprentices’ ontological development but also their social milieu. Combining the two sets of data, moreover, into individual narratives or vignettes of each apprentice’s journey established a study underpinned by a consolidated platform of triangulated data.

The epistemological aspect of constructivism centres on the transactional and subjectivist co-construction of findings. In this study, perceptions were co-created by the researcher working in association with the apprentices as well as members of the New Zealand baking industry’s practice community and of the apprentices’ workplaces and social contexts. Multiple methods of data-gathering—interviews, questionnaires, observations—were used to collect the data informing these co-constructed perceptions, the collation of which provided vignettes of the apprentices’ journeys, thus allowing for and contributing to an appreciation of the rich diversity that individuals bring to their lives. The constructivist methodology is thus hermeneutical because data need to be interpreted, both inductively and deductively, in ways that establish meaning and explanations as well as patterns and relationships within and across the datasets. Cross-referencing these patterns across the datasets allows for triangulation of findings that emerge from the various data sources. This and the use of multiple sources helped furnish the present study with integrity and validity.

While the interpretative-constructivist approach offered certain methodological advantages for the nature of the study, it also prompted the need to address several issues (Guba & Lincoln, 2005). These, according to Guba and Lincoln (2005, p. 194), relate to the following: ethical matters and values, affecting “accommodations” between data and findings, delineating and complying with the aim of the inquiry, hegemony, the foundational underpinnings of the knowledge that emerges from the research, the ways in which that knowledge is accumulated, the validity of the emerging data, the “voice” the research eventually “broadcasts,” and reflecting on the data. The constructivist paradigm positions ethics within research as an intrinsic process focused on revelation and resolution of issues peculiar to the conducting of research. In this study, assuring the rights of the participants was vital to the integrity of the entire research procedure. The values underpinning this study included a perception of the research as both inclusive and formative. Considerable value was placed on collecting the data in a manner that protected the privacy of the participants; data collection and analysis procedures were designed to keep hidden the identity of each apprentice. Ensuring accommodations between data and findings involved following
qualitative pathways during data analysis that enabled correlation of the various data sources. Issues of hegemony were addressed by ceding control to all those who participated in the research over the extent and scope of their participation. Had this assurance to participants and their subsequent cooperation been absent, this inquiry could not have been completed. The foundations of the knowledge accruing from the study were deemed to be the individual and collective reconstructions, brought together through thematic data analysis and coalescing around consensus, of the apprentices’ experiences and perceptions of those experiences. The manner in which knowledge was accumulated during the investigation involved following the apprentices’ own accumulation of knowledge as they traversed their indenture. Comparisons of each apprentice’s accumulated body of knowledge allowed an understanding of not only the perceptions of the individual apprentices but also both the common and atypical views and notions evident amongst these bodies of knowledge. Validity was realised through the study being situated in real-life contexts rather than “set-up” situations such as simulations or role plays. In addition, the particular processes associated with case study theory building allowed for validity with respect to the identification and reporting of the research findings. The voice evident throughout this study is that of the researcher as “passionate participant,” facilitator, and multi-voice constructor. Although having strong affiliations and empathy with the baking industry, the researcher endeavoured to conduct the research process in as objective a manner as possible.

3.3 Case study methodology

Case study was selected as the meta-procedure for this research investigation. Yin (2003, p. 13) defines case study as “an empirical inquiry that investigates a contemporary phenomenon within a real-life context, especially when boundaries between phenomenon and context are not clearly evident.” Case studies allow for in-depth investigation into a particular “natural” setting. The researcher has the ability to focus in on one or a small number of instances of a situation in order to detect the “subtleties and intricacies of a complex social situation” (Denscombe, 2003, p. 38). Opportunities are afforded to untangle meanings enmeshed in various relationships and socio-cultural processes. Case study is also useful when researchers have little control over events as the approach is concerned with “investigating phenomena that are naturally occurring” (Denscombe, 2003, p. 31). Moreover, there is no need to create control groups or to change circumstances to test hypotheses. These attributes suited the intent of this investigation which was to understand, not intervene. Case study methodology
also permits the collection of a range of research artefacts (Stake, 2005)—a range that, in the context of this present study, was seen as providing the depth and breadth of data gathering about the experiences encountered during apprentices’ indentures, as well as evidence of the many socio-cultural factors potentially influencing emergent bakers’ identity formation. Case study therefore aligns well with the social constructivist-interpretative approach underpinning this research project.

The longitudinal, multiple case study approach adopted during the investigation was particularly relevant with respect to a social constructivist-interpretative stance because it provided for examination of the disparate sectors that intersect apprentices’ journeys. Consideration of these sectors, as informed by the research presented and discussed in the previous chapter, required undertaking these tasks: ascertaining and verifying the distinctive features of each apprentice’s workplace, observing and understanding the workplace relationships and dynamics existing in the multiple workplaces involved in the study, and collecting and interpreting each apprentice’s perspectives and experiences. The strengths of case study research articulated by Nisbett and Watts (cited in Cohen, Manion, & Morrison, 2000, p. 184) matched both the intent of this study—to investigate and understand apprenticeship—and its logistical parameters.

Case studies offer other advantages for the multi-focused enquiry that this investigation represented. One is that case results may be more easily understood by wider audiences because they tend to provide a more accessible illustration of phenomenon than do investigations based on quantitative methods. Another is that case studies speak for themselves: they have the ability to capture unique features that may be lost in projects based on more broad-based methods (e.g., large-scale surveys), they are “grounded” in reality, provide insights into situations and experiences similar to those under investigation, can be completed by a single researcher, and are sufficiently flexible to allow for unanticipated events and uncontrollable variables (Cohen et al., 2000). Furthermore, case study research supported the nature of the investigation’s research questions, which, in their overall intent, were designed to collect data on the major contributors to the apprentices’ skill and knowledge development, dispositional transformation, and identity formation. However, because the inquiry’s research questions were also directed at deep examination of specific workplace practices and workplace relationships within actual bakeries, they aligned with the case study’s quest to obtain the more subtle and complex data existing within human
relationships, for instance to understand from whom and how apprentices attend inter-subjective understanding (Hutchins & Klausen, 1998) of specific workplace norms and practices. Finally, case study research methodology offers researchers flexibility of approach when exploring events beyond their control, as was likely to be the situation for a study largely conducted in bakeries. For the particular purposes of this investigation, case study methodology furnished opportunity to construct a “rich and vivid description of events relevant to the case ... [and a] chronological narrative of events” (Cohen et al., 2000, p. 182). It also provided a vehicle for investigating the skill, knowledge, and dispositional shifts in identity that occur over time. It allowed for assessment of how work environment, workplace relationships, and overall work ethos were influencing apprentices’ identity transformation.

Case study methodology also has disadvantages, the most prominent of which is the difficulty of generalising or extrapolating findings to wider settings and situations. However, this feature was not considered a particular concern in this study given that its primary purpose was to illuminate and elaborate a particular phenomenon, not to generalise the findings to be widely applicable beyond the study’s boundaries. (This topic is considered in more detail later in this chapter.)

Yin (2003) identifies three types of case studies in terms of their outcomes: (a) exploratory, as is the case when conducting a pilot of a larger planned study or when needing a means of developing and solidifying research questions; (b) descriptive or narrative accounts; and (c) explanatory, or testing of theories. This current study, although mainly exploratory in nature, encompassed aspects of the other two types. It is descriptive in its attempt to capture the voice of apprentices participating in this research and explanatory in its effort to test theories relating to workplace learning, identity formation, vocational choice, and apprentice learning. The next section considers the explanatory power and validity of case study theory-building processes with respect to organising and moderating data analysis and ensuring validity of the study’s findings.

**Using case study to trace cause and effect and develop new theory**

Case study methods provide four distinct advantages when developing explanatory theories (George & Bennett, 2005): (a) obtaining high levels of conceptual validity, (b) deriving new hypotheses, (c) exploring causal mechanisms, and (d) modelling and assessing complex
causal relations. In addition, building case-study-based explanations holds possibilities for generating novel theory, deriving emergent theory whereby each one of which can be tested by referring back to the cases from which the theories were derived, and producing empirically valid theory through methods of triangulation appropriate to case study data (Eisenhardt, 2002). These advantages are especially important for “entities,” such as tacit knowledge acquisition and application and occupational identity formation that are difficult to quantify and simplify, and to determine the factors influencing them. The many factors contributing to identity formation arise through multiple pathways and interrelate in varied ways and through various means. Case studies can assist in understanding these patterns by unravelling and identifying possible cause and effect relationships between the various distinctions and gradations embedded within the research data (Eisenhardt & Graebner, 2007). This process eventually leads to a state of “equifinality” (George & Bennett, 2005), which occurs when the various factors being studied coalesce to contribute to a similar end. In the case of this study, equifinality was the apprentices’ eventual realisation that they had become bakers.

George and Bennett (2005) identify several ways in which a range of case study data serves theory-building objectives. Firstly, the development of subsequent studies: descriptions arising out of atheoretical or configurative ideographic studies aid this process. Secondly, derivation of new variables, hypotheses, causal mechanisms, and/or causal paths: heuristic case studies are particularly useful in this regard. Thirdly, determining fit with existing theories: ascertaining whether the data emerging from a case study fit with or deviate from existing theories allows the validity and reliability of those theories to be tested. Fourthly, determining the plausibility of untested theories or hypotheses: this involves the use of “plausibility probes,” which are carried out during intense investigation of a case. Fifthly, discerning common patterns in particular cases: this process, known as block building, is most applicable with larger or more focused studies, the data from which may lead to generalisation or extrapolation of a theory.

Each of these objectives offers a framework for conducting data analysis. In this study, the building-block objective was chosen as a primary means of guiding analysis because it best matched the study’s overall premise, that is, to determine how the identity formation trajectories of the 13 apprentices transform over time and what factors influence that trajectory. The building-block approach provided opportunity to examine the data from
several angles and to obtain, via objective methods, apprentices’ perspectives. It also provided a means of finding common patterns relative to identity formation across the data for each apprentice. From here, other theory-building objectives could be deployed. Emerging patterns were “theory tested” in order to identify apprenticeship cases or instances outside the normative pattern. These atypical cases were then re-studied through use of heuristic theory building, a process that typically led to new insights. Several iterations of the cycle were completed to identify the many causal mechanisms operating along the pathways of the apprentices’ journeys from novices to bakers.

**Utilising narrative to establish cause and effect**

In recent years, researchers have increasingly collected biographical accounts of individuals as they engage in workplace learning. These accounts aid exploration of the factors influencing both the socio-cultural and individual aspects of identity formation, and they offer a relatively efficient means of collating and comparing diverse experiences (Hodkinson & Hodkinson, 2004a, 2004b; Hokinson et al., 2004). The biographical, or narrative, accounts assembled for each apprentice in the current study enabled consolidation of various disparate elements, including bakery type, workplace relationships, apprentice profiles, and apprentices’ perceptions. They also allowed ready consideration of variables common to baking apprentices (e.g., entry into baking, learning about baking, changing roles during each year of the interviews, amount of time each apprentice thought it had taken him or her to become a baker) and bakeries (e.g., bakery type, bakery product range, management structures, and overall “participatory expansiveness–restrictiveness” within the bakery; see Fuller & Unwin, 2003b). These narratives can then be scrutinised for causal links between how apprentices experienced and perceived the stages or phases of belonging, becoming, and being within the overall culture of practice in which their apprenticeships were enacted (Brown et al., 1989). As mentioned earlier, instances within the apprentice cases that did not support an emerging explanation were not discarded but instead subjected to additional analysis in order to expand or clarify the overall evolving account and to provide confirmation or otherwise of the validity of hypotheses.

### 3.4 Ethical considerations

Ethical issues in social research include providing the following assurances:

- Participants take part in the study on a voluntary basis;
● No harm comes to participants during conduct of the research;
● Participants’ anonymity and confidentiality is protected at all times;
● Researchers do not exercise deception in order to obtain data from participants;
● Data analysis and reporting are rigorous;
● Institutional review boards or committees review and approve the programme of research;
● Researchers follow codes of ethics particular to their areas of expertise and/or profession at all times (Babbie, 2004; Christian, 2005).

All of these assurances were established and adhered to throughout the study as per the ethical clearance secured for the investigation through Griffith University’s ethical conduct processes.

To ensure all participation was voluntary, I obtained permission and written consent (see Appendix C for copy of form) from all apprentices. Permission was also sought and obtained from employers for apprentices to be interviewed and for observations to be completed in bakeries. In addition, information letters were provided to both apprentices and bakery managers at the time of the first interview and observation (see Appendices A & B), and verbal permission was obtained from staff at bakeries whenever an observation involved the researcher watching the apprentice while at the same time engaging as a participator in the bakery. To ensure participant confidentiality, all raw and collated data from interviews, structured questionnaires, and observations were securely stored and will be destroyed on completion of this investigation. The privilege of reading through all the interview transcripts was limited to myself. Access to data files on my office computer and laptop is password protected. Once raw data had been transcribed and collated, original voice files were deleted. Copies of all data, both hard and soft, will be shredded or deleted at the end of the research study. The anonymity of all apprentices, the bakeries they work in, their managers, and co-workers has been assured through use of pseudonyms throughout data analysis and presentation of findings.

In addition, peer review and adherence to a professional code of ethics were accomplished through scrutiny and approval of research materials by the ethical research committees at Griffith University and Christchurch Polytechnic Institute of Technology (CPIT). These materials included prepared questions for the interview sessions conducted
each year (see Appendices F, G, & H), information letters to apprentices (Appendix A) and their employers (Appendix B), and survey questionnaires (see Appendices D & E).

3.5 Description of research process

Figure 2 details the study’s sequence of activities. The study was enacted between 2004 and 2008, with the research design phase accomplished during 2004. Collection of data in the form of interviews with apprentices and observations at bakeries occurred from the beginning of 2005 to the beginning of 2008. There was an interval of between eight to 10 months between each interview and observation session. Interim data analysis of interview transcripts was conducted after both the first- and second-year interviews with apprentices. Interim data analysis provided direction in establishing the overarching themes forming the foundation of this dissertation—belonging to a workplace and becoming and being a baker. Overall analysis of data collated from survey questionnaires, interview transcripts, and participatory observation field notes occurred throughout 2008. The study coincided with the time period of the apprentices’ indenture. The majority of apprentices completed their indenture; nine had completed their formal National Certificates in Baking, Level 4, by mid-2009.

**Determining the overall research design, data collection instruments and data analysis**

The need to follow a cohort of apprentices through their apprentice journey located the case study as a longitudinal examination of individual experiences. However, as discussed in Chapter 2, the apprentice journey is enacted within a complex socio-cultural arena that comprises diverse practice communities. Also, given the premise that the identity formation trajectory of novices becoming bakers would be convoluted and person-dependent because of being shaped by the apprentices’ individual agencies, the units of analysis for this research require definition (Stake, 2005). The metaphors defining this dissertation of apprentices’ belonging to a workplace, becoming and then being bakers, were initially derived to concur with the three occasions for data collection through the duration of this study, as coinciding with the progression of the informants’ apprenticeship journeys. Data were collected near the beginning, middle and end time periods of a traditional baking apprenticeship reflecting chronologically the commencement, continuance and eventual completion of indenture. Each phase descriptor of becoming, belonging and being, was derived as each stage in the study progressed, with the findings in the data concurring well and prompting the selection of these descriptors.
Semi-structured interviews were considered the most efficient means of obtaining the apprentices’ individual perceptions—their insights, opinions, and experiences—of identity transformation. To realise an impartial analysis of the interview data across the 3 years of interviews, an organising structure was instituted by asking all apprentices a similar set of questions each year. Surveys were used to gather demographical, ontological, and statistical data on the apprentices’ workplaces. Data gained from questionnaires administered to the apprentices (see Appendix C) and their supervisors or managers (see Appendix D) were seen as providing the best representations of the ontogeny of each apprentice, the organisational structure of their workplaces, and the socio-cultural milieu in which their apprenticeships played out.

The study’s units of analysis were defined as the apprentices’ individual journeys from novices to trade workers and as the factors supporting or hindering the journey. The latter included bakery workplaces and bakery workers. The study therefore comprised three units of analysis: (a) the individual apprentices, (b) their bakeries, and (c) bakery workers or allocated supporters (e.g., modern apprentice coordinators or MACs). Figure 3 provides a diagrammatic representation of these units.
Field notes made during the observations in the bakeries were used to explicitly confirm skill acquisition, knowledge consolidation, and workplace relationships, as reported by the apprentices. The observations also provided opportunities to confirm impressions gained from the survey questionnaires on organisational and management practices within individual workplaces. As discussed above, adopting different instruments, such as the semi-structured interviews, survey questionnaires, and participatory observations used in this study to obtain data allows the researcher to test the validity and reliability of findings (Stake, 2005). Also, as noted above, both inductive processes (i.e., reiterative thematic analysis of the interview data) and deductive processes (i.e., case study process tracing to determine cause-and-effect links in all data collated) of data analysis were employed.
Selection of research participants

The participants were 13—a baker’s dozen—young people indentured as apprentice bakers. Apprentices were selected on a convenience basis: the researcher invited baking apprentices attending block courses at the polytechnic where she taught to take part. The apprentices came from bakeries situated in the South Island (the province of Canterbury in particular) and in the lower half of the North Island of New Zealand. The participating apprentices were required to meet two criteria: to be between 16 and 18 years of age, and in their first or second year of indenture. The age requirement tallied with the study’s original aspiration, which was to understand how young people become bakers. After receiving feedback from peers who participated at the presentation of the first-year interview findings at conferences in Australia and New Zealand, the researcher decided to select and interview an older cohort of apprentices in their 20s. This step allowed her to investigate if older apprentices entering the trade after engaging in work other than baking possessed perceptions similar to those of the younger apprentices, who had commenced work as school leavers.

The younger apprentices were categorised as ‘traditional’ because they all entered their indentures on leaving school. This point of entry is the recognised way apprenticeships usually commence (Ainley & Rainbird, 1999). The older apprentices all worked in other occupations on leaving school before commencing indenture, and their participation provided the study with a wider range of apprentices’ perspectives because apprentices commencing their apprenticeship at age 24 and above represent up to 25% of each cohort of apprentices entering the New Zealand baking industry. (This ratio of mature to young apprentices was established by averaging lists of apprentices, sorted by age, attending block courses at CPIT between 1998 and 2007.) The addition of the ‘older apprentices’, therefore, provides a better match between this project’s participant cohort (i.e. 30% older apprentices) and past cohorts of bakery apprentices (i.e. 25% older apprentices). The decision to categorise apprentices into ‘traditional’ for those who entered indenture directly from school and ‘older apprentices’, for those with some prior work experience, was to establish if prior work and life experiences would influence apprentices’ decisions to accept and continue through indenture. Additionally, to study if past life or work experiences influence pathways through and beyond apprenticeship. As socio-cultural factors, including life histories, shape acceptance of vocational identity transformation processes (for example, Billett, 1998), a comparison
between the identity of trajectories of ‘traditional’ and older apprentices provide important contributions to this study.

**Data collection methods**

**Interviews**

Interviews can be conducted with individuals or with groups, and they can be structured or unstructured (Fontana & Frey, 2005). Semi-structured interviews are a compromise between completely structured and totally unstructured interviews. In structured interviews, all set questions are asked and answers elicited. Unstructured interviews allow for open-ended answers and often invite interviewees to converse around a topic. The approach used in this study was to utilise semi-structured interviews. Although all interviews were conducted using the items presented in Appendices F, G, and H, the interviews were also opportunities for apprentices to share their experiences. Individual deviations from the interview items pertinent to this study were a product of the apprentices’ individual contexts and ability to articulate their experiences. Fontana and Frey’s call for researchers to conduct “empathetic interviews” was heeded. Empathetic interviewers treat interviewees from an ethical position that acknowledges interviewees’ perceptions. They also conduct the interviews from a stance of neutrality. However, it is important to acknowledge here that the interviews were conceived as a conversation between research participants and researcher. As such, the interviews were a combination of the ontological and epistemological standpoints of both interviewee and interviewer. The excerpts from interview transcripts used later in this thesis to illustrate the themes and threads that emerged from the findings need to be read within this context.

As explained in the above section on participant selection, nine apprentices were tracked through their indenture and four older apprentices were selected to participate in the study in the second year of indenture. Therefore, three semi-structured interview sessions were conducted with the younger apprentice participants and two with the older participants. The first set of interviews sought to clarify the apprentices’ experiences of their initial introduction to baking. This clarification was necessary because many apprentices work for up to a year as baker’s assistants before being offered an indenture. The interviews were also directed at collecting data on the apprentices’ current duties in the bakery as well as their perceptions of how they were learning practical and theory-based skills and of their
relationships with their trainer, supervisor, or manager. The direction of the interview questions (provided in Appendix F) was derived from the researcher’s understanding of the current literature on young people’s initiation into work, in particular, the following: pathways into apprenticeship (Higgins, 2002; Stokes & Wyn, 2007; Vaughan, 2005), post-school pathways in New Zealand (Vaughan et al., 2006), and processes relating to the transition from school into apprenticeship (Industry Training Federation, 2007). These initial interviews provided the foundation for gauging the apprentices’ perceptions of their early initiation into the baking industry.

The second interview was completed at least nine months after the first interview. This interview (see questions in Appendix G) was conducted to ascertain changes in apprentices’ perceptions of workplace learning and their relationships with their respective trainers or supervisors. The interview also sought to determine how much progress the apprentices had made towards completing their qualifications and if skill and knowledge progress had brought a corresponding increase in bakery work responsibilities. This second round of interviews explored the extent to which the apprentices’ initial indenture experiences had changed their perspectives on the baking occupation. Interview questions were informed by literature on young people as learners in the workplace (Boote, 1998; Choy & Delahaye, 2000; Cornford & Beven, 1999; E. Smith, 2003b; P. J. Smith, 2001, 2003), the workplace as a learning environment (Billett, 2001b; Gibbs & McRoy, 2006; National Centre of Vocational Education Research, 2003; Schofield, 2001), and the realities of workplace learning (Cornford & Gunn, 1998; Fuller & Unwin, 2003b; Industry Training Federation, 2007).

The third interview (see Appendix H) was conducted between eight to 10 months after the second. In many cases, this interview occurred close to the completion of the apprentices’ indenture. This interview was organised to complete the story of the apprentices’ journeys from novice to baker. In particular, these last interviews were undertaken to establish if and in what ways the apprentices had come to identify themselves as bakers, and if and at what point during their indenture, this realisation of identity transformation had occurred. If identity transformation had not yet taken place, interview questions endeavoured to identify what points or circumstances had caused the apprentices to dis-identify (Hodges, 1998) or refuse to identify with the occupation. Another area explored in the third interviews concerned apprentices’ perceptions of themselves as bakers. The apprentices were asked how
they saw their competency in all areas of baking. The extent to which their workplaces had contributed to their overall identity as emergent bakers was also investigated. Here, the apprentices were asked if they had been inspired by any literature, media, or persons outside their own bakery. The questions used in this set of interviews were founded on literature on occupational identity formation (Kirpal, 2004; Penuel & Wertsch, 1995; Vondracek, 1992), identity formation in young people learning a trade (Drewery & Bird, 2004; Peterson, 2004; Stokes & Wyn, 2007), learning as becoming (Davies & Tedder, 2003; Felstead et al., 2005; Hodkinson et al., 2008), and work as a job, career, or vocation (Hall & Chandler, 1995; Wrzesniewski et al., 1997).

With the participants’ permission, all interviews were audio-recorded. Written notes were also made as the interviews progressed, to serve as prompts and backups.

**Structured survey questionnaires**

Structured questionnaires (Appendix D & E) were used to elicit profile data on each apprentice. The researcher administered separate questionnaires to apprentices and bakery managers or employers at the time of the first interview sessions. The first questionnaire (Appendix D) collected data on each apprentice’s educational background, parental and peer support network, and perceptions on baking as a career. It also asked the apprentices to state the numbers of hours they worked and their perceptions of any changes to their social activities as a result of bakery employment. These data were collected to assist with gaining an understanding of the apprentices’ socio-cultural milieu.

The literature informing the construction of the questionnaires included that pertaining to educational attainment and post-school destination (Leach & Zepke, 2005; Ussher, 2007; Vaughan, 2005), support structures required during apprenticeships (Fuller & Unwin, 2003b; Industry Training Federation, 2007; Schofield, 2001), and the workplace as a learning environment (Billett, 2001b; Gibbs & McRoy, 2006; National Centre of Vocational Education Research, 2003; Schofield, 2001). Literature on expansive or restrictive participative workplaces (Fuller & Unwin, 2003b) and on the contributions of workplaces to occupational identity formation (Kirpal, 2004; Penuel & Wertsch, 1995; Vondracek, 1992) also informed development of the questionnaires.
A second questionnaire (Appendix E) was developed with the aim of collecting data that would allow a profile to be constructed of each apprentice’s indenture. The development work was completed with assistance from bakery managers or supervisors. The bakery profiles questionnaire asked the supervisor or manager of each bakery to state bakery type, number of employees working in the bakery, types of products manufactured, and range of shift rosters. Other questions elicited information on supervisors, trainers, or workplace assessors involved with each apprenticeship and sought the manager’s perception of how well the apprenticeship was progressing. As noted above, the items in the survey questionnaire were informed by my understandings of how workplace environments contribute to eventual occupational identity formation. Hence, the apprentices’ interview responses were used to refine the questionnaire.

The data obtained by way of the questionnaires was used to deepen understanding of the ontologies of the apprentices and bakery workplaces. The data collected also assisted with comparative data analysis by allowing identification of typical or atypical factors influencing or contributing to occupational identity formation during the apprenticeship journey. The questionnaire data were also used to help construct the narratives of each apprentice, thus providing another element for the case study comparative analysis.

**Participatory observations in bakeries**

Observations of apprentices at work were used to gather evidence of workplace circumstances, workplace organisational structure, and the support structures available in the workplace to encourage and enhance apprentice learning. The contributions that employees, other than supervisors and managers, made to the apprentices’ skill progression and knowledge acquisition were also recorded. Forms of observational research include descriptive (a gathering together of all details), focused (noting all pertinent issues), and selective (spotlighting a specific condition or theme) (Angrosino, 2005). The form used in this study was selective because the intention behind conducting the participatory observations was that of generating supplemental data that would provide a more comprehensive understanding of the apprenticeship journey. More specifically, the observations were conducted, using guidelines from Billett (1998), E. Smith (2003a), and Stevenson (2003), to help determine the contribution made by bakery type to apprentices’ occupational identity formation, the extent to which the apprentices had access to skills and
knowledge learning affordances, and the nature of the interpersonal interactions that the apprentices experienced.

Guidelines for conducting observations (Bouma & Ling, 2004) include the need to assess the whole situation with regards to obtaining a picture of the observational context, the need to assess the participants’ roles in the situation being observed, and the need for the researcher to collect his or her perceptions of the observed situation. Therefore, in each bakery, field notes were compiled on the following:

- The overall organisational and management-to-staff relationships within the bakery;
- The efficiency and speed with which bakery production was progressing;
- The specific jobs and tasks that each apprentice was engaging in;
- The interactions apprentices had with other workers; and
- Each bakery team’s conduct of work processes.

A set checklist was completed for each bakery (see Appendix I). The checklist required notation of the physical conditions in the bakery, the type of machinery used, the degree or level of mechanisation, the types of baking being produced, and the approaches used to retail bakery products.

The field observations coincided with each interview session; therefore, three observations were generally conducted over the course of the investigation. The researcher sought and gained permission to conduct the observations, which occurred during production periods, from each apprentice, his or her manager, and the other workers in the bakery. The duration of each observation varied from an hour to just under four hours and was based on following each apprentice’s work process in their bakery. Therefore, observation time period was dependent on apprentices’ work activities. In general, I would organise a time to arrive near the mid-point of the apprentices’ shift, observe the apprentice through the work activity and complete the interviews with apprentices at the end of the shift. In some bakeries, the duration of observation was shorter as the apprentice would be allowed to participate in an interview just as the shift completed production activities and began the daily bakery clean down. However, over the course of the two to three observations, all the apprentices were observed across at least six hours with total observation time ranging from six to just over twelve hours for individual apprentices. Observations were made to establish data on apprentices’ craft practice competencies and their roles and standing in the workplace hierarchy. Each of these elements of data are those that are seen to influence the trajectory
and momentum of apprentices’ evolving roles in the workplace, which, in turn, contributes to occupational identity transformations as apprenticeship progresses.

Observation notes, supplemented with structured observation schedules, were used to collect data on interactions between apprentices and other workers, and schedules were used to estimate how much and what type of workplace learning was occurring. Observations were useful in investigating how inter-subjective understandings (Hutchins & Klausen, 1998) were communicated in workplaces. These workplace-based observations were supplemented with observations by the researcher of apprentices’ performance while attending block courses at CPTT in Christchurch. Assessments were made of the apprentices’ growing competence in both practical skill acquisition and theoretical understanding of the baking procedures, both of which were not easy to quantify during the short-duration workplace-based observations. Angrosino (2005) recommends that when presenting data from observations, researchers should draw on open-ended narratives, published checklists, and field guides. In this study, the field notes were summarised into tables (an example appears in Appendix J), and aspects of the observational data were incorporated into narrative vignettes (Appendix L).

**Building narratives to understand occupational identity formation**

In this study, the narratives for each apprentice were assembled into individual stories from the interview, questionnaire, and observation data. The narratives provided a platform from which themes could be drawn relative to the apprentices’ identity trajectories. Each trajectory could then be examined in relation to all other trajectories. It is important to note here that the narratives constructed during this study were not narrative inquiries in the sense defined by Riessman (2008). Instead, they were akin to the storytelling aspect of case study (Stake, 2005); as such, they served more as analytical lenses (Chase, 2005). Chase defines narratives as “oral or written [accounts that] … may be elicited or heard during fieldwork, an interview, or a naturally occurring conversation” (p. 652).

Amongst the different types of narratives are short topical stories, extended stories about significant events in one’s life, and narrative accounts of one’s entire life. Here, each assembled narrative tells the story of a segment of the apprentice’s life. Each segment summarises the activities leading to the apprentice’s indenture, experiences, and plans beyond indenture. Stake (2005) advises that “tell[ing] the whole story” (p. 456) is difficult
and cautions against cases being condensed and refined through a researcher’s own perceptions, biases, and prejudice. The narratives constructed in this study should consequently be viewed as products of an evaluative process; they are useful for purposes of data analysis but are by no means a complete representation of the apprentices’ respective journeys.

In order to build each narrative, the researcher used—as a framework—the series of questions presented in Table 1. This approach helped ensure that all narratives contained the same or very similar content. In Table 1, the first column on the left presents the key factors relating to the apprentices that had to be included in their respective narratives. The middle column sets out the characteristics pertaining to these factors. This information was derived from the semi-structured interviews, questionnaires, and observations. The right-hand column of the table indicates how these characteristics were summarised in the vignettes.

Table 1

<table>
<thead>
<tr>
<th>Information Contained in each Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor</td>
</tr>
<tr>
<td>Apprentices - Years one and two</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>workplace</td>
</tr>
<tr>
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</tr>
<tr>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Apprentices - Year three</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>
3.6 Data analysis process

This section details the procedures used to collate, evaluate, and interpret the study’s data. Interview data and the profile data from the structured questionnaires and participatory interviews were first organised and then subjected to several recursive cycles of thematic analysis. As discussed above, the vignettes were constructed from data collected through interviews and questionnaires and then analysed using case study process-tracing methods to investigate cause and effect associations between the various factors potentially influencing occupational identity formation.

Organising interview data

Raw data from the recorded interviews were transcribed into hard copy. Interview transcripts were analysed using a reiterative method of repeated readings, during which data threads and categories were highlighted and separated. Adherence to guidelines set down by Babbie (2004) and George and Bennett (2005) expedited this process. Thematic analysis identifies frequencies (i.e., how often), magnitudes (i.e., level), structures (i.e., types), processes (i.e., how), causes (i.e., what), and consequences (i.e., why). The interim pattern search identified initial threads and categories that were extended each time the data were analysed. This first round of searching identified the following categories: the initial experiences of the apprentices in the bakeries; the processes by which they acquired skills and knowledge; the opportunities they had to practise skills and ask questions; their relationships with their supervisors, trainers, or workplace assessors; and their perceptions of their progress. Common threads derived from the separate interviews were collated into hard copy, tabulated, recoded, and further studied for commonalities and insights, a step that led to identification of new threads or categories. As proposed in the building-block approach to case study theory building (George & Bennett, 2005), and as noted earlier in this chapter, atypical responses were highlighted and recorded, a practice that helped establish why some apprentices adopted identity-formation routes that differed from those of their peers.

The exploration of the interview data was completed through cycles that involved using the “copy and paste” capability of a word processor to combine data containing similar threads. This material was printed out and the hard copy was scrutinised to identify details. The search function of a word processing programme was then used to find, from among the overall collation of data, key words identified during the manual sort of hard-copy data. This
step proved to be an efficient method for detecting comments from interviews that had escaped the initial copy and paste process.

**Organising and analysing profile data**

The completed profile questionnaires from apprentices and employers were collated and organised to identify data that would assist with categorising and sorting the qualitative data derived from the interviews and observations. This information was summarised into tables that detailed, and allowed for comparison of, the patterns among the content collected from the apprentice and bakery profiles and the interviews and observations. As this material was iteratively analysed and sorted, table contents were rearranged so that comparisons could be made more effectively and efficiently.

**Deriving meaning from the participatory observation notes**

The observation field notes were treated in a similar way to the raw data collected through the semi-structured interviews. Observation schedules were collated and organised according to the same procedure used for the data within the profile questionnaires. Patterns concurring with insights gained during the interviews were cross-referenced, a process that helped build a better understanding of how workplace-based organisational and management practices aligned with the apprentices’ perceptions of their experiences. Pattern cross-referencing followed process-tracing methods (George & Bennett, 2005) and assisted examination of relationships between observed apprentice skill acquisition and interpersonal interactions. Again, most of these data were tabulated. Frequently appearing characteristics were marked, and links then made between these characteristics and the data gathered from interviews and the profile questionnaires. The links were colour coded for ease of identification, categorisation, and sorting. All items with similar colour codes were re-tabulated and comparisons made between tables generated from each colour code. Observations noted and data collected from the bakery profile questionnaires were used to sort bakeries employing apprentices into various categories.

**Process tracing of factors supporting or hindering occupational identity formation**

The process-tracing technique (George & Bennett, 2005) used to analyse the data generated by this study began with an initial categorisation of the apprentices’ experiences under the
broad headings of belonging, becoming, and being. Experiences were then linked to each apprentice’s bakery, after which bakery characteristics were examined to identify patterns relating to how workplace factors had contributed to the processes of belonging, becoming, and being. From there, the patterns were re-sorted to determine if and how workplace characteristics contributed to identity formation. Patterns repeated at each stage or phase were further scrutinised and investigated. This procedure built up a general view of how each stage or phase of belonging, becoming, and being occurred and what characteristics appeared to support or not support identity formation. Figure 4 provides an example of how process tracing was accomplished with respect to the identity formation stage or phase of belonging.

**Figure 4.** Process-tracing procedure used for analysing case study data relating to the identity formation stage or phase of “belonging”.

**Developing a model of occupational identity formation**

The various characteristics of bakeries as workplaces supporting apprentices’ perceptions of how they followed through the trajectory of belonging, becoming, and being bakers were
consolidated to form a model of how apprenticeships contribute towards the process whereby apprentices identify as trade workers. Each of the principal themes of belonging to a workplace and then of becoming and being a baker were consolidated into a diagram designed to explain how each of these stages interconnected with the next. The researcher considered that identifying the extent to which each stage had to be completed before the next stage could proceed as a particularly important part of the analysis. Figure 5 outlines the procedure used to develop the model.

![Figure 5](flowchart.png)

*Figure 5. Flowchart of procedure used to build a model of belonging, becoming, and being.*

### 3.7 Limitations of methodology used in study

According to Nisbet and Watts, cited in Cohen et al. (2000, p. 184), case study methodology has a number of weaknesses. First, results obtained through case study methods may not be generalisable. Second, findings are not easily open to cross checking and may be selective, biased, personal, and/or subjective in orientation. Third, findings can reflect observer prejudice. These limitations and their consideration for this study are now discussed.
**The issue of generalisation**

One of the limitations of case study methodology is its focus on selected and representative cases. The focused nature of the cases often means that hypotheses developed out of case study methodology may not be generalisable to other countries, types of industries, or even similar organisations in the same country. However, Falk and Guenther (2006) argue, generalisations can be made with respect to findings procured through qualitative research. Generalisation may occur especially if there is replication of findings across several populations, ability to use inductive approaches to construct theories from findings is present, the “receiving audience” considers that the type of context being researched and the methods being used to generate findings are appropriate, and the generation of explanatory concepts may have wider purchase.

They also observe that claims of generalisability are more of a concern for quantitative empirical accounts than for qualitative accounts that seek explanation rather than transferability to other contexts, as was the case with the current study. Nevertheless, this investigation sought to bring a degree of generalisability to the findings. Generalisability was served by the use of rigorous process tracing that allowed case-study-based theory development to be scrutinised through the technique of theory building. This process, in turn, allowed development of a robust framework within which relationships across contexts could be studied, and the developing theory assessed for validity and reliability.

Claims of robust generalisability also tend to relate to findings drawn from large samples of subjects or participants. Generalisation of the findings elicited from the current study’s small sample size could thus be said to present a challenge for generalising the model developed out of the research to other apprenticeship and identity formation contexts. However, apprenticeships have occurred for many centuries and still continue (Snell & Hart, 2008). Context, social processes, and cultural expectations might differ across time, but the basic pathway of how young people become trade workers and perhaps the route travelled doubtless bear similarities across cultures, trades, and time. As such, certain findings pertaining to one apprenticeship context could be assumed, with some confidence, to apply to other apprenticeship contexts. The concern in this current study was to build explanatory accounts of the journey that apprentices take from novice to trade specialist—a journey that
because of the aforementioned similarity of apprenticeship contexts may well be taken by most apprentices.

Stake (2005) queries the extent to which case study methodology needs to serve the interests of generalisability. He defines case studies that enhance understanding of processes as an intrinsic form of case study, where the goal is to understand the case and not to build generalisations. Focusing on ensuring the findings of a study are generalisable may, he says, direct researchers away from features of the study that are important for them to examine and understand. Haunschild and Eikhof (2009) concur. They argue that not all case study research needs to be generalisable. Therefore, in this study, the objective of understanding how apprenticeship is transacted could be said to supersede the need to ensure generalisability of its findings. A more realistic objective is arguably that of presenting an explanatory account that has some prospect of adaptability to other contexts.

The issue of researcher as subject expert

Allan and Doherty (2004), having conducted case study research of farmers and school principals, warn of the need for researchers to be especially vigilant when embarking on a research project if they have intimate knowledge of the context and culture to be studied. In such situations, there is a strong need for the researcher to balance a closeness of understanding and knowledge with objectivity when conducting analyses of the data.

For this researcher, resolving the challenge of being a subject expert involved allowing time for each initial data analysis cycle to permit a dispassionate view of the data and its analysis. A concerted commitment was made to ensure data analysis was not compromised through over-involvement. Data from each year were merged using word-processing tools and the names of all apprentices were removed and replaced with coded representations. This approach meant that my perceptions of each apprentice and his or her situation during data collection were quite independent of analysis of data and, therefore, did not interfere with the ability to study that material objectively. Characterising each bakery as expansive or restrictive participatory environments (Fuller & Unwin, 2003b) and adopting pseudonyms for them also helped in this regard. The potential subjectivity occasioned by my association with and knowledge of various bakeries was further lessened by the use of common descriptors when alluding to these businesses. Bakeries were thus characterised by
products manufactured, management styles, and primary business objectives (e.g., retail, café, wholesale) rather than as individual bakeries. These strategies were continually ascribed to as the research study progressed.

Another area that the case study researcher needs to be aware of is the “Hawthorne effect” (Payne, Field, Rolls, Hawker, & Kerr, 2007), in which those being researched present a “good face” simply because they are being researched. The researcher, who was also a tutor of the apprentices, ensured, as far as possible, that all apprentices were interviewed at their bakeries. When apprentices were unable to meet in this way, interviews were completed, with apprentices’ permission, at their home. In the few instances when an interview had to be conducted during an apprentice’s block course, it was completed in a student or staff cafeteria and not in the researcher’s office. These steps were adopted to distance, in apprentices’ minds, the researcher’s role as a tutor. Therefore, during observations, the researcher avoided working with the apprentices in their bakeries. Due to the busy nature of most bakeries, it was not difficult for apprentices to continue with their normal duties while the researcher worked with another baker or participated in a conversation with the employer or other bakery worker. The researcher elected to conduct participatory observations of the apprentices in their workplaces in order to ensure that her presence neither intimidated the apprentices nor disrupted their normal work activities.

**Enhancing the credibility of the research data**

Before analysis of the interview transcripts commenced, each apprentice had the opportunity to review and comment on their transcript. Any changes to transcripts that the apprentices suggested were made and any parts of the transcripts that the apprentices did not want used were removed. The questionnaire information obtained during the first round of interviews was briefly revisited and, where necessary, revised with the collaboration of the apprentices during the time periods given over to the second and third interviews. The information checked at these times included not only contact details but also the number of bakers still working in the bakery and details about who was supervising the apprentice. If apprentices had changed workplaces between interviews, the questionnaires were revised at each relevant interview to ensure data from the questionnaires remained current.
The questionnaires completed with the bakery manager, owner, or main supervisor at the time of the first interview session were also reviewed for currency during the subsequent interview rounds. Information checked included contact details and major changes to the organisation since the last interview. During the participatory observations, care was taken to ensure data collection focused on the apprentices’ work component, work progress, and interactions between the apprentices and other workers in the bakery. The types of observation made were limited to a set checklist (Appendix I) to enhance comparability of the data across the bakeries.

Enhancing the validity of this study

Stake (2005), along with Haunschild and Eikhof (2009), recommends using multiple data collection tools and including multiple perspectives to aid the reliability and validity of qualitative case study research. In this study, efforts to ensure research validity began with the data collection process detailed above. Other methods to ensure research validity included gathering research data from apprentices situated in the actual transformative process of becoming bakers. In addition, all themes and threads emerging from the data analysis were supported with information from more than one data source (e.g., interview fragment, questionnaire response, observation field note). Finally, the model built to explain the processes of belonging, becoming, and being contained best-fit data, that is, detail that supported the model’s conceptual and thematic framework. In addition, atypical details were studied to test the model’s parameters.

3.8 Conclusion

This chapter described, discussed, and justified the interpretive-constructivist research approach selected to conduct the investigation reported in this thesis. The rationale of this approach as a foundational research method in general and how it shaped the conduct of the study’s research procedures is presented and discussed. The overall research methodology of how the investigation was carried out was also described. The following chapters detail the findings of this study of how young people become bakers.
Chapter 4

Belonging to a Bakery

4.1 Introduction

This chapter, and the subsequent two chapters, commences the explanation of how 13 young people come to belong to a workplace and then subsequently “become” and “be” bakers. Together, these three chapters report on how some apprentices in the study have transformed from notions of baking as a job to a belief, for some, of baking as vocation. The key focus in this present chapter is to describe, analyse, discuss, and illuminate the entry trajectory processes by which these apprentices came to belong to a bakery.

The chapter begins with a summary of the key findings relating to this process. This is followed with a discussion of the concept of belonging to a bakery and then a description and explanation of the apprentices’ entry trajectory into craft/trade practice, through working in a particular bakery. It concludes with an assessment of factors that assist individuals to belong to the workplace as well as the factors inherent in workplaces that support new entrants into participation in an unfamiliar work-focused practice community.

Although the central concern of this study is to understand and explain the apprenticeship journey, it is noteworthy that the young bakers in this study also embarked on many other journeys of identity formation concurrently with their apprenticeship. During the course of this study, one apprentice became a parent, three changed workplaces, and one experienced a transformation on his current focus on work and earning more money. As Dewey (1916) reminds us, we need to see our vocations not as singularities but as simultaneous engagement in multiple vocations: “We must avoid not only limitation of conception of vocations to the occupations, where immediately tangible commodities are produced, but also the notion that vocations are distributed in an exclusive way, one and only one to each person” (p. 307). Therefore, as we explore a segment of the lives of young people as they engage with work, we need to recognise that they are securing an identity not only as bakers but as partners, parents, players and coaches in sports teams, and responsible adults. In essence, for the young people who participated in this study, belonging to a workplace is but one component contributing towards their overall ontogenetic development (Billett, 1998).
4.2 Belonging to a bakery: Summary of themes

The data collected and analysed in this study revealed the journey traversed by the 13 apprentices from novice to competent trade practitioners as both situational and person dependent. Consequently, it is important to consider the apprentices’ ontogenies or life histories. A first step in this regard was that of compiling profiles of the apprentices and their workplaces, using data derived from the survey questionnaires administered to apprentices and their workplace managers. The presentation of demographic data assisted with forming a more comprehensive account of the various socio-cultural issues that influenced the apprentices as they progressed through indenture. Features of each apprentice’s life history furnished background data on contributions to occupational identity in the form of prior skills and knowledge at the commencement of apprenticeship, while details about each bakery helped map workplace influences on that identity.

The themes emerging from these data reveal that 12 of the 13 apprentices in this study did not enter the baking industry as a first vocational choice. Instead, they came to it through employment in entry-level or related occupations in the bakery. Their indenture, as an apprentice in a bakery, was offered to them not as a result of their interest in becoming bakers but due to the existence of a vacancy in the bakery for a baker’s assistant or apprentice and their proximity to and availability for such a position. Thus, all but one of the participants began indenture through opportune and situational circumstances, rather than through pursuit of their preferred occupation.

For Vaughan et al. (2006), this commencement point would have positioned the apprentices as “hopeful reactors”—semi-reluctant entrants to a bakery position, entering it through chance and through the need for paid work. In line with Vaughan et al.’s premise, the young people tended to be ambivalent about their initial decision to begin an indenture as a baker, but willing to consider it due to a lack of other options. Their initial experience in the bakery and recommendations from others that they commence work as an apprentice provided confidence and a growing sense of identity with their workplace, but not identity as a baker. In addition, the presence of these young people in these workplaces permitted their colleagues to assess their suitability for the work of a baker.

In essence, the nature of the young people’s entry into the bakeries meant the beginnings of their work as bakers began through “proximal participation” in related work
before transference into peripheral legitimate participation in the actual trade of baking. Proximal participation allows both management and workers in workplaces to gauge the compatibility of potential apprentices with the workplace environment and culture. Novices who enter a trade through happenstance, need, in addition to being accepted by their workplaces as apprentices, to affirm their motivation to accept the role by deciding to “want to become” a baker. As Brown et al. (1989) point out, novices tend to require a foretaste of routine or standard activities enacted in a workplace’s community of practice before deciding to engage fully in a trade’s culture of practice.

The complex of factors supporting and sustaining the belonging to a bakery phase of apprenticeship derived from case study analysis of interview transcripts, observational field notes, and narratives. Taken together, this information helped consolidate these apprentices’ stories by highlighting and extending the relationship between personal and situational factors. This process confirmed that the apprentices were afforded opportunities to engage in occupations that were not their initial choice and that their sense of occupational identity was primarily with the particular bakery of employment, rather than as bakers, per se.

For the participants, experiencing the work of bakers through observation and working alongside bakery workers in retail and other occupations would have been similar to the experience of novices identified in nursing-related literature, where those engaging in nursing training tend to experience a range of healthcare-related occupations or direct observation of nurses’ work before electing to become nurses (see, for example, Newton, Kelly, Kremser, Jolly, & Billett, 2009). Resolution of initial reluctance or disinclination to enter the trade marked a major step forward in the apprentice bakers’ journeys toward occupational identity development as a baker.

4.3 The apprentices and their bakeries

Personal (demographic) data (see Table 2) about the apprentices aids understanding of the ontogenetic development of each one. Because life histories form a foundation for understanding how individuals make choices and form their identity (Billett, 2008b; Bloomer, Hodkinson, & Billett, 2004), these data, combined with data relating to how the apprentices first entered baking (Table 3), the characteristics of the bakeries they were working in, and what tasks they were engaged in once there (Table 4) provide a framework for comprehending the socio-cultural milieu in which the apprentices’ indentures were
enacted. The bakeries’ particular combinations of workers, processes of manufacturing, and overall organisational objectives distinctively shape the culture and process of practice in which these apprentices participate and learn. These workplace-constituted features can be thought of as situational factors. Together, these sets of information helped the researcher map the participants’ identity trajectories as they traversed the apprenticeship journey.

**Gender**

Baking, like many other trades-based occupations, is composed of a predominantly male workforce. This situation evolved through social divisions of labour premised by a masculine-privileged social structure (Fuller, Beck, & Unwin, 2005; Higgins, 2002). CPIT student records show that bakery apprenticeship remains largely a male preserve, with females comprising only 15% to 20% of block course cohorts. This male dominance is higher than it is in many other trades, except for traditionally feminine trades such as hairdressing (Williams, 2008). This ratio is established by averaging lists of apprentices, sorted by gender, who attended block courses at CPIT for the decade from 1998 to 2007. Yet, four of the study’s 13 apprentices were female.

Demographic data of the study’s participant apprentices is summarised in Table 2. In this table, apprentices’ pseudonyms are listed in the far left-hand column. In the second column from the left, the gender for each apprentice is stated, with the ages of apprentices at their first interview listed in the column to its right. The nine younger apprentices (the first nine listed) were all interviewed from the first year of their apprenticeships. The four older apprentices (the last four listed) were interviewed from the second year of their apprenticeship. In the column second from the right, the apprentices’ school qualifications are presented. The right-hand column states where apprentices lived and worked during the course of their indenture; the population of rural centres is stated in brackets. Each classification and its corresponding summative interpretation is presented and considered in turn.
### Table 2

**The Apprentices: Demographic Data**

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Age*</th>
<th>School qualifications</th>
<th>Location***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karl</td>
<td>M</td>
<td>16</td>
<td>NCEA Level 1, completed Year 11</td>
<td>SI—urban</td>
</tr>
<tr>
<td>Paula</td>
<td>F</td>
<td>16</td>
<td>NCEA Level 2, completed Year 12</td>
<td>SI—rural (400)</td>
</tr>
<tr>
<td>Ben</td>
<td>M</td>
<td>17</td>
<td>None. Left school at end of Year 11</td>
<td>SI—rural (3,500)</td>
</tr>
<tr>
<td>David</td>
<td>M</td>
<td>17</td>
<td>60 credits—NCEA Level 1</td>
<td>SI—rural (1,400)</td>
</tr>
<tr>
<td>Joanne</td>
<td>F</td>
<td>17</td>
<td>NCEA Level 1, completed Year 11</td>
<td>SI—urban</td>
</tr>
<tr>
<td>John</td>
<td>M</td>
<td>17</td>
<td>None. Completed Year 12</td>
<td>NI—rural (19,900)</td>
</tr>
<tr>
<td>William</td>
<td>M</td>
<td>17</td>
<td>None. Left school after Year 11</td>
<td>SI—rural (1,300)</td>
</tr>
<tr>
<td>Mark</td>
<td>M</td>
<td>18</td>
<td>None. Left school part-way through Year 11</td>
<td>NI—urban</td>
</tr>
<tr>
<td>Tony</td>
<td>M</td>
<td>18</td>
<td>50 credits—NCEA Level 1 at Year 11</td>
<td>NI—rural (55,000)</td>
</tr>
<tr>
<td>Mary**</td>
<td>F</td>
<td>22</td>
<td>None. Left middle of Year 11</td>
<td>NI—urban</td>
</tr>
<tr>
<td>Joe**</td>
<td>M</td>
<td>23</td>
<td>None. Left school at age14</td>
<td>NI—urban</td>
</tr>
<tr>
<td>Diane**</td>
<td>F</td>
<td>24</td>
<td>Completed Year 12</td>
<td>NI—urban</td>
</tr>
<tr>
<td>Dean**</td>
<td>M</td>
<td>38</td>
<td>University Entrance, completed Year 13</td>
<td>NI—urban</td>
</tr>
</tbody>
</table>


This higher than previous level of participation may reflect increasing numbers of females becoming bakery apprentices because suitable young males are not being drawn to the baking occupation. Skill shortages experienced in all trades-based industries in New Zealand in the decade between 1998 and 2007 have been exacerbated by a period of high employment in New Zealand (Statistics New Zealand, 2007) and low wages for bakery employees when compared with those of other trades (Volker, 1996). Many bakery employers in New Zealand report difficulty in attracting employees (Career Services Rapuara, 2009). Therefore, the level of participation by these young women is more likely a product of a paucity of male candidates rather than an inherent shift towards indenturing female apprentices. Consequently, although the number of female apprentices appears unrepresentatively higher on historical grounds, it may well reflect the changing
demographics of baking workers brought about by pragmatic concerns rather than those associated with greater inclusivity.

Age at beginning of indenture

Knowing the age of apprentices is useful in terms of indicating the extent and kinds of experiences they have prior to commencing the indenture. In Canada, for instance, the average commencement age is 26 years (Billett, 2008a), but in most other industrialised economies apprenticeship follows directly from completion of schooling (Higgins, 2002). This pattern of transition from school to apprenticeship is also evident in New Zealand (Vaughan et al., 2006). Of the 13 apprentices, four entered the research project in the second year of the study; they commenced their apprenticeships as “mature” apprentices and were brought into the research project based on feedback after review of findings from a preliminary data analysis of Year 1 interviews. The feedback indicated that a broader sample, representing the general demographic characteristics of past cohorts of bakery apprentices, would contribute more objective findings to the study.

The nine apprentices constituting the younger cohort were born after 1986. They ranged from 16 to 18 years of age at the time of the first sequence of interviews. As such, they were typical of apprentice cohorts attending block courses at CPIT over the last decade. Of the four older apprentices, three were born between 1982 and 1984. They were thus only three to five years older than the younger apprentices. The oldest apprentice interviewed was in his late 30s. Therefore, the cohort of apprentices who were the research participants matched the standard distribution of younger to more mature apprentices attending block courses at CPIT for the decade from 1998 to 2007, and they were similar in age when beginning indenture to that of apprentice cohorts reported in Europe (Fuller, Beck, & Unwin, 2005) and Australia (E. Smith, 2003b).

School-leaving qualifications

As foreshadowed, 12 of the 13 apprentices did not enter baking because it was their first occupational or career preference. Knowing the apprentices’ level of educational achievement helped establish the likely career options available to the participants. In New Zealand, schooling is compulsory from ages five to 16. School years define the progressive years students attend school: Students begin school on their fifth birthday at Year 1 and
proceed annually through to Year 13. To establish eligibility for University Entrance, students must obtain the current National Certificate in Educational Attainment (NCEA) (New Zealand Qualifications Authority, 2006) at Level 3.

School students complete Level 3 NCEA at Year 13. Students may legally leave school at Year 11, at which stage some will have completed NCEA Level 1 at Year 12 or NCEA Level 2. Only the oldest apprentice had completed the equivalent of University Entrance or NCEA Level 3. One of the younger apprentices (i.e., born after 1986) and one of the older apprentices (i.e., born before 1985) had completed Year 12 or NCEA at Level 2. Both these qualifications grant entry into tertiary studies, but not necessarily graduate degree-level studies. Nine apprentices did not achieve sufficient credits at school to advance to higher education, although four could possibly have qualified for entry into pre-trade courses at polytechnics or technical institutes based on NCEA Level 1 attainment.

Additionally, entry into tertiary studies is often premised on completion of a minimum number of credits in subjects including English and mathematics. Relatively poor school achievement characterised the majority of this study’s apprentices, leading to limited choices for post-school work destinations. Leach and Zepke (2005) claim school students’ academic achievement is one of the best predictors of school-leavers’ progression into tertiary education. This measure is further supported by Ussher (2007), who reports that students who have not achieved NCEA Level 3 are more likely to proceed directly from school into industry training. The study’s apprentices corresponded with the 13% of 2007 school-leavers who transition into industry training either directly from school or indirectly (i.e., after some form of work or other study after Year 10 or 11). Having not attained sufficient academic qualifications to enter directly into full-time tertiary study, the participants’ options were limited to obtaining entry-level work, securing an apprenticeship, enlisting into the armed forces, or enrolling in work-preparation vocational-education programmes. Karlsen (2001), Lehmann (2005), and Wright (2005) all report similar educational profiles for the young people who participated in their studies. Hence, this study’s cohort of apprentices corresponds well with cohorts of other young people who leave school with limited school qualifications and who enter workplace-based training as a post-school destination. In short, educational non-attainment seems to direct young people towards engagement in work and towards a need to find an occupation that accepts their lack of academic achievement.
**Geographical location**

Apprentices’ geographical location does much to shape the kinds of study or work options availed (Leach & Zepke, 2005). Six of the 13 apprentices were living and working within a 100-kilometre radius of the South Island’s largest city, Christchurch. One apprentice was living on the West Coast of the South Island, 300 kilometres west of Christchurch. The remaining (North Island) apprentices were located in Auckland and the lower half of the island. Seven of the 13 apprentices were living and working in large urban (city) settings and the others in smaller towns classified as agricultural service centres.

The range of occupational opportunities available in small rural towns is typically limited when compared to those in large urban centres (Statistics New Zealand, 2006b). Over much of the last decade, and thus over the period encompassing this study’s duration, New Zealand enjoyed a period of strong economic growth and low unemployment. However, unemployment rates were higher in non-urban than urban centres during this time (Statistics New Zealand, 2007). Therefore, young people who live and work in non-urban centres have limited occupational choices in terms of range and type of occupations available, with that availability further restricted by low scholastic achievement.

A summary of apprentices’ entry into the workplace is presented in Table 3. This table provides an overview of the type of apprentices’ bakery and how apprentices commenced work in each bakery. Following the column on the far left that names the participants, is one that summarises apprentices’ original post-school or pre-bakery work intentions. The second column from the right details the trajectory of apprentices’ initial entry into bakery work. The column on the right details the apprentices’ bakery type. Discussion of the features in Table 3 and on their contributions to apprentices’ indenture follows.

**Immediate post-school activity and eventual entry to bakery**

On leaving school, eight of the apprentices either experienced work in another trade or indicated an interest in careers or occupations other than baking, as indicated in Table 3. Three had no definite plans about what to do on leaving school, and one, who while at school had worked in a bakery as a cleaner, began a baking apprenticeship as soon as he left school. The remaining person travelled on leaving school. For the majority (10) of the apprentices, then, engagement with a menial position outside of baking and/or menial positions within
bakeries formed the trajectory into their bakery indentures. For two apprentices, the trajectory was school- or polytechnic-directed work experience in bakeries. Therefore, only one apprentice deliberately chose to embark on a baking apprenticeship.

Table 3

*Apprentices’ Post-School Experiences and Entry into Baking*

<table>
<thead>
<tr>
<th>Name</th>
<th>Plans or work on leaving school</th>
<th>Entry into baking</th>
<th>Type of bakery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karl</td>
<td>No plans</td>
<td>Family friend recommendation; Began as bakers’ assistant</td>
<td>Traditional retail</td>
</tr>
<tr>
<td>Paula</td>
<td>Wanted to become a green-keeper</td>
<td>Part-time function catering assistant</td>
<td>Café Retail</td>
</tr>
<tr>
<td>Ben</td>
<td>Completed full-time course in baking on advice from school careers teacher</td>
<td>Began apprenticeship in bakery after completing course</td>
<td>Large wholesale Traditional retail</td>
</tr>
<tr>
<td>David</td>
<td>Worked at freezing works</td>
<td>Part-time as cleaner in the bakery</td>
<td>Traditional retail Retail</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moved from home cookery to wholesale bakery and then to in-store bakery</td>
<td>Traditional retail Wholesale In-store</td>
</tr>
<tr>
<td>Joanne</td>
<td>Worked as a chef</td>
<td>Began working in bakery to fill in for a friend</td>
<td>Traditional retail</td>
</tr>
<tr>
<td>John</td>
<td>Worked as electrician but did not enjoy work</td>
<td>Cleaner in the bakery</td>
<td>Café</td>
</tr>
<tr>
<td>William</td>
<td>No sure plans, but worked as cleaner in bakery while still at school</td>
<td>Bakery apprenticeship as soon as he could leave school</td>
<td>Café</td>
</tr>
<tr>
<td>Mark</td>
<td>No plans</td>
<td>Cleaner in supermarket bakery</td>
<td>In-store Café— commissary</td>
</tr>
<tr>
<td>Tony</td>
<td>Tried baking through school-organised work experience for two days</td>
<td>Applied for apprenticeship</td>
<td>Café commissary</td>
</tr>
<tr>
<td>Mary</td>
<td>Interested in fashion design but unable to continue due to socio-economic considerations</td>
<td>Shop assistant in the bakery</td>
<td>Traditional retail</td>
</tr>
<tr>
<td>Joe</td>
<td>Motor mechanic apprenticeship but lost position due to misdemeanour</td>
<td>Recommendation through father’s friends in the trade Began as dish-washer</td>
<td>Café</td>
</tr>
<tr>
<td>Diane</td>
<td>Travelled before deciding to work in baking.</td>
<td>Obtained apprenticeship</td>
<td>Café</td>
</tr>
<tr>
<td>Dean</td>
<td>Tried building but found the work too physically demanding</td>
<td>Tried baking through recommendations from a friend of a friend; egan as a bakers’ assistant</td>
<td>Artisan bread bakery</td>
</tr>
</tbody>
</table>

Most of the 13 apprentices, thus, gained insights into the baking lifestyle through work experience organised while they were still at school or polytechnic, part-time work in the bakery during their last years at school, or through a bakery dishwashing or cleaning or retail position post-school. None of the apprentices reported prior exposure to bakery
workplaces before these experiences. Also, none reported having close relatives or friends working in bakeries. Therefore, these apprentices entered the bakery workplace with few conceptions about baking, apart from their experiences as consumers of bakery products. Hence, initial induction into the trade required them to engage in extensive learning not only of craft practical/manual skills but also the many facets of baking’s culture of practice that are unfamiliar to non-bakers.

**Types of bakery**

The kinds of bakery work apprentices engage in naturally influence what they learn about baking and how they learn to become bakers, and the kinds of tasks they do within that sphere of work have particular cognitive (i.e., learning) legacies (Billett, 2002b; Gherardi, 2010). All but one of the apprentices entered and eventually commenced their indenture in a retail bakery. Of these twelve, one worked in an in-store bakery and one apprentice commenced his apprenticeship in a retail/craft bakery, but transferred to an in-store bakery just before the third interview session.

Table 4 collates data from bakery profile questionnaires and from observation sessions at each bakery. In this table, apprentices are listed in the left-hand column, with the product range produced by each bakery and the production methods of baking prevalent displayed in each of the two columns to the right. The number of staff working in each bakery is detailed in the last two columns. Firstly, total number of staff, including staff working in the retail, delivery, and production sections of the bakery is listed, followed by the actual numbers of staff working in the production part of the bakery. A fuller explanation of data in each of the columns is then presented and discussed.
### Table 4

*The Bakeries: Characteristics*

<table>
<thead>
<tr>
<th>Name</th>
<th>Product range</th>
<th>Production methods</th>
<th>Total no of staff</th>
<th>Staff in bakery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karl</td>
<td>Dutch bakery products, limited bread</td>
<td>Scratch only</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Paula</td>
<td>Some cakes, biscuits and slices. Wholesale pies and savouries</td>
<td>Scratch</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Ben</td>
<td>Traditional range</td>
<td>Scratch</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>David</td>
<td>1) Good range of products</td>
<td>Scratch</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2) Mainly pies and savouries</td>
<td>Scratch</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3) Bread products only</td>
<td>Premix</td>
<td>12–15</td>
<td>5</td>
</tr>
<tr>
<td>Joanne</td>
<td>Wide range</td>
<td>Scratch</td>
<td>11—does not include shop staff</td>
<td></td>
</tr>
<tr>
<td>John</td>
<td>Large range</td>
<td>Scratch</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>William</td>
<td>Good range of most product types tending to café</td>
<td>Scratch</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Mark</td>
<td>Bread products only</td>
<td>Premix</td>
<td>In-store food area—8</td>
<td>3</td>
</tr>
<tr>
<td>Tony</td>
<td>Wide range including café and wholesale</td>
<td>Scratch</td>
<td>50</td>
<td>11</td>
</tr>
<tr>
<td>Mary</td>
<td>Large range. Limited bread</td>
<td>Scratch</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Joe</td>
<td>Artisanal breads and café type cakes, biscuits, and slices</td>
<td>Scratch only</td>
<td>40</td>
<td>Bread—13 Cake—3</td>
</tr>
<tr>
<td>Diane</td>
<td>Good range with European influence</td>
<td>Scratch</td>
<td>13</td>
<td>Bread—3 Cake—4</td>
</tr>
<tr>
<td>Dean</td>
<td>Artisanal breads. Limited cakes, biscuits and slices. No pastry, but Danish and croissants</td>
<td>Scratch only</td>
<td>12—does not include staff in retail outlets</td>
<td></td>
</tr>
</tbody>
</table>

### Product range and bakery production methods

Most of the apprentices were working in retail bakeries, but these were diverse in size, overall business objectives, and product ranges. Eleven of the bakeries were “scratch” bakeries, which means that almost all products are manufactured from scratch, beginning with weighing-up and preparation of basic ingredients. In New Zealand, only in-store bakeries base their product manufacture on pre-mixes, and one of the in-store bakeries ceased using these during the study. Adoption and utilisation of scratch baking affords bakeries greater flexibility in meeting diverse consumer and market demands. It also provides a wider range of activities for novice bakers to engage in and learn from.

However, manufacturing bakery products from scratch places greater demands on consolidating bakery knowledge into practice. Apprentices trained in scratch bakeries learn
the practice of not experimenting with bakery products until they are deemed to be ready to “develop products.” The reason for this practice is that bakers who cannot yet comprehend and apply fundamental parameters regarding use of ingredients and recipe balance tolerance are not allowed to experiment; the technical nature of baking is such that innovation and creativity with products can only be exercised within fixed parameters. Furthermore, poorly conducted baking “experiments” can lead to undue wastage, which has a negative effect on a bakery’s profitability.

Each bakery’s product range, detailed in Table 4, gives a clearer overview of the overall objectives of each apprentice’s bakery. Apart from the scratch bakery or pre-mix bakery differences detailed above, there are also divergences between customer-focused and wholesale-based bakeries. Customer-focused bakeries are exampled by the retail, café, and artisanal bakeries of Diane, John, William, and Dean. The majority of sales revenue from customer-focused bakeries is derived from face-to-face retail sales. The production philosophies of customer-focused bakeries are different from those of wholesale-based bakeries. The market-driven nature of customer-focused bakeries means they need to continually innovate to retain business profitability within the competitive food retail market.

In comparison, wholesale bakeries where Joanne and, for a time, David were working, are more focused on maximising profit. Products manufactured in wholesale bakeries are usually on-sold to other retail food outlets, including takeaways, petrol stations, and convenience stores. Wholesalers operate on smaller profit margins. Their emphasis is on producing large volumes of consistent products within short time frames. Because wholesalers’ need for bakers’ creativity is premised on manufacturing profitable “mainstream” products, the bakers who work in them have limited opportunities to develop new product lines. Also, while the overall foundation of manufacturing baked products is similar across the two types of bakery, variations exist in the quality expected of products, ingredients used (wholesale bakeries usually use a less extensive and cheaper range), product-finishing specifications, and quantities produced of each product type.

Apprentices trained in retail craft bakeries thus engage in bakery production activities, interactions, and culture that differ from those experienced by apprentices trained in wholesale craft bakeries or in-store bakeries reliant on utilising pre-mixes. The differences also have implications for bakers’ practice in terms of product repertoire, business objectives,
and production culture. Hence, the training afforded to apprentices is premised by bakery type. Consequently, we can assume that the study’s apprentices would have been involved in learning approaches particular to the type of baking practised in the bakery of their indenture.

**Number of bakery staff**

The size and production scope of bakeries also influence apprentices’ experiences. The majority of bakeries in this study can be classed as small and medium enterprises, defined in New Zealand as companies employing fewer than 19 workers (Ministry of Economic Development, 2008). The bakeries in New Zealand that do employ more than 20 staff are typically retail bakeries, where approximately half of the staff are engaged in actual bakery manufacturing, and the remaining half in in retailing and product dispatch. In this study, bakery production staff ranged from two, including the apprentice, to 11.

There is also the need to understand that not all production bakers work together at the same time of day or night. Bread bakers, for example, begin work in the late evening and finish in the early hours of the morning because bread products require cooling before they are filled and/or iced and packed for sale. Bread products stale quickly, and need to be produced fresh daily. Biscuit, cake, and pastry products can be produced from the early morning hours on, as these will store for more than a day and so do not need to be baked fresh each day for sale.

Consequently, the actual bakery production workforce in New Zealand generally consists of a small group of people at any one time, which means that opportunities for apprentices to learn trade skills are directed and shaped by the trade workers with whom they are duty rostered to work. Many bakery managers or owners in larger bakeries play minimal roles in the actual day-to-day bakery production activity. Therefore, apprentices’ main interface with the workplace, the products manufactured, and the production procedures, is through interactions with other bakers, the senior apprentice, and/or the shift supervisor. Apprentice training in the bakery workplaces that feature in this study were all focused on one-to-one modelling and mentoring or guided participation (Billett, 2002a; Rogoff, 1995). Often the trainer in the workplace was the senior apprentice, supported by the supervisor. These workplace mentors or trainers were therefore the people who had the most impact with respect to providing apprentices with their perceptions and conceptions of how baking is
achieved. In short, the small number of people engaging in actual bakery production in the study bakeries meant that the culture of the bakery production team provided important influences on how the apprentices perceived bakery practice.

4.4 Apprentice and bakery profiles: Summative discussion

The demographic data pertaining to the students permitted comparisons between the study’s apprentices and past cohorts attending trade block courses at CPIT. The data comparison showed the research participant cohort to be consistent in age range but not gender distribution with earlier cohorts. Although there were more males than females in the research cohort, the number of female apprentices was higher than the usual number of females attending trade block courses at CPIT in the decade from 1998 to 2007.

The increased number of female apprentices in baking may have had its genesis in a skills shortage in the latter part of the last decade in many trades and a commensurate increase in the need to attract young people into them (Statistics New Zealand, 2007). Although, over time, baking apprenticeships have generally been the province of young men, traditional patterns of male and female employment suggest that some occupations, such as baking, have low appeal for potential male candidates, possibly because they are perceived as having low status and low pay. In a time of other trade options, such as those involved in the building and automotive trades, it seems that males were more interested in pursuing those. The paucity of male candidates likely influenced employers to indenture a higher number of female apprentices than would have been the case ordinarily. The gender distribution within the sample of apprentices afforded opportunity to determine if the female apprentices viewed their apprenticeship journey differently from their male counterparts.

Lower-prestige and (by association) lower-paid occupations also appear to attract individuals with low levels of school achievement, which was true of the study’s cohort. Almost all of the apprentices left school with low academic attainment, a factor that influences the post-school vocational choices of young people (Leach & Zepke, 2005). Therefore, on leaving school, the study’s apprentices were presented with limited post-school vocational choices that unintentionally directed them towards working in a bakery.

Just under half of the apprentices were located in workplaces in non-urban areas of New Zealand, suggesting they would be subject to relative disadvantage with regards to
accessing a wider range of occupations and workplace training opportunities. Rural towns in New Zealand often have small populations. In this study, the largest rural town “housing” an apprentice had a population of just over 55,000 people at the time of the study but all of the other rural centres had populations below 20,000. Three of the apprentices were living and working in small communities with populations below 1,500 people (Statistics New Zealand, 2006a).

For all but one of the 13 apprentices, baking was not a preferred occupational choice. Over half the apprentices commenced their indenture by working in a non-baking role in their respective bakeries. For these apprentices, proximal participation occurred before legitimate peripheral participation (Lave & Wenger, 1991). These apprentices’ proximal participation in occupations other than baking provided them, as novices or newcomers to the baking trade, with work-based experiences against which they could evaluate the baking workplace and lifestyle. For those apprentices who did have baking or bakery-related experience before taking up their indentures, this prior work experience represented a relatively unusual experience because, according to Higgins (2002), by far the majority of people commence engagement in occupations without ever having experienced them in practice. By the end of their indenture, all of these apprentices were still engaged in or about to re-engage in baking, indicating that early exposure to authentic practices may have provided them with realistic career expectations and goals, and so kept them motivated in pursuing baking as a career.

This level of retention contrasts with apprenticeship programmes elsewhere that experience high levels of attrition, often between 30% and 50% (Mahoney, 2009). The apprentices’ decision to consider and then persist with the baking occupation reflects the initial personal agencies of participants. Transformation from reluctant entrant to enthusiastic novice baker is an important focus of this investigation because it illustrates the conceptual point of learner agency as central to willingness to engage in rich learning and to “consent” to forming an occupational identity. However, social agency, in the form of workplaces’ support that afforded the apprentices with their opportunities to engage in the work at hand, may have had more of an influence than personal agency in keeping the apprentices motivated and directed, especially in situations where apprentices were initially somewhat ambivalent about pursuing baking as a career. The emergence of this consideration at this early stage of the study was one deemed to merit on-going observation as the study progressed.
Two sets of factors constitute the basis for considering the process of workers coming to belong to a workplace. These are the particular qualities, past experiences, and interests of workers; and the specific qualities of the workplaces, including their location, size, business focus, and work teams (Billett, 2001a). Although there are a series of common factors in terms of the educational profiles and ages of the bakery apprentices and also the focus of these workplaces (bakeries), there are also considerable differences. Differences include gender, aspirations, and circumstances of workers, and also differences in composition, focus, and activities of bakeries.

When considering the process of belonging to workplaces, it is these variations that need to be understood, albeit through the lens of elaborating a unified process of coming to belong to a workplace. The bakeries referred to in this study exemplified a selection of retail bakeries presently operating in New Zealand. The bakeries ranged from those focusing totally on retail sales to bakeries operating cafes and bakeries with a retail or wholesale combination incorporated in their operation. A comparison of the range of bakeries included in this study, with apprentices’ bakeries derived from CPIT records from 2000 to 2006, revealed a close match. Therefore, the bakeries participating in this study were representative of the types of craft bakeries presently operating in New Zealand.

4.5 The process of belonging to a bakery

Having presented and discussed the ontological and socio-cultural factors contributing to the belonging to a bakery process of apprentices, it is timely to discuss the initial stages of apprentices’ journeys.

The unplanned entry trajectory

As noted, the majority of apprentices had no predetermined plans to become bakers. The initial route into baking taken by the 13 apprentices and their eventual engagement with the bakery occupation differ in nature from that documented in other studies that show clear indications of occupational choice prior to entry into a trade or profession, as with young people choosing to become nurses (Newton et al., 2009) or builders and engineers (Industry Training Federation, 2007). Most of the young people who participated in the study commenced bakery work because of a paucity of choices brought about by poor academic performance at school and a scarcity of other work opportunities premised by geographical
location. With their access to tertiary education limited, some form of employment was their post-school option (Leach & Zepke, 2005; Vaughan et al., 2006).

Of the 13 apprentices, one completed school-organised work experience while at school and another engaged in part-time work while still at school. One transitioned from school into a full-time baking pre-trade programme. Six commenced full-time work in bakeries as ancillary or support staff on leaving school or a previous occupation. For these nine apprentices, pre-apprenticeship work experiences provided understandings about bakery work expectations through proximal participation and assisted some in the decision to leave school. Forms of ancillary employment included working as cleaner, dishwasher, baker’s assistant, shop assistant, or food service assistant. Working in the non-bakery production areas of bakeries offered opportunities to observe the work of bakers. Here are two apprentices’ answers to the question, “What attracted you to bakery work?”

John: Not a lot. When I was cleaning after hours [after most bakery work had been completed], I saw Peter [bakery manager] doing the wedding cakes. I thought it was real cool. I really enjoy the work environment [as a cleaner]; quite liked it.

David: I worked in the bakery, just cleaning out there. I liked the early hours—getting the afternoon off to do what I want.

For these two, and four other apprentices, experiences as proximal participants generated interest in baking and led to employment in actual baking. These six apprentices’ transition into apprenticeship arose through approaches initiated by the workplace. Hence, although these apprentices reported no initial or future ambition to gain an indenture in baking, their entry eventuated through offers of a more secure and perhaps more interesting alternative to their current employment.

However, during their first interview session, these apprentices could not provide clear impressions of a career path. Having not completed qualifications at school that could perhaps have increased their range of post-school options, they emerged from school with little sense of what to do, let alone of an ideal occupational path. The decision to become a baker was conceived from the opportunity provided through school-organised work placements or through engagement with entry-level work in a bakery. Beginning an apprenticeship was thus not self-initiated but proposed to them by the bakery workplace. Information obtained from the bakeries showed that their need to secure apprentices, yet their
difficulty in attracting them because of the low status of the work and the non-standard hours, led to them having to be proactive to secure employees, and that proactivity appeared to have been exercised through proximity—of making overtures to young people already known to them.

This aspect of prior connection with an occupation emphasises the importance of the very beginning stages of legitimate peripheral participation. Adults are often held to be self-directed with respect to achieving goals and willing to persevere with more barriers influencing entry into a group or community (Blaka & Filstad, 2007). Young people may lack the life experiences to exercise these skills (Boote, 1998; Choy & Delahaye, 2000; Cornford, 2002; Cornford & Beven, 1999; P. J. Smith, 2001, 2003). Consequently, their entry into a group or community tends to be more gradual, supported, and structured than it is for mature adults. Because the apprentices in this study did not possess an explicit desire to enter baking, their entry into the bakeries required substantial support. Without such support, they may have disengaged from baking and moved on to other occupations.

The decision to commit

Somerville’s (2006) research study revealed that the beginning aged-care trainees who participated in it were initially ambivalent about entering the aged-care workforce. However, once they commenced work in this area, they formed subjectivities as aged-care workers. The trainees used various forms of accommodation to align themselves with aged-care occupational expectations, exemplified by formation of occupational identities emphasising self-sacrifice and a commitment to caring for others. In similar vein, the present study’s 13 apprentices found themselves entering an area of work they had no initial inclination to explore or commit to, but once they became privy to bakery work, saw it as interesting, and realised they could secure regular pay sufficient to meet their needs, they found reason to stay and continue.

Lehmann (2005) proposes that, for young people, simply having the security of ongoing paid employment provides them with a good measure of the extrinsic motivation to accept and continue with indenture. This, along with availability of indenture through proximal entry to a baking environment and lack of alternative occupation choices, as in the case of the apprentices living in rural areas, seemed to direct the apprentices into accepting
the offer of indenture. Thus, initial proximal entry to work, opportunities to earn wages sufficient to pay for individual needs, and a growing sense of belonging to the workplace provided reasons for the apprentices to commit to indenture. The apprentices appear to have made a “cost-benefit analysis” (Lehmann, 2007) decision on being invited to continue in an apprenticeship. They could either take up the opportunity to earn wages or they could disengage with the trade and find another option.

The decision to enter indenture positioned all but one of the 13 apprentices as “hopeful reactors” (Vaughan et al., 2006). A statement that encapsulates the profile of a hopeful reactor is: “I’m not going to end up a bum!” (Vaughan et al., 2006, p. 18). According to Vaughan and colleagues, hopeful reactors are concerned about their lack of options, lack plans on leaving school, need financial security, and are afraid of experiencing failure. Hopeful reactors are also usually escaping from or avoiding something negative or potentially damaging in their lives. Apprentices in this study entered baking as a result of being directed by school, friends, or family after finding few other post-school alternatives. The hopeful reactor profile fits all seven of the young male apprentices and one of the young female apprentices, as is evident in Table 5, which presents relevant data drawn from the surveys and interviews. Characteristics of hopeful reactors are listed on the left of the table. The column to the right records examples from surveys or interviews that correlate to these characteristics.

The reasons why the apprentices accepted their indentures were varied, yet they all had one reason-based factor in common—“being in the right place at the right time,” rather than “wanting to become a baker.” Particular circumstances brought these young people into bakery work as an alternative to continuing at school or leaving school and experiencing unemployment. Further external factors in the form of, for example, parental coercion and social obligation led the apprentices to engage with and then commit to bakery work.
Table 5

Examples of Study Data Corresponding to Characteristics of Hopeful Reactors

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few or no school qualifications</td>
<td>11 of the 13 participants left school with less than NCEA Level 2 qualifications.</td>
</tr>
<tr>
<td>Initial work in a low prestige position</td>
<td>Mary: It wasn’t something I set out to do. I worked in the shop for a year. Then my sister-in-law [who also worked in the bakery], she was going on maternity leave, so originally I was going to cover for her. And then they asked if I wanted to do an apprenticeship.</td>
</tr>
<tr>
<td></td>
<td>Joe: Um, I was never interested in baking. I was a mechanic to start with. So, that’s how I started out, as a mechanic, but I lost my job. Obviously I was misbehaving; learnt a hard lesson and got fired. So I got a job in a bakery; started washing dishes. So I just kept doing it, and turned out I continued doing it.</td>
</tr>
<tr>
<td></td>
<td>John: I was cleaning, and one of the bakers crashed—a car accident—so he got suspended, and that was when I was asked to help out.</td>
</tr>
<tr>
<td>Directed to work by parent</td>
<td>Joe: Yeah, I got into baking through a friend cause my old man—he didn’t want me sitting at home. He got me a job in the bakery [as a cleaner]. And then [I] worked in there for 6 months. And that’s how it happened.</td>
</tr>
</tbody>
</table>

In general, then, the apprentices’ movement into a bakery apprenticeship was a function of limited occupational choice and extrinsic pressures from family and society. Evans (2007) refers to this situation as “bounded agency” because wider societal factors, typically beyond the control of individuals, working in combination with individuals’ social backgrounds and environments, circumscribe the range of choices within which individuals can exercise personal agency with respect to the directions they take in life. In a sense, the apprentices’ experiences with respect to entering baking were similar to those of young people participating in Bloomer’s (2001) study. There, although the study participants asserted they could utilise personal agency with regards to career choice, that choice was actually bounded by opportunities premised by social and environmental limitations. However, as stressed earlier, although the baking apprentices may at this point in their indenture journey have had limited opportunity to exercise personal agency with regard to career choice, they were able to successfully negotiate the boundaries because of their generally incidental proximity to workplaces that invited their participation.
Legitimate peripheral participation: Apprentices as "reluctant" newcomers

The fact that 12 of the 13 apprentices experienced work (whether or not directly related to the craft of baking) in a bakery before their formal indenture meant that they had opportunity to experience proximal participation before indenture. Proximal participation as a form of entry trajectory presents newcomers with prospects for trialling and observing possibilities in a trade for which they possess little or no prior experience or knowledge. Working at the periphery of a trade means newcomers undergo legitimate peripheral participation to the workplace rather than to the actual baking production culture of practice. Proximal participation was thus a precursor to eventual legitimate peripheral participation.

Opportunity to engage in proximal participation may be especially important for entrants who are ambivalent about committing to an occupational choice. Proximal participation is also likely to assist young people with limited exposure to the world of work gauge their own fitness for work, assess their degree of affinity with an occupation and its associated workplace, and appraise relationships with and among other workers in that workplace. For others in the workplace, proximal participation provides opportunities to assess newcomers’ “fit” with the organisational culture and ethos. Consequently, unlike many accounts in occupational literature of initial engagement with an occupation as legitimate peripheral participation, the apprentices’ initial process of engagement with their workplaces was proximal, and it was this that formed the foundation for their decision to accept indenture.

Legitimate peripheral participation: Apprentices' integration into the workplace

At the time of the first interview and observations, all apprentices had been baking for more than six months. They had acculturated into the work as performed in their bakery. They reported comfortable relationships with other bakery workers and were progressing well with learning the skills required to become bakers. As 1st-year apprentices, they were also conversant with bakery communication methods, which include technical jargon and non-vocal communications (Burgoon, 1994), with the latter occasioned by the noisy, industrious nature of bakery workplaces. Data from the observations confirm that all 13 apprentices had learned a variety of baking tasks and were managing intricacies presented by the new work
environment, workplace culture, and workplace interactions and relationships. The apprentices themselves were also aware of this process.

John: At first I was real slow on that [picking up skills]. Took ages to learn new stuff and things; learning first off was a real struggle. Basically, once I got past that, everything became a whole lot easier.

Tony: Everything is there [that] is really [needed] to learn. If they [other workers] are given instructions, they will know what to do, without being told how to do it. I can’t do that yet but hopefully, soon.

The beginning phases of belonging to the bakery’s practice community were mostly complete by the time of the first interviews and observation sessions. Legitimate peripheral participation (Lave & Wenger, 1991) had to transpire before actual trade knowledge and skill learning could commence. The process of belonging to a workplace saw the apprentices traverse the stages of engaging with, experiencing imaginings about, and aligning with a community of practice (Wenger, 2002). Increasing opportunities to engage in the workplace culture of practice enabled the apprentices not only to learn the common business objectives, shared activities, and experiences of the workplace, and to develop interpersonal relationships, but also to become agentic with respect to accessing these, as this apprentice’s comments attest.

Joe: [What’s important is] … choosing who I listen to in the bakery—not listening to dickheads, cause there are a lot of them there; not hanging out with them. Just communicating with the people you view as able to help you learn.

The process of imagining sees apprentices thinking about and evaluating the workplace as a place they might commit to for a period of time in order to become a baker. Some degree of imagining was at work for those apprentices who experienced proximal work placement prior to the beginning of the indenture. In orienting themselves to bakeries as workplace, the apprentices began to gain some appreciation, even if not entirely consciously, of where they might progress vocationally. For one apprentice, this process began when, while still at school, he took on a cleaning job in a bakery.

William: Started work, after school. And then, curious about what they did ... asked the boss what they were doing, and he said, come in one morning, and said to do it [get more accustomed to the bakery environment] for two years. Just like cleaning the shelves and tables. Cleaning floors and stuff like that.
As the processes of engagement and imagination become entwined, through “feeding” upon one another, the novice reaches a stage of gaining satisfaction from and thereby aligning (identifying) with the workplace. At this point, the decision to complete the indenture is made.

John: First few months it was hard work. Like now, he’s just taught me a whole new job. He just showed me how to do it. I sort it out by myself; it’s become a lot easier.

Tony: It’s enjoyable. Some days can be hard, but that happens with everything. It’s not just physically taxing. [It’s about] picking up [learning] things. I find it hard sometimes, but I eventually get there.

Legitimate peripheral participation is not limited to the newcomer coming into the workplace; it also requires a commitment from workplaces to change workplace processes to accommodate each newcomer. One apprentice, John, experienced a situation in which he needed to develop the skill to select the person who would be his most appropriate workplace trainer. His workplace was managed by a senior owner/manager (i.e., the father), who was still working in the bakery alongside the younger owner/manager (i.e., the son, Peter). John’s reply to a question about the allocation of his workplace trainer illustrates his disquiet at having to navigate interpersonal relations.

John: Peter … teaches me most of the things but when I first started, both of them did. Quite confusing. What used to happen was that both would show me how it’s done. Would be shown one way and then another. At that stage, there was not a whole emphasis on doing it his [the older owner/manager’s] way and that’s where it ended to be a struggle and stuff. So now Peter only teaches me.

During the first year interviews, all apprentices mentioned that they felt comfortable in the workplace. Opportunity to build workplace relationships may thus have been a contributing factor in the apprentices’ decisions to accept and continue with indenture. By the time of the first interviews, apprentices were between three to nine months into their indenture.

The apprentices’ expressed comfort was probably also a product of the unofficial, informal procedure that bakeries go through when evaluating young people for a potential apprenticeship. The usual practice in the baking industry is for employers to trial three to four young people before selecting one potential apprentice. In identifying young people who are compatible with the overall culture of each workplace and/or young people who exhibit
affinity for bakery work, the bakery establishes early on which of the people they are trialling are likely to be most comfortable working long-term in the bakery. Hence, we can postulate that the first identity transition point for an apprentice is acceptance by both the workplace and the young person of the latter’s suitability to become a member of the bakery community of practice. Apprentices’ affiliation with and sense of belonging to a workplace may thus precede their eventual identification with occupational identity as a baker.

**Legitimate peripheral participation: Apprentices’ initial perceptions of bakery work**

During their first year interviews, the apprentices’ comments showed that they had a very limited view of bakery work. Their duties as 1st-year apprentices, as observed and discussed in the next chapter, were those of bakers’ assistants. Mainly involved in support roles and subordinate to a senior apprentice or baker, they were not conducting duties requiring sole responsibility for the outcomes of their work. Also, and again as observed and described in the next chapter, they were very much occupied with settling into a busy workplace and working conscientiously to contend with the challenges of learning new skills and knowledge and to form working relationships with the “old-timers” in their workplaces. Consequently, their perceptions of baking and of bakers’ capabilities were, at this point in time, very production based, as evidenced by their answers to this question: “What are the important things a baker must be able to do?” Answers typical of those given by all 13 apprentices follow:

David: *Just like, how much yeast to put in and stuff to add in. How much water you gotta add. You gotta to add it slowly or you add it fast. How long to rest things for. What does salt do to yeast? Mixing and temperatures.*

Paula: *Know food products. Like chicken should be separate from other foods; make sure it is cooked through. Pastry, bread, muffins, biscuits and cakes. How to use equipment safely.*

These interview excerpts align with the researcher’s observations of the apprentices working in their bakeries during their first year of indenture. As detailed in the next chapter, 1st-year or new apprentices were mainly engaged in workplace tasks that involved opportunities for guided participatory learning (Billett, 2002a; Rogoff, 1995). Although exposed to manufacturing procedures for a wide range of products, their focus was very much on supporting other bakers with production tasks, and so their perceptions of baking were limited to products they helped manufacture. In line with legitimate peripheral
participation, learning of workplace skills facilitated and guided by experienced others (i.e., experienced bakers) had commenced.

**Legitimate peripheral participation: Apprentices as “absolute novices”**

It seems that legitimate peripheral participation for these apprentices as young people who had traversed directly from schools into workplaces differs from that for adults who move across into practice communities from work or social contexts. Lave and Wenger (1991) based their concept of legitimate peripheral participation on experiences collated from adults entering into workplaces or social groups. Adults bring with them many interrelationship skills learned through many years of cultural and social immersion. Young school-leavers often lack life experiences that even a few years in the workplace confer to adults (Cornford, 2002; Lehmann, 2005; Stokes & Wyn, 2007). Furthermore, Fuller, Hodkinson, et al.’s (2005) reassessment of learning as legitimate peripheral participation in communities of practice indicates variants in the extent to which newcomers are peripheral to a community. Individuals approaching a community of practice possess different skills, knowledge, and cultural capital capacities when compared to extant workplace members. Young people, due to their immaturity and more limited life experiences, can encounter greater disparity between their newcomer status and entry into a practice community as legitimate peripheral participants. The opportunity provided by proximal participation through engagement in related occupations may assist young people by affording a preview of the workplace from an appropriate position. This position places no obligation on either newcomer or workplaces to extend participation beyond proximal participation. This position provides a safe option for both newcomers and workplaces, because decisions to discontinue the apprenticeship can be a relatively easily achieved outcome of the proximal participation encounter.

It needs to be emphasised here that not only apprentices but also employers experience legitimate peripheral participation. For employers, this form of participation means participation with young people whose understanding, mores, and experiences may differ from their own. As detailed above, Joe had to choose with whom he would associate in his workplace while John was required to determine which bakery owner should instruct him. In both cases, the older, experienced employers were in a position of having to accommodate (peripherally engage with) the “understandings” of the novice. As is documented further in Chapter 5, Paula, when coping with the realities of the workplace, found that she needed to
“educate” her employer on how young people perceive interpersonal communications. She had to explain how the expectations of young people differed from those of young people when her employer was among this age group. Legitimate peripheral participation on the part of the workplace means sufficiently understanding the needs and viewpoints of novices and the challenges facing them on entering the workforce so as to provide them with appropriate support structures at the time of their entry and during the early stages of their indenture. This support includes flexibility in aligning workplace practices to assist newcomers’ induction into workplace protocols. The findings of the study support the premise that absolute novices to a trade require a workplace-supported form of induction into work that differs from that used for newcomers to a work situation who enter with a larger complement of life- and work-related skills and experience.

The need to want to become

Securing the motivation to become a baker was an important resolution point of the “belonging” stage for the 13 apprentices. Initially, motivation for these young people meant awakening for each work day at an early hour of the morning and travelling to work at a time when most people were asleep. Bakery work is physically demanding; most apprentices reported in their interviews that they frequently spent their days off catching up on sleep. Consequently, the apprentices need to develop a degree of intrinsic motivation (Deci, Vallerand, Pelletier, & Ryan, 1991) in order to discipline themselves to engage punctually, reliably, and willingly with work. In time, as the following comments show, the motivation needed to adjust to the reality of getting up and going to work moved to motivation underpinned by habituation and a willingness to keep going, even when having to complete the more routine and unpleasant bakery work tasks that tend to be the lot of the apprentice.

Tony: When I first started, I slept in a few times, but that has not happened recently, not in a long time. I like the early starts. I’m pretty good at getting up now.

David: I have made a few mistakes, I tell him [David’s supervisor], and he tells me what I done wrong. Challenging at times, and some days you got to work really hard.

However, it was also apparent from the apprentices’ comments during the first interview and observations of the apprentices at work that for most of them, motivation came from an increasing enjoyment of baking and from the satisfaction of progressing in their skills attainment. The nature of the work itself, its complexity, variability, and challenges,
was sufficient to absorb the apprentices into working at learning and refining new skills. Moreover, the flexibility of approach and skills evident in baking work was sufficient to accommodate the diverse personalities and vocational aptitudes of the participating apprentices and to give them the type of feedback (Deci et al., 1991; Hall & Chandler, 2005) that assured them that they were integrating well into the baking workplace. For example, both Dean and Diane found the variability of the task requirements inherent in bread making a sufficiently robust learning experience to make them want to learn more. Mary came to enjoy opportunities for creativity occasioned by the finishing and decorating aspects of baking. Paula found motivation from the on-going challenges associated with the complexities of pastry-making. Joanne, having developed a strong interest early on in quality wholesale baked products, eventually shifted workplaces midway through her apprenticeship to work with a bakery making these products to a higher quality than that of her previous employer.

Thus, even at the early stages of becoming bakers, these apprentices became attracted to—and motivated by—those aspects of bakery work for which they felt particular affinity. The apprentices’ experiences in this regard suggest that affordance for individuals to establish affinity with their work leads to greater self-confidence and efficacy, which aids motivation, which in turn generates more self-confidence and efficacy (Deci et al., 1991; Hall & Chandler, 1995). The localised negotiation of individual alignment to work practice evident in the apprentices’ growing affinity with certain work tasks can be proposed as a central focus of their early occupational identity formation.

4.6 Factors supporting the belonging process: Summative discussion

Levett-Jones, Lathlean, Higgins, and McMillan (2009) define “belongingness” as

a deep personal and contextually-mediated experience which evolves in response to which an individual feels secure, accepted, included, valued and respected in a defined group; connected or integral to the group; and their professional and/or personal values are in harmony with those of the group. (p. 319)

Five factors supported—and thereby facilitated and enhanced—this sense of belonging (to a workplace) amongst the apprentices.
Firstly, workplaces that produced a good range of bakery products using scratch baking methods were particularly instrumental in providing the apprentices with ample opportunity to learn and practise a wide repertoire of bakery products and to explore their aptitude for baking and for particular types of baking. In particular, breadth of experience provided the novice apprentices with opportunities to evaluate areas of bakery work offering them the most satisfaction, a process that supports the development of the intrinsic motivation, the form of motivation needed to meet workplace expectations, and the successful continuation through an indenture.

Secondly, to recognise their interest and capacity for particular types of baking work, apprentices have to engage with bakery work for some time. During their first year of indenture, several of the craft bakery apprentices said they wanted to complete their apprenticeship in an in-store bakery, in part because such bakeries offer near-trained and qualified bakers higher rates of pay. However, indenture as craft bakers in scratch bakeries provides apprentices with the advantage of learning broader foundational skills, which not only gives them opportunity to explore their particular identity as a baker of both varied and particular baking products, but also tends to open up considerably the range of baking employment available to them after indenture.

Thirdly, for the apprentices, heightened interest in their work not only promoted a positive cycle of self-confidence and enhanced engagement (Hall & Chandler, 2005) amongst them but also heightened their personal agency. Personal agency on the part of apprentices is important. Apprentices have to want to engage in learning about baking; as was the case for the apprentices in this study, proximal and then legitimate peripheral participation enables novices to a trade or craft to identify and then align their personal work-related goals to the organisational objectives of their particular workplaces.

Fourthly, apprentices also have to work willingly through challenges presented by entry as a novice into an established workplace. They have to commit to learning the communication, skills, and knowledge particular to their sphere of work so that they can rapidly connect and engage with their workplaces’ specialised cultures of practice. From there, apprentices’ decisions to accept indenture appear to require acceptance of the need to establish intrinsic motivation to “become a baker.” In so doing, their identity transformation, according to Vaughan et al.’s (2006) paradigm, moves from that of “hopeful reactor” to
“passion honer.” According to Vaughan et al., this transition effectively converts even reluctant entrants into interested participants.

Fifthly, a supportive work environment emerged from the data as another very important element of assisting the young people’s workplace entry and their sense of belonging to that workplace. While the onus is on the young person or novice to want to belong, the community itself has to be accepting of the needs of its young or neophyte workers. Participation in the small work teams that characterised the apprentices’ workplaces typically leads to “mateship” (Page, 2002), surely an important component of the young apprentices’ growing feeling of belonging to their bakery workplace. However, the process of belonging to a workplace, in the case of young people or absolute novices to a trade, may be more dependent on support from the workplace community.

Consequently, while a growing sense of belonging to a workplace appears to be a prerequisite for progressing apprentices’ identity formation as bakers, it needs to be remembered that in this early stage of that process each apprentice is negotiating locally, in their particular workplaces, and according to their personal characteristics and life experiences. That negotiation also relies on their motivation and agency. The need to belong, as a fundamental driver of the type of motivation that enables one to persist with inter-relationships and activities (Baumeister & Leary, 1995), can only favour the negotiations that the apprentices engage in as they move from proximal to legitimate peripheral participation in their practice communities. And, without individual apprentices’ assent to engage with and commit to bakery work (to be agentic), or workplace support to induct new apprentices into bakeries’ culture of practice, the stage of apprenticeship comprising belonging to a workplace might not be sustained.

These conclusions have particular pertinence when the role of apprentices as novices within their workplace is taken into account. Young people are perhaps more acquiescent to the notion of being beginners and willing to accept work practices and workplace relationship issues as experienced (Lehmann, 2005; Vickerstaff, 2003). They probably do not hold preconceived views or considered experiences of how specialised workplaces operate. They accordingly adopt the identity of novice or apprentice or newcomer as they undergo and complete rituals that lead to enhanced perceptions of belonging to a workplace. This localised process of identity formation, in turn, pre-disposes them to behave as novices or apprentices
as they accept the role of learning to become a baker. For these apprentices, identity as a “learner” (Boud & Solomon, 2003) and apprentice grants privileged learning opportunities for situated learning. This aspect of their development is evidenced from both observations reported in the next chapter and interview transcripts presented through this chapter.

Lehmann (2005), researching school-to-work transitions, found that the cohort of students he followed on a longitudinal basis came to recognise that they began a course of “accelerated maturity” on entering the workplace as apprentices. They said that the economic independence brought about by their indenture was a key element of this process. They also realised that becoming adults meant making decisions about and taking responsibility for their life course and understanding their potential, all of which helped them “define” themselves—secure a sense of personal identity (Lehmann, 2005; see also Peterson, 2004). The opportunity to engage in waged work likewise precipitated the 13 apprentices’ entry into adulthood, an entry that brought with it both the advantages of attendant responsibilities of adulthood (Drewery & Bird, 2004; Stokes & Wyn, 2007). Entry into work also gave the apprentices opportunity to experience the extrinsic and intrinsic rewards (Hall & Chandler, 2005) of engagement in bakery work. Ability to earn wages, coupled with incentives afforded by learning new skills, appeared to provide these young people with sufficient recompense to sustain the challenges imposed by the adoption of the baking lifestyle.

Taken together, the factors of workplace support, the movement from proximal to legitimate peripheral participation in the baking community of practice with its attendant development of the intrinsic motivation and personal agency needed to negotiate and persevere with indenture, and advancement into the advantages and challenges of adulthood appeared to promote the apprentices’ sense of belonging to their workplace. That, in turn, began the development of their vocational identity (Vondracek, 1992) as bakers.
Chapter 5

Becoming a Baker

5.1 The process of becoming a baker

In this chapter, findings are presented on processes of how 13 apprentices progress from belonging to a bakery, to becoming bakers. It utilises findings from questionnaires, observation field notes, and excerpts of interview transcripts to describe how they become bakers through engagement with baking craft work and workplaces. In addition, demographical data presented in the previous chapter are used to extend further the discussion of individual apprentices’ histories and socio-cultural background, to illustrate and elaborate the processes underpinning the development of skills and occupational identity.

Here, the two main aspects of identity formation in apprentices are explored: firstly, the individual agency and approaches adopted by apprentices as they progress in identity formation and skills development, and secondly, these apprentices’ workplaces and how they contribute to identity formation and skill acquisition. Both these aspects feature in current research and theorising about learning in both education (Lave, 1996) and workplace-based environments (Hodkinson et al., 2004). The findings here draw on and contribute to these theorisations. In addition, the necessity of conveying the voice of the study’s apprentices is realised through utilising interview excerpts and reporting on apprentices’ viewpoints throughout.

In overview, the following findings are presented and discussed in this chapter. To begin, factors that assist apprentices’ transformation from “hopeful reactors” to “passion honers” (Vaughan et al., 2006) are presented and discussed. As reported and discussed in the previous chapter, 12 of the 13 apprentices commenced in bakeries as hopeful reactors to an occupation that arose through circumstance and convenience, rather than planned or intentional choice. However, initial experiences in other work tasks and then in baking, as advanced in Chapter 4, encouraged these apprentices’ engagement and continued participation in baking work. Furthermore, in the establishment of a need to “want to become” and a resolution of the phase of belonging to a bakery workplace, many of these apprentices have developed individual affinities for working with specific bakery products.
These 13 apprentices have also consolidated workplace relationships and established lifestyles revolving around bakery work. Therefore, they have transformed into passion honers, young people who are comfortable with their work and status as apprentices.

In this way, as they advance into the 2nd year of their indenture, these apprentices’ identity formation as bakers is consolidated. In becoming bakers, these 13 apprentices—when observed—are found to be completing tasks in bakeries and identifying themselves as bakers. They are also observed to engage in applying bakery norms and practices including communication using verbal expression, physical hand signals, and written codes in their workplaces. Also, they are progressively learning the many practical and manual skills and tacit knowledge components of baking through immersive and routine engagement with baking ingredients, products, processes, and equipment. They are also observed to be comfortable with their position in the bakery hierarchy and able to contribute, as productive workers, to bakeries’ activities. Moreover, these 13 apprentices seem no longer solely dependent on assistance from other more experienced bakers. Instead, they are able to engage interdependently with and complete workplace tasks. However, from their data, it seems apprentices’ concepts of occupational identity are still premised on their being an apprentice. Despite other bakery workers recognising their baking competency, during the 2nd year of their indenture, apprentices are still unwilling to infer that they have become bakers. Therefore, these apprentices’ confidence in their abilities does not include the presumption of being able to operate bakery production cycles independently, or as competently as other more experienced bakery workers.

In addition, these apprentices’ workplace learning is progressing at varying paces and through different kinds of processes. In particular, workplace learning affordances, skills progression, workplace support, and opportunities presented for accepting positions of responsibility are observed as being present in all of their workplaces, albeit in different ways. Apprentices experience a structured but covert form of training in their workplaces. The products that apprentices are taught to manufacture are observed to be dependent on type of bakery in which they are indentured. Craft bakeries’ apprentices in this study experienced a longer period of guided learning. Those apprentices who work in in-store or artisanal bakeries manufacturing smaller product ranges may attain autonomy and responsibility within a shorter timeframe because their work tasks direct them to do so; they are also able to learn specific production methods to greater levels of understanding and practice. Therefore
workplace pedagogy (Billett, 1996, 2002a, 2002b) is profoundly premised on bakery type, opportunities for workplace learning activities, workplace relationships and interactions, and the range of bakery products manufactured within each apprentice’s bakery.

In addition, participants are found to have made changes to their life routines to support a lifestyle that accommodates bakery work. These adjustments comprise daily routines, leisure patterns, and social activities of young people, to adapt to the requirements of bakery work characterised by shift, weekend, and long work hours. In addition, apprentices have to develop intrinsic motivation through a need to “want to become” before occupational identity transformation progresses. Apprentices have to engage willingly in their bakeries’ culture and practice community and be motivated to utilise opportunities presented for baking training conferred by their apprentice status. Therefore, apprentices’ personal agency is important in ensuring identity transformation and formation proceeds. Examination and discussion of those factors that support processes of becoming close this chapter. In all, this chapter consolidates and details further the main objective of this investigation: how apprentices become bakers through processes of skill acquisition, knowledge attainment, dispositional development, and occupational identity formation.

5.2 Findings about how apprentices become bakers

In this section, the process of gaining skills and knowledge and attainment of dispositions that transforms apprentices from disengaged participants (hopeful reactors) to committed bakery workers (passion honers) is presented and discussed.

Transforming from hopeful reactors to passion honers

Workplace practices, inter-relationships within each bakery, and support from employers have assisted 12 of the 13 apprentices in transitioning from hopeful reactors to passion honers in their journeys towards becoming bakers. Passion honers may be summarised by the phrase, “I’m becoming a ‘baker’ in a secure career” (adapted from Vaughan et al., 2006). Characteristics of passion honers are that they are happy, enthusiastic, and definite about their choice of beginning an indenture and pleased with decisions to commit to an apprenticeship (Vaughan et al., 2006); the alignment of these characteristics with some of these apprentices’ interview excerpts is provided in Table 6, where characteristics of passion honers are listed on the left and interview comments supporting each characteristic are displayed to the right.
Table 6

**Aligning Data to Characteristics of Passion Honers**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Interview comments</th>
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</table>
| Certain of career choice          | Mary: *I am good at it, you know. Like creating different biscuits and putting my own ideas rather than just copying the design of a biscuit.*  
William: *I am doing the stuff that I really like. When I first started, it was icing and things like that, but now I get to do the things that I like and enjoy, it is really good.* |
| Pleased with decision made        | John: *I really enjoy the work environment. Quite like it. Work with Peter, you always have fun. I enjoy—the variety of work here.*  
Ben: *I absolutely love it, heh. All the variety really, it changes every day.* |
| Not explored other options        | Mary: *I don’t know. probably not.*                                                                                                                     |
| Contented in current position     | Dean: *I probably picture myself more as a specialist. Creating my own niche market with only one or two lines of product.* |

As derived from 2nd-year interviews and observations and from interview transcripts presented in Table 6, apprentices in this study display passion-honer characteristics. By the time of the 2nd-year interviews, all apprentices had engaged in apprenticeship for over a year, with the majority approaching two to two and a half years in this form of work. For these apprentices, participation in processes of belonging to a workplace has consolidated their commitment to continuing towards completing indenture. When asked at the mid-point of their indenture, none of the apprentices reported that they were exploring any other alternatives to bakery work. They reported being secure in their jobs, earning sufficient wages to meet their needs, and adjusting individual lifestyles to cater for early-morning or late-night shift and weekend work. In all, the 13 apprentices reported being generally happy with bakery work. Some of these factors are analogous to those listed by Brown (as cited in Lehmann, 2005) in a study of working class secondary students’ aspirations. These factors include their work being interesting, and having good workmates and good working conditions. These factors are used by the students in Brown’s study to balance cost–benefit relationships between continuing in work, and other alternatives.

Therefore, assisting transition from hopeful reactors to passion honers is the deepening belongingness to the workplace, as elaborated in the previous chapter. In addition, increasing competency and confidence in baking also enhance realisations of self-worth (Hall & Chandler, 2005), thereby affirming career choice. Furthermore, apprentices’ ability to earn wages, granting financial independence, stands as a factor in enhancing intrinsic motivation.
to remain in bakery work, with its attendant lifestyle. These attributes of personal engagement may lead to the kind of effortful engagement in bakery work required for both effective practice and rich learning. In turn, work tasks engagement, specific to individual bakeries’ practices, may further assist with progression of occupational identity formation as a baker (Virtanen et al., 2008). The next section discusses processes undertaken by apprentices as they become bakers.

*Process of identity formation as a baker*

For these 13 apprentices, realisation that they are becoming bakers is reported as being derived through interactions they have with others. Their identity is conferred upon them rather than being something they infer from their ability to perform bakery duties. This excerpt from an interview with Paula illustrates this finding.

> Recognise that I am a baker, like I sometimes think I am a baker, like when I get complimented. Say like I make something really good, and say Harry says, well that is awesome. That’s when I feel confident that I am able to be a baker. I am able to improve my standards. They are a lot higher.

For other apprentices, responsibility for bakery production generates a realisation that they have become a baker:

> Oh, probably when Peter went away for 4 months. And I was real worried, like how would we work out? And it actually turned out alright. I just got into it and did it. (John in Year 3)

> Take on more responsibility. Harder mixes, the more expensive mixes. I take on jobs that are unsupervised. And I train others, last month we took on three new staff. (Diane in Year 2)

The aspect of conferment of identity by others, leading to eventual inference by individual apprentices, is now further discussed.

*Identity as conferred and not inferred*

Penuel and Wertsch (1995), using a socio-cultural approach to frame an understanding of identity formation, claim individuals have to be able to persuade others (and themselves) about who they are and what they value (p. 91). Therefore, the concept of occupational identity for young people as being conferred on them by others, rather than being self-
inferred, is an important finding eventuating from this study. Several reasons are hypothesised for these apprentices’ need to have the status of “being a baker” conferred, instead of it being a concept they could infer (i.e., construct themselves).

Firstly, these apprentices work in bakeries organised along hierarchical management systems. From the inception of indenture, apprentices are advised of their place in the workplace hierarchy: to work hard, say little, and learn the trade. Yet this positioning should not be a narrow prescription as there is historical precedence for apprentices to move from apprenticeship into supervisory positions within the industry as part of their indenture (Vickerstaff, 2007). However, workplace perceptions are retained of apprentices being recognised as apprentices as long as they are still indentured. For the apprentices in this study, acceptance of added responsibility in the workplace is perceived by them to be a progression of their occupational training. Therefore, apprentices do not implicitly recognise conferred responsibility as conveying a degree of trust in their competency as bakers. Instead, the additional responsibility entailed in overseeing the manufacturing production line within a bakery is perceived as a progressive step in apprenticeships’ training schedules, as informed by standard workplace practice.

Secondly, as previewed and discussed in Chapter 4, apprentices are working closely with other bakers and workers who are more senior in age and baking experience. Therefore, apprentices are cautious about being overly presumptuous to refer to themselves as bakers whilst still indentured, albeit as senior apprentices. These apprentices are reminded of their inexperience through opportunities to compare their competency with other more experienced and skilled bakers. This finding is illustrated by the following 3rd-year interview excerpts seeking an answer to the question, “do you think you are ready for more responsibility?”

Paula: Yes and no. I feel that I can become management and can get things done at the right pace. But no, because I am young and older people take that into account, I am young, won’t work.

William: I don’t think I am a baker yet, well not a fully qualified one as yet. Maybe in a couple of years, I still have heaps and heaps to learn. And managing a bakery properly, I don’t think I have learnt anything yet in that area. It’s part of being a baker as well.

Thirdly, conferment of baker status from a source removed from apprentices’ biases and prejudices is deemed to be more valid than their own perceptions of progression from
novice to baker, within the particular workplace setting. The conferment as an external endorsement is, therefore, all the more powerful because it is sanctioned by authoritative sources as leading to apprentices’ re-evaluation of their abilities and self-estimation of their capabilities as emergent bakers. An awareness of their baking capabilities is perhaps an indication of their own recognition of competency attainment. This awareness is illustrated through Paula’s statement in the previous section, whereby she seeks her manager’s affirmation of her baking capabilities.

Fourthly, the realisation by apprentices they are in close proximity to being a baker is reported to provide impetus to reflect on their own strengths and weaknesses, leading to greater self-awareness through deliberation of capabilities. This self-awareness creates a mechanism to measure themselves comparatively against their peers and other experienced bakers. Below are two examples of how John measures himself against his mentor, by trying to match his mentor’s speed at completing tasks.

_I want to get my new jobs up to scratch. Going faster. Takes a while to catch up with Peter, you know. Like I am now working with apple pies, apple slices, fruit squares and stuff. That’s the main job I have just taken on. Started learning that but need to get all that up to speed. My benchmark is Peter’s timing. A real hard target._

_We have competitions on who does a task faster. Sometimes when we are making pies, spread them out on two tables and go for it. Normally it’s pretty even until someone cuts themselves on a pie tin or similar. Peter has five years, I have two and the new boy only one, so it’s a bit uneven at times. Speed is noticeably different. I try to get to Peter’s time._

Therefore, John’s realisation of becoming a baker originates through recognition from others, and then is subsequently confirmed by a self-awareness and self-recognition of his own baking abilities.

Finally, there might be reluctance on the apprentices’ part to transfer their identity status from apprentice to baker. This reluctance may be because the position of apprentice is not without its privileges. Apprentice status affords apprentices access to training and learning, partially protects them from the embarrassment of making mistakes as they may learn better by making a few mistakes, and offers a position within the organisational hierarchy they and other workers understand. Here is an example from William, expressing his conceptions on what makes a baker:
When you stop making mistakes, you know. Yeah, when everything comes out right, when you stop making things wrong. The boss still allows you to go on when you are learning and things like that but it can’t carry on.

Boud and Solomon (2003) explain how the status of “learner” in the workplace may not be compatible with being regarded as a competent worker. However, this incompatibility may be the case for someone who is recognised for expertise in baking and is practising as a baker. In comparison, apprentices’ status as an apprentice, and therefore learner rather than baker, is still a secure platform for their relatively newly attained competence. Thus the status of learner is adopted, with the premise that apprentices will be able to learn from mistakes made and progress on towards becoming a capable baker. Hence conferment of bakers’ identity on apprentices may be regarded as legitimised and localised recognition that both evidences and rewards these apprentices’ performance.

Apprentices coping with the workplace realities and demands

In general, 2nd-year apprentices reported contentment with bakery work. They are acknowledged as key team members in the bakery and are often no longer the newest or most inexperienced bakery worker. Adjustments have also been made in all apprentices’ lifestyles to cope with the routines and demands of baking shift work. All 13 apprentices are continuing to work very similar shifts to when they commenced their apprenticeship. Due to the regularity in their work roster, they are able to organise their lives outside of work to accommodate shift work. Eight of the apprentices had embarked on indentures based on parental advice. Support in the home environment furnished apprentices with added incentive to tolerate and persist beyond the indentures’ difficult times. One apprentice remarked,

Joe: Much of it came from my father, who thinks highly of me. Expects me to work the way I should. Yes, my old man wants me to do well. He’s a hard man to please.

Furthermore, there is a concurrent need for employers to adjust to their role as apprentice trainers and mentors. An example is presented in this excerpt from a 2nd-year interview with Paula. When asked if her employer is supportive, she answers:

Oh. He has his moments. Um, say with the pastry, if I make it. Like it’s shrinky or something. He will say to me that it could be the layers or the mixing. He would say, you should be up to my standard by now, at two years. And it’s like, I am only a 2nd-year apprentice. I started here knowing absolutely nothing and I think I can get most things right. No!
It should be consistent like he wants it but I think that consistency will only come with time. At the moment, say over 2 days, I might get it perfect. Then the next day, it might be crap and then the next 2 days. So it’s just like I’m having to learn that, but Harry needs to back off, to let me learn something like that.

Everyone else in the bakery is older, except me. Young people, they don’t know as well. Older people know how to take people, like you know if they are angry or having moments like some people do. Your boss is spiteful, they know how to handle it. Like they can just ignore him and like, with me, I couldn’t. So every time he had like a swearing match himself, I would be like, quite frightened. Like should I say anything, or do something? Is it going to help? So it’s all been a learning curve for Harry. Younger people and how to treat them. You know. But it’s been good for him, I think.

The above excerpt illustrates the reciprocal kinds of negotiations that constitute interpersonal interactions that arise in apprenticeships programs. Additionally, it provides an example of female apprentices entering into a male-dominated workplace and the need for these females to negotiate their role and sense of self in such an environment.

The other important aspect derived from the above interview excerpt is the degree of expertise Paula has attained. By handling the pastry she has produced the day before, she is able to recognise differences in the quality of pastry by touch, feel, and smell. This recognition is the legacy of engaging in everyday learning activities in workplace settings. What Paula refers to in the interview excerpt above are the conceptual, procedural, and dispositional aspects of baking, learnt through engagement, and in particular ways through extensive work (e.g., through apprentices’ opportunities to practise pastry work). Therefore, although Paula is still unable to produce pastry of a continuously consistent quality, she is ably progressing towards increasingly mature approximations of those tasks. Moreover, she is able to recognise pastry characteristics required to judge fine distinctions and gauge pastry quality. To a layperson, all pastry would look and feel similar. Yet, as just noted, Paula has learnt through repeated handling of pastry, the tactile qualities differentiating good pastry from marginal. Therefore, learning baking, as discussed in Chapter 2, includes opportunities to learn the many tacit components of the trade (Farrar & Trorey, 2008; Gamble, 2001; Lee & Roth, 2005) that arise through practice. This discussion on apprentices’ skill development now leads on to a discussion of the learning that occurs in bakery workplaces to convey total novices towards practice competency in baking.
Learning at work

The bakery as a workplace learning environment

Bakeries as workplace learning environments are described, explained, and discussed in this section, commencing with demographic data on apprentices’ bakeries. Three facets of bakery workplaces that influence identity formation in apprentices learning to become bakers are explored: (a) types of bakeries and range of products manufactured, (b) organisational and management structure of bakeries, and (c) workplace relationships, relating to the training of apprentices, as enacted in bakeries. (see Table 7)

Table 7
Bakeries as Workplace Learning Environments

<table>
<thead>
<tr>
<th>Name</th>
<th>History</th>
<th>Management structure</th>
<th>Intensity of work/Expansive (E) or restrictive (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karl</td>
<td>Yes</td>
<td>O/O – first business</td>
<td>Quiet, limited bantering; focus on quality (E)</td>
</tr>
<tr>
<td>Paula</td>
<td>No</td>
<td>O/O – first business</td>
<td>Quiet and “formal” (R)</td>
</tr>
<tr>
<td>Ben</td>
<td>Yes</td>
<td>O/- first business</td>
<td>Small team, work efficiency and quality (E)</td>
</tr>
<tr>
<td>David</td>
<td>No</td>
<td>O/O – non-baker owner</td>
<td>Small team (R)</td>
</tr>
<tr>
<td>three</td>
<td>Yes</td>
<td>In-store</td>
<td>Disorganised (R)</td>
</tr>
<tr>
<td>bakeries</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joanne</td>
<td>Yes</td>
<td>O/O</td>
<td>Difficulty employing suitable manager (R)</td>
</tr>
<tr>
<td>John</td>
<td>Yes</td>
<td>Autocratic management</td>
<td>Owner keeps firm hand on quality standards; quiet and focused team environment (E)</td>
</tr>
<tr>
<td>William</td>
<td>Yes</td>
<td>O/O – small family business</td>
<td>Quiet but some bantering; focus on quality, adding value and good profit (E)</td>
</tr>
<tr>
<td>Mark</td>
<td>No</td>
<td>In-store</td>
<td>All bakeries (R)</td>
</tr>
<tr>
<td>three</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bakeries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tony</td>
<td>Yes</td>
<td>O/O– two generations run business</td>
<td>Emphasis on quality, efficiency and adding value; apprentices encouraged to excel (E)</td>
</tr>
<tr>
<td>Mary</td>
<td>Yes</td>
<td>O/O</td>
<td>Owner’s wife does most of the supervision; informal, quiet and respectful (E)</td>
</tr>
<tr>
<td>Joe</td>
<td>No</td>
<td>O/O- non-baker owner/entrepreneur</td>
<td>Focus on completing as much as possible in as short a time (E)</td>
</tr>
<tr>
<td>Diane</td>
<td>Yes</td>
<td>O/O</td>
<td>Bread shift – quiet, artisan; cake shift – noisier, more diverse; quality and speed focus (E)</td>
</tr>
<tr>
<td>Dean</td>
<td>No</td>
<td>Wholesale/partnership – non-bakers</td>
<td>Quiet; focus on quality and efficiency (R)</td>
</tr>
</tbody>
</table>

Note. O/O denotes owner/operator

Table 7 summarises data on the bakery as a workplace. In this table, to the right of the apprentices’ pseudonyms, histories of bakeries are presented through reference to experience with apprentice training (yes/no). In the next column, each bakery’s management structure is
presented. The last column summarises the work intensity of each bakery and indicates, in brackets, whether each bakery is categorised as an expansive (E) or restrictive (R) workplace as defined by Fuller and Unwin’s (2003b) expansive versus restrictive workplace participative continuum. The items in this table are further explained and discussed in the section which follows it.

History of working with apprentices

A summary of the known history of workplaces’ engagement with apprentices is helpful to consider in identifying the kinds of workplace support afforded these apprentices. This history includes whether owners and managers (or bakery supervisors) (a) are certified as bakers through the apprenticeships system, and/or (b) have trained other apprentices, and/or (c) are active in local apprenticeship committees. These data assist to elaborate the experiences within the apprenticeship system, as potentially crucial factors contributing towards successful apprenticeship outcomes (Brooker & Butler, 1997; Cornford & Gunn, 1998). One reason for the need of an established prior experience with apprenticeship systems is the complex administrative structures imposed on apprentices and their managers or supervisors by the current bakery apprenticeship system (Chan, 2002). Furthermore, administrative details relating to how industry training organisations arrange off-job training for apprentices also require employers’ time and commitment. Employers’ familiarity with apprenticeship systems may assist navigation through workplace assessment intricacies. In this study, bakeries with a history of training apprentices were reported, through analysis of workplace questionnaires, as being particularly supportive of apprentice training. Hence, work activities provided by individual workplaces and willingness of workplaces to become familiar with assessment requirements may assist with eventual completion of apprentices’ qualifications. However, individual apprentice agency in the form of acceptance of the training regime was also important in contributing to apprentices becoming bakers.

Bakery management structure

The majority of skills, knowledge, and dispositions apprentices learn through engagement with baking work were constructed through time, activities, and interactions in their bakeries. Therefore, bakeries as workplace learning environments warrant further explanation in order to understand how they contribute to the process of identity formation and progression. This section summarises bakery environments to present details and background of how bakeries
are organised and how bakery workplaces operate. These aspects of bakery environments are important to explore. As introduced in Chapter 2, overall workplace culture shapes how novices are inculcated and acculturated into workplace practices (Billett, 2002b). Therefore, in Table 7, bakery organisation is summarised as an overview. All bakeries in this study are small businesses. In general, owners and managers play a dominant role in overall bakery management. Thus, commitment and levels of involvement by owners and managers of individual bakeries may provide guidelines on workplace organisation and workplace relationship issues. As with the above discussion on bakeries’ history with training apprentices, bakeries with management structures supportive of apprentices require reciprocal support through individual apprentices’ commitment to engage with the workplace training opportunities afforded.

**Intensity of bakery work**

Bakeries are noisy working environments as bakery machinery generates high noise levels. In addition, in almost every bakery production area observed, a radio, set to a loud volume, was also playing continuously. Consequently, the noisier working environments discourage unnecessary conversations while bakers are busy completing work tasks. It is often difficult for bakery workers to maintain prolonged interactions or conversations not of relevance to current work. Therefore, most bakeries are “quiet” in so far as there is minimal verbal interaction during the production cycle. Instructions interchanged between bakers are concise and succinct. These instructions are often in the form of short interjections, interspersed with jargon and accompanied by relevant body language to indicate the nature of the required task, defined as non-vocal communications (Burgoon, 1994). An insider is able to understand these instructions but the casual observer would find them difficult to comprehend. Furthermore, bakery workers learn and use a contextualised coded language which is meaningful to the practice of the workplace community (Gherardi, 2010). For instance, bakers use non-vocal means of communication in the form of hand and finger movements to denote readiness of equipment (i.e., thumbs up or down), time required (i.e., number of fingers up to denote minutes), continuation of activity (i.e., fingers up or down in circular movement) and readiness for continuation of process (i.e., movement of right fist into open left hand). Therefore, this method of communication is appropriate in noisy and busy production orientated work environments and is one of the characteristics novices to baking have to learn. In several bakeries, a sustained and on-going light-hearted banter was observed as the
prime mode of interpersonal interaction between bakers. This banter contributes towards a friendly work place, leavened with good-natured humour. A masculine vernacular pervades bakery workplaces, with oral communications often interspersed with expletives. However, the general atmosphere is not aggressive but jovial and convivial.

Bakeries are production-focused workplaces, with a strong emphasis on manufacturing consistent quality products in an efficient and timely manner. In all retail bakeries observed, there was a respect for cleanliness and safety. Observations in wholesale bakeries reveal that speed often countermanded the need to keep the bakery clean and organised. The emphasis on production throughput leads to less care with quality. Furthermore, bakery work occurs at times of the “day” when most people are asleep and as such, each bakery is often the sole functioning work activity in the immediate geographical neighbourhood. This fact is relevant for at least half of most bakers’ shifts which are conducted in the late night to early morning hours. These non-standard work hours cause bakeries to be insular and self-sufficient and direct the workforce on task completion, without undue distractions from the outside world. Therefore, as further discussed in Chapter 6, the nature of baking work environments imposes significant pressures on apprentices to rely solely on their workplace for skills and knowledge acquisition. Bakeries, with their emphasis on high production throughputs, long hours of work, limited opportunities for extended personal communications, working hours not in synchrony with the majority of commercial enterprises, and small production workforce, are in effect specialised and closed work environments. Therefore, they may be described as examples of workplaces with practice communities that create their own inter-subjective understanding (Hutchins & Klausen, 1998) of specialised epistemologies and practices generated through workplace contexts. In turn, work environments profoundly influence the ways apprentice bakers access and learn craft skills. The effect of workplaces is now further discussed.

**Expansive versus restrictive participative workplaces**

As explained in Chapter 2, to understand bakery workplaces better, and to organise the diverse range of workplaces involved in this study, Fuller and Unwin’s (2003b) expansive–restrictive continuum of workplace participation is used to categorise bakeries. The 12 criteria for assessing expansive or restrictive participation are matched to a bakery context (detailed in Table 8). These were used to evaluate each of this study’s bakeries.
In Table 8, criteria suggested by Fuller and Unwin (2003b) for expansive workplaces that support workplace learning are listed in the column on the left. In the middle column, restrictive criteria are listed. In the column on the right, examples of expansive workplace practices explained in a bakery context are detailed. These examples are presented to match bakery context-specific examples with the expansive-restrictive participative workplace criteria. Then, bakery examples are used as benchmarks to categorise this study’s bakeries as either expansive or restrictive on the workplace participative continuum.

Bakeries had to match at least eight of the expansive criteria (see Appendix J) to be represented as a workplace on the expansive side of the participative continuum. The choice of eight out of 12 criteria provides for a majority of the expansive participative criteria to be covered. The continuum was then used to organise and categorise workplaces for the purposes of comparative analysis. As discussed, bakeries providing an expansive environment for participation did not necessarily guarantee apprentice completion or apprentices’ full engagement in opportunities availed. As presented and discussed further in Chapter 6, apprentice personal agency is still an important contribution to full transition into bakers’ occupational identity formation. In particular, beyond what the workplace affords (i.e., opportunities or constraints) is how the apprentices elect to engage with what is afforded them in these bakeries.
<table>
<thead>
<tr>
<th>Expansive</th>
<th>Restrictive</th>
<th>Bakery examples - expansive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in multiple communities of practice and outside workplace</td>
<td>Restricted participation in multiple communities of practice</td>
<td>Wide range of bakery products Apprentices’ access training in all aspects of baking.</td>
</tr>
<tr>
<td>Primary community of practice has shared “participative memory”; cultural inheritance of apprenticeship</td>
<td>Primary community of practice has little or no “participative memory”; no or little tradition of apprenticeship</td>
<td>Owner apprenticeship completion (preferably in baking). History of training apprentices. Participation in apprenticeship</td>
</tr>
<tr>
<td>Breadth: access to learning fostered by cross – company experiences built in to programme</td>
<td>Narrow: access to learning restricted in terms of task, knowledge of location</td>
<td>Wide range of products. Apprentice involved in production across product range. Apprentice exercises agency to utilise affordances.</td>
</tr>
<tr>
<td>Access to range of qualifications including knowledge-based qualifications</td>
<td>Access to competency-based qualification only</td>
<td>Access to Level Four National Certificate qualification</td>
</tr>
<tr>
<td>Planned time off-job including college attendance and for reflection</td>
<td>Virtually all on-job: limited opportunities for reflection</td>
<td>Access to Level Four courses. Workplace mentor to complete on- and off-job requirements</td>
</tr>
<tr>
<td>Gradual transition to full participation</td>
<td>Fast – transition as quick as possible</td>
<td>Gradual transition into work. Opportunities to accept responsibility when apprentice ready. Encouragement and coaching to reach skill required.</td>
</tr>
<tr>
<td>Apprenticeship aim: rounded expert or full participant</td>
<td>Apprenticeship aim: partial expert or full participant</td>
<td>Workplace encourages apprentices to accept responsibilities when ready.</td>
</tr>
<tr>
<td>Post-apprenticeship vision: progression for career</td>
<td>Post-apprenticeship vision: static for job</td>
<td>Workplace adopts apprentices and provides support and training for novices.</td>
</tr>
<tr>
<td>Explicit institutional recognition of, and support for, apprentices’ status as learner</td>
<td>Ambivalent institutional recognition of, and support for, apprentices’ status as learner</td>
<td>Owner assigns responsibility to ensure apprentice is trained</td>
</tr>
<tr>
<td>Named individual acts as dedicated support to apprentices</td>
<td>No dedicated individual ad-hoc support</td>
<td>Bakery indentes apprentices to provide trained people for industry as a whole.</td>
</tr>
<tr>
<td>Apprenticeship is used as a vehicle for aligning goals of developing individual and organisational capacity</td>
<td>Apprenticeship is used to tailor individual capability to organisational need</td>
<td>Workplace encourages all employees to become interested in food. Provides incentives for employees to taste and evaluate products.</td>
</tr>
<tr>
<td>Apprenticeship design fosters opportunities to extend identity through boundary crossing</td>
<td>Apprenticeship design limits opportunity to extend identity: little boundary crossing experienced</td>
<td>Workplace has a culture of training and nurturing apprentices.</td>
</tr>
<tr>
<td>Reification of apprenticeship highly developed (e.g., through documents, symbols, languages, tools) and accessible to apprentices</td>
<td>Limited reification of apprenticeship, patchy access to reificatory aspects of practice</td>
<td></td>
</tr>
</tbody>
</table>

Affordances to workplace learning or training opportunities may vary widely, being dependent on workplaces, individuals’ position in the workplace hierarchy, and overall workplace culture (Billett, 2001b, 2002a, 2002b). However, for the 13 apprentices, affordances for learning at work were generally supportive, or at least better than for other workers in the bakery. Opportunities to engage in and learn meaningful work tasks were reported as especially the case during the first year of indenture. Good access to workplace learning for apprentices may be because there are inherent advantages for bakeries in delivering optimum training and skills development for apprentices. A goal of this workplace support is to expediently transform apprentices into productive contributors to bakery production. The majority of bakeries in this study had fewer than four bakers working in the bakery. Therefore, the small number of production staff necessitated all bakers contributing to the work team’s productivity.

In addition, half the apprentices revealed that once they became proficient at completing certain jobs or tasks, they were charged with completing these tasks or jobs and not extended with further opportunities to learn other product lines or to move on to more advanced skill sets. This lack of opportunity to move on to other skill sets may be due to the small number of bakery production staff employed in each bakery. Once an apprentice was proficient and productive at a task, the work team did not have further motivation to continue with training, as this example illustrates:

Well, I haven’t really learnt anything new at the moment. It’s mainly the first three months, I had the support and then Kylie (the senior apprentice) went on maternity leave and I sort of had to learn everything. You know, on my own. (Mary)

To progress further, some apprentices had to petition their employer or supervisor to ensure they were rotated through the bakery’s various product lines. New Zealand apprentices are protected by a training agreement, so most are eventually afforded opportunities to engage in other jobs or tasks, as competency in a broad spectrum of bakery products and skills is required to complete competency-based workplace-based assessments. Therefore, one advantage of a prescriptive and regulated qualification system may be additional protection for apprentice training. Two apprentices required assistance from their modern apprenticeship coordination (MAC) to modify their rosters or job tasks for required workplace-based
assessments to be completed. Hence, alone, the provisions of learning support were insufficient.

**Skill progression during the 1st year of apprenticeship**

Generally, observations conducted reveal acceptable skill progression between 1st and 3rd year observations. This development is, in part, because young apprentices commence from a very low skill base. Consequently, apprentices had to accomplish extensive learning to become productive bakery workers. The domains of learning, as proposed by E. Smith (2003a) and summarised in Chapter 2, were observed to be available to apprentices in this study. These domains comprise technical skills, generic competencies, and knowledge. Participatory observational evidence, by myself as an experienced baker and bakery educator, of the development of skills in baking between the 1st and 3rd years of the indenture, reveal progression of apprentices from working with other bakers, towards working with and helping to train newer apprentices.

Skill acquisition, in the form of the attainment of practical or manual skills and other occupational attributes, is the main objective for apprentices learning a trade (Vickerstaff, 2007) so as to become skilled trade practitioners. Therefore, an analysis of whether apprentices progress in skill acquisition is one intention of this study. Skill acquisition is comparatively studied with respect to apprentices who work in expansive versus those who work in restrictive participative workplaces. Furthermore, the three domains of technical skills, generic competencies, and knowledge, as defined by E. Smith (2003a), are used as guidelines for observations. To commence, analysis of field notes from bakeries on the expansive side of the continuum reveals apprentices’ skill development in a wide range of products. Consequently, apprentices in expansive bakeries progress gradually into full competence as a practising baker. In comparison, apprentices who work in restrictive workplaces experience a shorter time period from being guided novices to fully competent bakers. Furthermore, the skill base of apprentices who train in restrictive workplaces is narrower. However, apprentices who train in restrictive workplaces are observed to exhibit greater depth of expertise, skills, and understanding of specific manufacturing processes for the specialised range of products. So, perhaps rather than being inherently restricted, the work expertise was of a particular kind. The skill acquisition as observed in this study is now reported, analysed, and discussed for each year of data collection. The following sections
provide an overview of skill acquisition as it contributes to how the study’s apprentices become bakers.

**Duties of 1st-year apprentices**

In general, new apprentices are learning basic baking skills. They were observed to be assisting other bakers in completing tasks or undertaking simple tasks, exemplified by cleaning trays, or distributing filling into products, or removing baked items from tins on to cooling racks. In Table 9, duties of 1st-year apprentices are detailed. This table lists apprentice in the left-hand column with bakery type to the right. The second column from the right summarises apprentices’ tasks. The right-hand column comprises of notes collated with regards to the overall apprentice performance on tasks observed.

**Table 9**

*Duties of 1st-Year Apprentices*

<table>
<thead>
<tr>
<th>Apprentice</th>
<th>Type</th>
<th>Task</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>Cafe</td>
<td>Depositing muffins</td>
<td>Able to complete tasks independently but slowly; Checks regularly with employer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Working with scone dough – cutting out and traying up</td>
<td></td>
</tr>
<tr>
<td>Karl</td>
<td>Traditional</td>
<td>Filling quiche Assembling turnovers, sausage rolls</td>
<td>Undertaking “helping jobs”; not able to complete tasks unsupervised</td>
</tr>
<tr>
<td>William</td>
<td>Cafe</td>
<td>Helping fill pies and tray up ready for baking</td>
<td>Completed most tasks independently but checked when unsure</td>
</tr>
</tbody>
</table>

Three apprentices, John, Karl, and William, all younger apprentices who entered baking as school-leavers, were observed on three occasions. Their skill level on entry into baking was very low. Intensive training was conducted by bakeries to introduce apprentices to various baking production tasks. Two apprentices, John and William, were progressing well, but Karl, who has learning difficulties, required a longer time to learn and practise tasks. All three apprentices listed in Table 9 were engaged in assembling and assisting tasks, thus learning the procedural (Gott, 1989) aspects of baking. These tasks are relatively easy to learn and achieve. Learning of these tasks involves imitation, after demonstration and modelling of tasks by another baker—a form of guided participation (Billett, 2002a; Rogoff, 1995). All of these tasks are intermediates of procedures involved in the manufacturing of bakery products. Apprentices are encouraged to increase speed and consistency in completing tasks. The encouragement is to ensure they do not impede the normal workplace production flow.
These baking assistant tasks provide novices with an introduction to bakery work, requiring minimal skills to contribute productively and learn and practise new skills. The tasks ensure skills related to teamwork are learnt and practised, as apprentices are usually working with another baker. Additionally, these tasks expose apprentices to the language and jargon used in busy and noisy workplaces. Apprentices were observed to be able to decipher verbal and non-vocal cues and signals (Burgoon, 1994) while they engaged in work. Karl was the only apprentice who struggled with some instructions and another senior apprentice assisted him.

Work tasks engaged in during apprentices’ initial year of indenture are important in providing significant learning about the nature of bakery work. In particular, these experiences appear to support procedural knowledge acquisition by providing affordances to learn declarative knowledge (Gott, 1989). Furthermore, conceptual and dispositional development also occurs. Examples of prompts provided by the workplace to apprentices to adopt diligent approaches to work include:

*I improve as I go on, he shows me first, what to do, then I do it. He shows me what it actually does. How to get a higher standard out of it. Explains how to make it.* (Paula, Year 1)

*Being able to work fast. Nice decorating, Trying to the best every time.* (John, Year 1)

*You need to be adaptable. You need to find out why. Not everything is the same all the time. The water temperature changes.* (Diane, Year 2)

Through apprentices’ work as bakers’ assistants, essential knowledge about machinery use, ingredient recognition, product awareness, specific bakery technical terms, and how non-vocal communications is conducted, are learnt. Concurrently, new apprentices acquire bakery practice in the form of attitudes to safety, food handling, quality control, product evaluation, and expected levels of workplace commitment. Workplace commitment comprises punctuality, reliability, and skills required to become team players within busy workplaces (E. Smith, 2003a). Thus, there is an engagement with and initial assimilation into the workplace practice community. Through engagement with workplace practices and building of workplace relationships, apprentices are becoming part of their bakery communities’ cultural practice. They are engaging deeply in the practice, imagining the possibilities for their future roles in the community and aligning themselves to workplace objectives.
(Wenger, 1998). Hence, the metaphor of participation between individuals and their workplace in occupational identity development as a “culturally shaped activity” (Sfard & Prusak, 2005) is affirmed. As observed in this study, workplace learning allows development not only of craft skills and approaches to work tasks, but also the norms and practices of the workplace community, as epitomised by learners’ mentors.

Engagement in guided participative learning (Rogoff, 1995) also provides opportunities to observe models, provided by other skilled bakers, of expected behaviour and dispositions that define bakers’ practice. Apprentices are encouraged to learn by imitating processes demonstrated by more experienced bakers. As illustrated above with John’s work on fruit slices and pies, apprentices’ abilities to complete set tasks to the required speed and standard set by mentors, provides benchmarks to attain through modelling of desired performance. Learning bakery skills through processes of scaffolding, within the bakery as a situated learning environment (Nielsen, 2008), is observed, as apprentices progressed from being dependent to inter-dependent workers. The process of engagement in supported work tasks and interactions all contribute, but in localised forms and practices.

**Duties of 2nd-year apprentices**

By the second year, most apprentices were observed to be working on tasks independently. They were involved with weighing-up and preparation of ingredients; mixing dough, batters, or paste; and often manufacturing a product from beginning to end. Many apprentices were observed to provide examples of multitasking, defined as the ability to “handle the demands of multiple tasks simultaneously” (Lee & Taatgen, 2002). An example here is apprentices monitoring products in the oven or prover while engaged in at least one other task. The ability to multitask may also be evidence of consolidation of procedural and declarative knowledge learnt in the early stages of the indenture, leading to the ability to develop and apply strategic knowledge (Gott, 1989). Thus, workplace learning provides apprentices with skills to decide how, what, and when to apply aspects of procedural or declarative knowledge, which are usually seen as comprising strategic or metacognitive strategies (e.g., Gott 1989).

Tasks observed for three apprentices in their second year are summarised in Table 10. The columns in Table 10 are organised as for Table 9 in the section on duties of 1st-year apprentices (with the omission of type of bakery).
**Table 10**

*Duties of 2nd-Year Apprentices*

<table>
<thead>
<tr>
<th>Apprentice</th>
<th>Task</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>Pinning pastry out for a variety of products</td>
<td>Completed most tasks independently. Speed has increased along with ability to multitask.</td>
</tr>
<tr>
<td></td>
<td>Assembling products with some preparation of fillings as well</td>
<td></td>
</tr>
<tr>
<td>Karl</td>
<td>Making biscuits – pinning out and cutting biscuits</td>
<td>Completed some tasks independently but still supervised.</td>
</tr>
<tr>
<td>William</td>
<td>Making bread rolls</td>
<td>Completed tasks effectively, efficiently and independently. Evidence of multi-tasking.</td>
</tr>
</tbody>
</table>

Field notes taken during observations indicate, perhaps not surprisingly, an increase in the range of tasks completed by 2nd-year apprentices. Most apprentices profiled in Table 10 were observed working with more than one product. For example, John was working with pastry products, and concurrently working on blocks of pastry, assembling and filling pastry products and preparing pastry fillings. All of these three concurrent tasks were intertwined: while pastry he had laminated was resting, John was also cutting out and assembling pastry products and tending to sweet and savoury fillings. These fillings had to be regularly checked to ensure they did not burn, boil-over, or overcook. Both William, working on bread rolls, and Karl, working on biscuits, also exhibited competency with multitasking.

Therefore, these apprentices were learning how to manage more than one task concurrently. They were able to complete assigned tasks which included the ability to prioritise tasks as they occurred, and to engage in tasks in a timely way. These observable practices are indicative of these apprentices’ ability to utilise procedural and declarative knowledge learnt, practised, and consolidated in the early stages of their indenture, and to progress to the ability to apply knowledge strategically (Gott, 1989). The majority of these apprentices are contributing productively to bakery production. Therefore, 2nd-year apprentices are becoming more competent and confident in effective task completion, as defined by their workplace. Although these apprentices are still unable to work independently, they have attained sufficient competency to complete assigned tasks, unsupervised. That is, they were able to undertake routine skills effectively because of the opportunities provided for them to practise and hone these capacities.
Duties of 3rd-year apprentices

By the third year, 10 of the 13 apprentices were working in senior roles. They were supervising a shift or a full manufacturing run of a range of products, or were second-in-charge of a production shift. Several also had sole responsibility for bakery production when the main supervisor was away. Many 3rd-year apprentices worked on a Saturday and were responsible for bakery production activities for the day. Tasks observed for three 3rd-year apprentices are summarised in Table 11.

Table 11

Duties of 3rd-Year Apprentices

<table>
<thead>
<tr>
<th>Apprentice</th>
<th>Task</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>Making bread rolls – 3 varieties</td>
<td>Completed all his tasks and supervising a younger apprentice.</td>
</tr>
<tr>
<td></td>
<td>Tray-up for baking and retarding</td>
<td></td>
</tr>
<tr>
<td>Karl</td>
<td>Making biscuits – mixing dough, depositing, filling, and baking</td>
<td>Able to complete most tasks independently but still checks with employer at various stages of the process.</td>
</tr>
<tr>
<td>William</td>
<td>Making pies and Cornish pasties</td>
<td>Controlled task and teaching a newer apprentice how to complete task correctly.</td>
</tr>
</tbody>
</table>

Year three observations found all apprentices to be working independently. They were responsible for ensuring products were manufactured to specifications. In turn, they were often assisted by a junior or novice apprentice. As summarised in Table 11, John, Karl, and William provided overall control of products being manufactured. Product manufacturing included overseeing each product from the beginning of manufacture through to final products being baked and removed from the oven. All three apprentices were able to manage and prioritise a multiplicity of tasks, and work independently. However, Karl, the least able of the three, still checked regularly with his immediate supervisor on aspects of production. Both John and William, and to a lesser extend Karl, were also supervising more junior apprentices. Just as in their first year, when they were assisted and supervised during their work by a more senior apprentice, John and William were now the senior apprentices responsible for product manufacture. Both had a less experienced apprentice assisting with assembly and baking assistant tasks, including preparing trays and glazing products. All three 3rd-year apprentices were the decision makers with regards to judgements required on dough mixing or consistency, filling type and amounts, and size or weight of products. Tacit knowledge, evidenced by their ability to provide advice to junior staff with regard to
manufacturing or product judgements, was also observed to be exhibited by these three apprentices.

Therefore, over the three to four years of indenture, apprentices progress by degree, and in different ways, from novice to competent and capable bakers in their particular bakery. A transformation occurs with increases in skill levels, knowledge attainment, confidence, and conferment of responsibility. All three apprentices whose observations are detailed in this section displayed improvements in manual dexterity, multitasking, time keeping and production planning skills, communication techniques, and ability to understand the complexities of baking tasks. Additionally, effective work-related problem solving was evidenced during 3rd-year observations. This problem solving was observed to be in the form of interventions apprentices made to processes, to maintain or improve the overall quality of bakery products. Therefore, these apprentices were not just following set procedures for completing bakery tasks: they also exhibited decision-making skills required when working with bakery products which possess inherent variables premised by the nature of bakery ingredients, the vagaries of the baking environment, and regularly changing production requirements to meet market demands. This capacity evidences their abilities to understand the production process sufficiently and to intervene when variances in processes or products occur (i.e., non-routine problem-solving). Therefore, access to microgenetic development activities (Billett, 1998), in the form of knowledge construction through engagement with problem-solving opportunities to learn, apply, evaluate, and consolidate important baking skills, both overt and tacit, has culminated in greater understanding of baking processes and the ability to apply knowledge strategically (Gott, 1989). In this way, the accrual of experience across indenture provides opportunities to attain the bulk of bakery skills contributing to these apprentices developing a sense of occupational identity as bakers.

**Impact of bakery type on apprentice duties and skill acquisition**

The product range and kinds of work tasks available in each bakery shaped apprentices’ experiences. All in-store bakeries rely on pre-mixes to manufacture their products. However, premix usage only means that the weighing-up and preparation stage of bread making are not required; all the other steps for bread making still apply in these settings. However, in comparison to retail bakeries, the product range within in-store and specialty bakeries is narrower. Most in-store bakeries produce bread products and several produce a limited range
of cake products. Products including biscuits and slices are manufactured by wholesale bakeries and on-sold to in-store bakeries for sale in supermarkets. In the case of specialty or artisanal bakeries, only a small range of products is manufactured in the bakery. These products are usually produced in large quantities but also to a high quality. Consequently, apprentices training in in-store and speciality bakeries acquire limited exposure to the comparative and potentially wider repertoire of bakery products.

In Table 12, derived from observations on 1st-year apprentices, tasks in three bakeries—in-store, retail, and artisan—are described. All bakeries in this section are categorised as being on the restrictive side of the expansive-restrictive participative continuum (Fuller & Unwin, 2003b). In Table 12, apprentices are listed on the left, followed by details of each apprentices’ bakery type. Tasks apprentices are observed completing are summarised in the column second from the right. The column on the right details apprentices’ performance.

Table 12
*Bakery Types and 1st-Year Apprentice Duties*

<table>
<thead>
<tr>
<th>Apprentice</th>
<th>Type</th>
<th>Task</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>In-store</td>
<td>Making French bread</td>
<td>Completed task without supervision or assistance or input from supervisor.</td>
</tr>
<tr>
<td>Paula</td>
<td>Retail</td>
<td>Assisting with depositing filling, assembling products, and cleaning</td>
<td>Still lacking confidence in completing tasks independently. Had to check regularly with employer.</td>
</tr>
<tr>
<td>Dean</td>
<td>Artisan</td>
<td>Shifting bread from moulder to prover</td>
<td>Completed task independently.</td>
</tr>
</tbody>
</table>

As presented in Table 12, Mark, who works in an in-store bakery, was making French sticks. Although a 1st-year apprentice, Mark independently produced French sticks from premix to moulded bread. However, the product range in the in-store bakery is limited to bread products. He was provided with several months of training and by the time of the first observation, was able to work independently on most of the bread products manufactured. A similar situation applied to Dean, a 1st-year apprentice working in a bakery with a limited range of products. He was trained to mould and tray up a variety of bread products, to set specifications, and to be able to work independently. Therefore, in the above examples
represented by the 1st-year experiences of Mark and Dean, more limited product repertoires provide apprentices with opportunity to learn and attain competency in a product range within a shorter timeframe when compared with apprentices indentured to bakeries with wider product selections. Narrower product repertoires meant the work productivity of Mark and Dean increased rapidly. Therefore, it follows that the time required for apprentices to transition from novice to independent practitioner is much shorter in bakeries with limited product inventories.

In comparison, Paula works in a small retail bakery with a small range of bakery products. She was still learning basic tasks as the bakery produces pastry, bread, and cake products. Her experiences as a 1st-year apprentice are similar to those of John, William, and Karl, discussed in the previous section. Consequently, craft bakery apprentices are engaged for a longer period of time in assisting and observing other bakers, before they are provided with opportunities to work independently.

Hence, bakery type and individual bakeries’ product repertoire circumscribes the trajectory from novice to competent practitioner. Apprentices working in bakeries with narrower product ranges may attain competency along with autonomy much earlier than their peers working in bakeries manufacturing a wider range of products. However, the range of their baking repertoire might be more limited. Again, there is evidence of localised factors shaping the process of apprenticeship and apprentices’ development of occupational identity. It becomes understood that the situational requisites for competent performance as bakers are derived from workplace learning and contribute to how apprentices see themselves as nascent bakers. More discussion on the influences of bakery workplaces on apprentices’ skill acquisition follows in the next section.

*Impact of expansive versus restrictive participatory workplaces on apprentice duties*

The comparison between bakeries as expansive or restrictive participative workplaces is realised by contrasting (a) bakeries classified in each category and analysing tasks with which apprentices are engaged, (b) opportunities for expansive workplace participation, (c) bakeries’ experiences with training, and (d) workplace learning culture.
In Table 13, tasks completed by three apprentices from restrictive participative workplaces are listed. The table lists apprentices followed by bakery type. Tasks apprentices completed are detailed in the column on the right.

Table 13
Apprentices’ Duties in Restrictive Bakeries

<table>
<thead>
<tr>
<th>Apprentice</th>
<th>Type</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>In store</td>
<td>Making French bread</td>
</tr>
<tr>
<td>Paula</td>
<td>Retail</td>
<td>Assisting with depositing filling, assembling savoury products, and cleaning</td>
</tr>
<tr>
<td>Dean</td>
<td>Artisan</td>
<td>Shifting bread from moulder to prover</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tidying bakery and weighing up ingredients for next day’s production</td>
</tr>
</tbody>
</table>

In Table 14, tasks completed by three apprentices from expansive workplaces are displayed.

Table 14
Apprentices’ Duties in Expansive Bakeries

<table>
<thead>
<tr>
<th>Apprentice</th>
<th>Type</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>Craft</td>
<td>Depositing muffins</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Working with scone dough</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pinning pastry out for a variety of products</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assembling products with some preparation of fillings as well</td>
</tr>
<tr>
<td>William</td>
<td>Craft</td>
<td>Making bread rolls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Making pies and Cornish pasties</td>
</tr>
<tr>
<td>Joanne</td>
<td>Wholesale</td>
<td>Pastry products – assemble, tray up and apply toppings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cake products – finishing and organising – ready for dispatch</td>
</tr>
</tbody>
</table>

Each of the aspects detailed in the tables above are now discussed.

Impact of product range differences between expansive and restrictive bakeries

One major difference between restrictive participative bakeries and expansive participative bakeries, as derived from field notes and questionnaires, was product variety. As summarised in Table 13, Mark, who works in an in-store bakery, is described as working with bread products from commencement of indenture to completion of competency assessments. He was afforded opportunities to learn, practise, and refine skills with bread products, to a
greater depth. However, his proficiency over the wider range of bakery products (i.e., pastry, cake, and biscuit products) is limited. Paula works in a small bakery manufacturing a range of bakery products. However, the range of varieties in each bakery product range is small. Consequently, from the 1st to 2nd years, Paula was still working towards completing competency in pastry products as these comprise the greater proportion of products manufactured in the bakery. Dean, who works in a specialty bakery, was also constrained by the product range manufactured in his bakery. Therefore, skill extent within restrictive participative bakeries is limited by the products bakeries manufactured.

In comparison, as detailed in Table 14, John, William, and Joanne, who work in expansive participative bakeries, are engaged with a range of skills training covering a wider repertoire of bakery products. They are able to access training across a range of bakery products. Additionally, they are availed the opportunity to learn and practise multitasking skills (Lee & Taatgen, 2002) related to the wider range of products manufactured. Their skill attainment, although undertaken over a longer period of time, is distributed across a broader collection of products and accompanying practical, knowledge, and attitudinal skill sets. Therefore, the range of products produced in each bakery is the factor that shapes the transition made by learners to bakers. Gradual transition from novice to baker is one aspect of an expansive participative work environment. In more restrictive workplaces, apprentices may experience a rapid transition from novice to baker. Consequently, intensive training in a narrower skill range is achieved. These apprentices are then expected to be productive for the duration of their indenture, with limited access to on-going training, as they have attained a level of competency requiring no further intervention.

The above discussion leads into an exploration of opportunities for expansive participation as afforded apprentices in this study. Apart from product range and bakery type, other aspects of the expansive-restrictive workplace participative continuum need to be considered. Two of these, range of qualifications offered and opportunities to attend off-job training, are now discussed.

Range of qualifications available to apprentices

Qualifications obtained during apprenticeship often hold persuasive power as artefact of the knowledge individuals use to quantify their ability to practise an occupation. Therefore, the discussion in this section examines the effect of the two levels of qualifications availed to
bakery apprentices, as these qualifications have implications not only on their bakers’ identity but on future career pathways in the baking industry. In-store bakery apprentices, exemplified by Mark, complete a National Certificate at Level 3 (see Appendix N). Additionally, they are not offered access to off-job training entitlements. Therefore, their prospects for learning and training opportunities are restricted to workplaces of their indenture. If Mark displayed promise towards a baking career, he is able to aspire to a National Certificate in in-store or franchise baking at Level 4 in the New Zealand vocational qualification system (Appendix O). The qualification essentially recognises competencies relevant to supermarket bakery management. The Level 4 qualification for in-store bakers may comprise a large component of supermarket retailing competency standards as the range of elective unit standards allowed in the qualification is extensive. Competency in baking is just part of the overall qualification. Instead of competency in the production of a wide range of bakery products, in-store bakers’ competencies include a range of non-baking skills including staff supervision, interpersonal communications, and product merchandising. The opportunity to complete Level 4 qualification widens Mark’s skill sets beyond baking craft skills. However, the Level 4 qualification in in-store or franchise baking means Mark was identified as an in-store or franchise baker, which many craft bakers perceive as an inferior form of baking craft practice. Consequently, the type of qualification availed to apprentices is premised by the workplace boundaries around the scope of their work and hence their opportunity to learn baking tasks.

Implications of access to off-job training

Off-job training opportunities for craft bakers can address a range of products not commonly produced in every bakery but which are considered to be part of bakers’ standard repertoire. Therefore, despite the specialist nature of Dean’s bakery, as a Level 4 apprentice he was afforded the opportunity, through attendance at block courses, to experience and learn a wider product repertoire. So, for Dean, there is inequitable access to off-job training opportunities when comparing craft bakers to in-store bakers. Apprentices who complete an in-store indenture are disadvantaged as they are unable to articulate across to craft bakeries due to restricted bakery production skill competencies completed during indenture. In contrast, craft bakers are able to migrate to in-store and franchise bakeries as they acquire a more diverse range of baking skills.
In this section, both the range of qualifications and access to off-job training provisions are presented as examples of how designation to restrictive participative workplaces circumscribes learning affordances and the eventual occupational trajectory of some apprentices. A clearer and knowledgeable career direction at the outset of indenture may have allowed these apprentices to choose workplaces whereby the training afforded would lead to attainment of Level 4 qualifications. However, as described in Chapter 4, 12 out of 13 apprentices entered the trade by happenstance. Therefore, the aspect of “bounded agency” (Evans, 2007), instituted by limited occupational choice at the outset of indenture, has led to some apprentices’ narrower field of bakery skill acquisition.

**Bakeries’ experience with training**

It is observed in this study that bakeries with experiences in supporting apprentice learning offer a more supportive culture for workplace-based training. Bakery owners or managers or supervisors who have completed an apprenticeship are perhaps more cognisant of methods for introducing novices to bakery work. They may be able to utilise their own experiences as apprentices, along with off-job training that includes learning about assessing workers, to assist young apprentices in learning the craft of baking. In the bakery profiles detailed in Table 7, eight of the 13 bakeries employ management staff, or have owners or managers, who had completed an apprenticeship. In almost all these bakeries, owners or managers had experienced training more than one apprentice. Apprentices, Ben, Diane, Joanne, John, Karl, Mary, Tony and William, worked in bakeries with employers who had completed a bakery apprenticeship. Therefore, these workplaces may be better placed to nurture an apprentice by virtue of their experiences and familiarity with apprenticeship systems. Additionally, the advantage of employer experience is supported by historical evidence derived from CPIT student records of previous apprentice completions. In general, employers with experience in training apprentices have higher rates of apprenticeship completion of national certificate qualifications (Chan, 2002). As mentioned earlier in this chapter, workplace support and contribution is only one aspect of importance in apprentices becoming bakers. Apprentices’ individual decisions to engage with workplace learning opportunities, assiduousness in practising and attaining bakery skills, and willingness to accept positions of responsibility are also important contributors to occupational identity formation.
Workplace learning culture differences between expansive and restrictive bakeries

As deduced from this study, workplaces on the expansive participative side of the expansive-restrictive workplace participation continuum (Fuller & Unwin, 2003b) were identified as being more encouraging of learning. Workplace encouragement was observed not only with regards to apprentice training as presented in the above sections. Encouragement also included ensuring a workplace culture is embedded into the entire workplace that is supportive of promoting apprentices’ learning. A workplace learning culture is evidenced by the following observations recorded in field notes: (a) confidence of owners and managers in discussing bakery trends; (b) the product range between observations, signalling the bakery was sustaining consumer food trends; and (c) the positive and informative way in which bakery workers responded in discussions questions about current food trends.

Bakeries with supervisors and managers who model innovative and creative practices provide apprentices with role models to which to aspire. Apprentices who complete their indenture in expansive bakeries are often encouraged to engage in extra-curricular activities, such as entering into bakery competitions, assisting at bakery industry conferences as volunteers, and attending bakery supplier organised seminars or demonstrations. Encouragement to access experiences with the wider baking industry beyond their immediate workplaces offers apprentices options and networks that can support their future career development. Again, individual agency to participate in opportunities both within and outside of apprentices’ bakeries is also an important attribute in contributing to apprentices becoming bakers. This aspect is discussed in more detail in the next chapter.

Interaction of apprentices with other workers

In general, close and constant workplace interaction between apprentice and other workers, during everyday work activities in these bakeries, is very limited due to the intense and noisy nature of the work. As a result, any form of interaction during participatory observations was noted in field notes; all interactions noted were related to production tasks. Interlocutors whom apprentices interacted with and the purposes of interactions were found to be different in each of the years of participatory observations. Specific interactions in each of the 3 years of observations are now detailed and discussed.
Interactions in the 1st year

As detailed and discussed in the above section on progressive skill acquisition, 1st-year apprentices were typically working with another baker and performing baker assistant duties. These duties provide apprentices with the prospect of learning from observing models of practice, receiving informal evaluation of their work, gaining feedback on performance, and obtaining an overview of entire product manufacturing cycles. In short, opportunities to develop inter-subjective understanding (Hutchins & Klausen, 1998) specific to apprentices’ workplaces were present. Almost all interactions observed were between apprentices and workers with whom they were working. These interactions were mostly about monitoring apprentices’ tasks, or apprentices clarifying requirements. Use of bakers’ technical terms and jargon during verbal communications was extensive. In addition, apprentices learnt, through their work experience, the specialised nature of bakery workplace communication. All apprentices observed were able to comprehend and use correct verbal jargon and non-vocal signals (Burgoon, 1994) that were the norms and practices of the particular workplace community. Consequently, learning of baking for new apprentices comprises much learning about the expectations and interactional forms within the bakery workplaces. The ability to communicate with the specialised language of a busy commercial bakery, although not captured in national qualifications, comprises an essential aspect of apprentices’ development as bakers.

Interactions in the 2nd year

In the second year, apprentices were independently completing a large proportion of product manufacturing tasks. Less interaction with other staff was required, unless there were parts of the baking process requiring confirmation. For example, Karl, the apprentice requiring more time to learn and practise skills, checked at crucial points when making biscuit dough during his second observation, on stages of mixing each dough and final dough consistency. He continually sought confirmation from his supervisor about thickness and size of biscuits. These interactions assist apprentices with learning the specialised nuances of ingredients and products. The interactions assist apprentices in understanding the importance of observation, both tactile and sensory (i.e., smell, sight, and sometimes sound), which provide input on various optimum stages in manufacturing bakery products. During second observations, the number of interactions between apprentice and other workers was lower than in the first year.
Essentially, 2\textsuperscript{nd}-year apprentices, when observed, were wholly immersed with their work tasks; they did not need to communicate with other workers due to their increased independence in work-related decision making. The range of inter-personal interactions in larger bakeries is however more extensive. Instead of a mainly one-to-one communication between 1\textsuperscript{st}-year apprentice and supervising baker, there was interaction between 2\textsuperscript{nd}-year apprentices and other bakers working on other products. Due to the range of processes and tasks involved, apprentices have to obtain confirmation with other workers, with regards to use of equipment, oven settings, clarification of production requirements, and other production issues. Therefore, 2\textsuperscript{nd}-year observations supply evidence of growing independence, confidence, and competence of apprentices, able to accept production responsibilities. Again, many competencies observed during observations include not just ability to perform technical skills, generic competencies, and knowledge (E. Smith, 2003a), but also communication skills required to participate within a workplace with specialised objectives and cultures (Brown et al., 1989). So, the direct guidance by more experienced co-workers that characterised the first year of their apprenticeship was replaced by greater independence and more indirect forms of guidance in the second.

\textit{Interactions in the 3\textsuperscript{rd} year}

By the third year, the majority of apprentices were producing bakery products independently. In addition, 3\textsuperscript{rd}-year apprentices were often assisted by a junior apprentice. Therefore, 3\textsuperscript{rd}-year apprentices are not only responsible for overall manufacture of a range of products, but are also often involved with supervising the work practice and learning of less experienced workers (i.e., junior apprentices). It follows therefore, that interactions observed are focused mainly between 3\textsuperscript{rd}-year and junior apprentices. In this case, 3\textsuperscript{rd}-year apprentices are confirming tasks and parameters with junior apprentices. They are also interacting with other bakers in the bakery and in some cases with retail staff, hence confirming their increased workplace status. Third-year apprentices confer with a wide range of both bakery and retail staff with regards to use of equipment, oven settings, and production requirements. Hence these 3\textsuperscript{rd}-year apprentices had progressed to engaging in the direction of other workers and were not just focused on their own tasks.
As apprentices progress across the years of indenture and up the bakery hierarchy, observations reveal changes in types, frequency, and content of workplace interactions between apprentices and other bakery staff. A pattern of increased interaction diversity undertaken by apprentices through the life of the study is noted. Novice bakers’ main interaction is with their supervisor, trainer, or more senior co-worker. The novice baker is engrossed in coping with primary tasks and not cognisant of many other bakery activities. As apprentices’ practical skill competency increases, they are required to manage several tasks concurrently. Accompanying the requirement to multitask is the need to liaise with a wider complement of other bakery workers. Hence, consequential increase in the variety of interactions is a result of the coordination required for working in team-based work environments. When apprentices move into supervisory roles, their interactions reflect their increased workplace responsibility. Therefore, 3rd-year apprentices interact with non-production staff and production staff, and often assist with the training of the most junior apprentice.

The other important features in this section are methods used by apprentices to communicate. During 1st-year observations, novice apprentices were observed using technical terms, jargon, and non-vocal signals with the senior baker or apprentice. Communications in the noisy and busy workplace environment are effective and targeted at the need to complete tasks efficiently, expediently, and effectively. In 2nd-year observations, apprentices deploy greater use of language prevalent in many food-based production environments. Verbal language is usually conducted in loud, part sentences, occasionally emphasised with expletives. These interactions are communications seeking details about sequencing utilisation of ovens or mixers and confirmation of task instructions. Little difference was observed between how female and male apprentices deploy workplace oral vernacular. Female apprentices were just as apt as male apprentices at using expletives. Gender equality in the use of expletives concurs with findings made by Bayard and Krishnayya’s (2001) study of the usage of expletives in structured and unstructured conversations by New Zealand university students: minimal differences were found between type and number of expletives used by males and females.
By the third observations, apprentices working in a supervisory role were able to use appropriate technical jargon and hand signals, read and write using accepted workplace abbreviations, and use correct language with a range of bakery staff. In dealing with non-production staff, apprentices did not use the expletive-laden language common in bakery production areas. Therefore, apprentices had learnt and were able to apply the customs and practices prevalent in the industry, of ensuring coarse language remains within production areas. Inappropriate language is not to be used with retail staff or in retail areas where customers may often be present. Consequently, learning baking does not only include craft practice but is extended to include norms and practices at a situational level as apprentices adopt the patterns of interaction that identify them as bakers.

**Progress in understanding baking processes**

Added to the above interpretations of field notes from participatory observations are the following excerpts from interview data highlighting apprentices’ own understanding of their progression from novice to competent baker. Tony provides a good example of growing confidence and abilities between interview statements collated from first and third interviews:

*Picking up things, I find it hard sometimes. I eventually get there.*

*Everything is there really. If they are given instructions, they will know what to do without being able to do it. I can’t do that yet but hopefully soon.* (Year 1)

*Ah, because when I first started in the bakery, I couldn’t even ice a bun. But now, they can pretty much give me a job and I will be able to do it. Sometimes, I might need a bit of reminding but usually, it’s good.* (Year 3)

Excerpts from interviews with William indicate progress from viewing a product as just another pie during the 1st-year interview, to where his consolidation of bakery epistemology improves sufficiently to suggest improvements.

*It’s just like the end product. Make sure it all looks the same. So like a custard tart, make sure all the same amount, same height.* (Year 1)

*Like we were having a problem with the bottom pastry on our pies, they were shrinking on Monday. It was because we were adding the scrap pastry from Friday into it. We stopped doing that, and things worked fine. Then when we started adding scraps back in, we worked out how much to add before we had to stop. So now it’s good.* (Year 3)
Across their periods of indenture, skill acquisition progression for these apprentices clearly advanced. The workplace has an agenda to ensure new workers are trained rapidly so as to contribute towards work productivity. Apprentices usually commence their indenture on wages lower than the norm. Lower apprentice wages can ameliorate workplaces from bearing the costs of an unproductive worker. The incentive for small businesses is to ensure new apprentices are trained effectively and efficiently. Workplaces are then able to employ apprentices in as wide a range of tasks as possible. Therefore, workplaces gain by being able to pay apprentice wages to a competent baker. In turn, apprentices are advantaged, as it means they usually receive committed training at the beginning of their apprenticeship. In the later parts of the apprenticeship, apprentices who undertake responsibilities are in effect learning the many roles of a baker perhaps not detailed in actual training agreements. An example would be if an apprentice supervises a production shift in a bakery, as did for example Diane, John, William, and Dean. It is noteworthy that, along with the communication capacities, the many human management skills required for apprentices to assume supervisory positions have no competency standards attached to them for the purposes of completing the National Certificates in Craft Baking at Level 4 (see Appendix M).

In sum, these apprentices learnt how to complete various bakery tasks from a range of more experienced co-workers. In small craft bakeries, there is usually a one-to-one coach or mentor-to-apprentice ratio. In larger craft bakeries, the person who adopts the role of apprentices’ coach and trainer is usually the shift or process supervisor or senior apprentice. As detailed in the previous sections, interaction between other workers and apprentices evolves over the indentures’ time-span. Apprentices transform from being mainly reliant on other workers for instruction to independent agents able to form judgements, make decisions, and adopt responsibility for bakery production. Therefore, across the indenture, apprentices learn many interpersonal skills beyond craft skills. They are introduced, when ready, to work roles structured to prepare them eventually to work as autonomous and responsible bakers. The next section discusses how the apprenticeship process prepares senior apprentices for workplace roles of responsibility and in so doing, maintains the progress of apprentices becoming bakers.
Opportunities for apprentices to assume roles of responsibility

It follows from the above, that opportunities for undertaking positions of responsibility are more readily available in smaller bakeries with small numbers of staff. Many apprentices eventually assume sole responsibility for bakery production during the weekend, or when the employer is absent. In smaller bakeries, there would be no one else to whom to delegate the responsibility. In addition, apprentices need to be ready to accept the challenge of undertaking responsibility.

I go to work on Sunday. By myself, I only have the shop assistant there. I go there and I have to do time management myself and doing things without having Harry, to ask him. Just doing the products over and over again, in order to correct them myself. (Paula in Year 3)

Yes, I would say so. I would take more responsibility because I start the day off. I am the only one there. I start off the doughs and the proofer and stuff whereas before, I was not the only one there, then it’s really working with other people. (Joanne in Year 3)

By the third year, nine apprentices worked in positions of responsibility. Apprentices learn craft skills from a variety of bakery workers. These sources of learning range from bakery owners and managers to senior apprentices about to be qualified. During first year interviews, apprentices’ perception of the skills, knowledge, and dispositions required to become good bakers was limited to descriptions of operational tasks and concrete skills. These include the ability to learn quickly, being able to practise and complete a job accurately and speedily, the proficiency at arithmetic relevant to the practice of baking, and communicating and working well with other bakery workers.

As evidenced in the examples above, by the third year all but two apprentices were able to expound on the finer theoretical points about baking and to converse knowledgeably about baking ingredients, products, and bakery methods. Hence, apprentices’ increased abilities and understanding of the bakery process reinforces the view of workplace learning as being effective in helping willing young persons obtain the technical skills required of a trade qualified baker.
Evidence of workplace pedagogy

During observation sessions, evidence of workplace pedagogy as described by Billett (2002a, 2002b) was found in many bakeries. In particular, observations reveal apprentices are afforded opportunities to access workplace practice through directed work tasks. Apprentices engage with these tasks and practise skills required to increase speed, accuracy, and efficiency in producing consistent quality products. For all apprentices observed, affordances for workplace learning are forthcoming. Billett (2006b) summarises affordances as workplaces’ capacity to provide workplace learners with access to learning opportunities. Workplace learning opportunities include learning from co-workers the skills and attitudes of the occupation, along with time to practice and learn, access to knowledge, implementation of training programmes, and encouragement. Although not all of these affordances were seen at each field observation, they were noted for the majority of apprentices over the course of these sessions. In general, bakery workplaces have an underlying profit-driven incentive to ensure apprentices are provided with sufficient training to contribute to the bakery’s productivity.

As illustrated through an excerpt from Paula in the previous section, apprentices reported learning by observation and interaction with another worker responsible for the overall production of a range of bakery products. Their learning could be explained as guided participation (Billett, 2002a; Rogoff, 1995). Apprentices are extended opportunities to practise skills. Many motor skills crucial in bakery production require extensive and repetitive practice before they became automatic and intuitive (Gomez et al., 2003; Lee & Roth, 2005; Sennett, 2008). The extended duration of time that apprentices participate in work activities affords opportunities to engage with a wider range of routine or non-routine problem-solving activities. The opportunity to engage with problem-solving episodes provides for increased prospects for microgenetic development in craft and trade knowledge (Billett, 1998). In addition, greater responsibility for manufacturing products is gradually transferred to apprentices. Eventually, apprentices become mentors and guides to more inexperienced apprentices. As a result, apprentices initiating as learners transition from learning skills towards becoming teachers and role models of inexperienced bakers.

Apprentices working in bakeries with a restricted range of products complete the cycle from learner to trainer in a shorter timeframe than apprentices who work in bakeries
with large repertoires. The time period when apprentices are conferred independent responsibility is contingent on how others in the workplace perceive their competence. In addition, capabilities of individual apprentices need to be recognised. Apprentices who are able to learn skills quickly and complete tasks effectively and efficiently with less practice progress expediently to more complex tasks. Apprentices who require more time to learn and practise skills before attaining competency are left with completing the same tasks until required standards are achieved. Consequently, there is a concerted shift in perspectives for apprentices in terms of their degree of identity formation as a baker. Able apprentices move from dependent learner and bakers’ assistant, to inter-dependent competent baker, and become an independent baker whom others would confer with about workplace matters. The transition of responsibility for bakery production is, however, contingent on apprentices developing skills, dispositions, and knowledge congruent with bakers’ identities, as perceived by other bakery workers and then eventually by the apprentices themselves. Thus, apprentices able to undertake and perform well in roles of responsibility are granted further autonomy for their work, leading to a positive feedback cycle (Hall & Chandler, 1995), further affirming their bakers’ occupational identity.

**Making adjustments to life to engage in the baking lifestyle**

Part of becoming a baker is to adjust to the working life conditions, and negotiating and practising in such conditions. The more mundane aspects of the occupation, including shift-work and the physical nature of the work, did not deter apprentices. All these apprentices worked standard bakery shifts which commence early in the morning and progress into the early afternoon. Apprentices also work one weekend day as part of their working week. The decision to engage with shift-work provides evidence of these apprentices’ commitment to bakery work, as shift and weekend work affect workers’ leisure and social activities. In New Zealand, penalty rates (i.e., increased hourly wages for working non-traditional shift hours and weekends) do not apply to all industries, and this is the case with baking. Consequently, these apprentices are making an informed choice to participate in baking work, even though they could be earning similar or higher wages in other occupations that do not involve shift or weekend work. All apprentices were shown to make adjustments consciously to their non-work lives to sustain working conditions and lifestyles imposed by engaging in the baker’s occupation. Several apprentices enjoyed early morning work hours. From the commencement
of their apprenticeships, these apprentices accommodated the baking lifestyle into their normal mode of living and as an act of becoming.

William: *Started off at 5:30 to 2:00 but now have gone on to 4:30 to 1:00. Yes. It’s good. I like the early start. You got more time in the afternoon for yourself and stuff.*

Male apprentices generally mentioned the need to forego sport activities as early bedtimes did not allow for attendance of team sport practice sessions which, in New Zealand, are usually held in the early evening. Many apprentices also work on a Saturday, the main day for amateur sporting events. The difficulty in synchronising team sport training led many apprentices towards evaluating individual sporting activities, including individual gym work and motor cross riding, to replace participation in team sports such as cricket, touch football, and rugby league. David, along with several other male apprentices, gave up sporting activities.

*Yeah, I do some weights and things straight after work. I don’t really do much sport anymore. Oh, well there is the catch up from work. Have to be strong at work on Monday.*

Female apprentices reported the need to reorganise their social life. The requirement to be in bed by nine o’clock in the evening curtails late-night entertainment and other social activities. Female apprentices, exemplified by Paula and Joanne, sought social relationships with a smaller intimate group instead of with their previous larger circle of friends.

Paula: *Yes. Have to go to bed earlier. Difficult to do much when you have to be in bed by 9:00 p.m. That’s on 6 hours sleep. They (her friends) finish work at 5:00 p.m. And I also work Sundays. So missing out on a social life.*

Joanne: *I didn’t have a social life. I work 6 days a week night shift, so it’s a fizzer. I always had to say, I can’t go out, I have to work or you are back out in the afternoon and everyone else is at work and then they come home and you go to work.*

Karl, along with the two female apprentices quoted above, found shift work impacted on his social life.

*Yes. I don’t do things as much with my friends anymore. Too tired most of the time.*

The consequences of the physical nature of the work mean many of the apprentices used their days off work, satisfying sleep requirements and recovering physically for the next week’s work. Shift-work does circumscribe the lives of apprentices. However, all apprentices were
ready to meet the challenge. The tangible advantages of work (wages) along with intangible rewards (a trade for life) are motivating factors for apprentices to work at compromises.

The detrimental effects of shift-work (Colquhoun & Rutenfranz, 1980; Monk & Folkard, 1992) might be less pronounced in the baking industry than in other occupations. For instance, hospitality and travel industry workers work rotating shifts, often involving working three or four different shifts over a monthly time span, with one shift beginning early in the morning and another commencing later in the day. In contrast, bakers commence work either late at night or early in the morning, and these hours are fixed for the duration of bakers’ employment. A shift or roster change might only occur if the baker transfers between production teams or relocates to another bakery. However, bakers’ shifts remain out of synchronicity with the majority of the workforce and contribute to restrictions in social, leisure, and family activities. Furthermore, the 13 apprentices made adjustments to their lifestyles to accommodate their occupational demands. Making such adjustments to one’s lifestyle may indicate innate motivation towards being persistent about making lifestyle changes, which are compatible with participation in baking work. The findings in this section lead on to the next, discussing the need for apprentices to be intrinsically motivated to become bakers.

**Wanting to become**

Individual apprentices’ personal agency to engage with bakery work is important. Apprentices are able to exercise some choice with regards to whether they are willing to engage in identity transformation to become bakers. Here are two 3rd-year apprentices’ perceptions of adjustments:

John: *Certainly, the last year has been the best, it’s really enjoyable. Yes. Really good. I guess in the beginning of your apprenticeship, it’s more difficult. Hard when you start, it’s a challenge. But as you do, you fit in and things get better.*

William: *Every now and then I do something small and it makes a difference, so like taking care and knowing when to make changes and not to. Need to be diligent at it, not be slack or lazy or anything like that.*

The following vignette about David provides additional credence for the concept of an individual who enjoys the trade and who is motivated to progress.
David began his apprenticeship in a very small bakery situated in a small rural town. Due to the low pay and perceived social attractions offered by shifting to a larger town, David re-located to work in a wholesale bakery. He quickly realised wholesale bakery product and manufacturing standards were lower than compared to the bakery of his initial indenture. However there were new skills to learn. In particular, he learnt much about bulk production of bakery goods. When the only qualified baker in the wholesale bakery resigned, David returned to his home town and commenced work at an in-store bakery. Again, he was able to learn a new set of skills and increase his product repertoire. However, the lack of mentor to learn from, as the in-store bakery had great difficulty employing a qualified baker, meant David was often forced to learn independently. By the third interview session, David had left the bakery trade and was working in a saw-mill. However, he was still interested in returning to baking and was exploring the possibilities of baking employment in Christchurch (a major metropolitan centre).

In the above vignette, David’s interest in baking was initiated at the bakery of his first indenture. He realised there would be better rewards and opportunities to learn about baking if he transferred to a larger bakery. His interest in baking sustained him through the difficulties of adjusting to two other bakeries with baking cultures vastly different from the bakery of his initial indenture. Self-determination, defined in the context of education, promotes an interest in learning, adds the connotation of value on education, and increases confidence in capabilities and attributes (Deci et al., 1991). The outcomes of self-determination can be recognised in intrinsic motivation to learn. Increased motivation results in higher quality learning, deeper conceptual understanding, and enhanced personal growth and adjustment (Deci et al., 1991). Owens, Mortimer, and Finch (1996) propose correlation between self-determination in school, home, and workplace with adolescents’ self-esteem. With reference to work, the more a job is perceived to be interesting, meaningful, or important, the more likely that it will contribute towards intrinsic motivation and self-control (Hall & Chandler, 1995). Therefore, an interest in bakery work, initiated by proximal participation, may have contributed to curiosity about bakery work. Deep engagement during the belonging phase at the beginning of indenture provides affirmation to apprentices of their affinity to the trade (Hall & Chandler, 1995; Penuel & Wertsch, 1995). This nascent interest may have instigated, in some apprentices, the intrinsic motivation required to want to become a baker. In conjunction with the development of individual propensities for engagement in baking, workplaces are also required to contribute to supporting the learning of apprentices as they become bakers, and this support is discussed in the next section.
5.3 Workplaces supportive of the process of becoming

A comparison of apprentices’ bakeries reveals workplaces on the expansive side of the expansive–restrictive participatory continuum (Fuller & Unwin, 2003b) as having the most engaged apprentices. Working in bakeries manufacturing a wide range of quality products enhances identity formation in their apprentices. In this study, apprentices working in such bakeries knew they were “a cut above the rest.”

The longer time-span required in learning a wider variety of skills corresponds with apprentices becoming more engaged in the workplace culture: the work is less routine and almost all apprentices enjoyed the variety of baking work. The phrase “no two days are the same” was used by many apprentices to describe their work routine. The baking workplace demands great commitment from their workers: many bakery staff work over and above a standard 40-hour week. This example is indicative of the hours worked by many apprentices.

*Can be tough, prefer 40 to 50 hours. Over 40 OK, fine and 50 still OK but we were doing, like 70 hours. Not very nice, I don’t like it [when it gets that busy]. (John in Year 2)*

These long work hours create camaraderie within baking workplaces, but also place pressure on apprentices to cope with physical weariness and workplace relationship generated stresses. The extensive work hours, however, present additional potential for immersion in workplace practices. In turn, opportunities to access workplace learning opportunities and hone practical skills are increased. Additionally, tacit learning and baker’s identity formation is accelerated. The long hours at work mean many apprentices are submerged for the majority of their waking hours within the baking practice community. Basically, many apprentices are “working, living, and sleeping” baking, meaning their deep and intense involvement with work leads to persistent and strengthened microgenetic development (Billett, 1998) of bakers’ craft skills, knowledge, and dispositions, all of which contribute to the process of their becoming bakers.

5.4 Factors that support the becoming process

As with the belonging process elaborated in the last chapter, the two main aspects that assist apprentices with becoming bakers are personal agency and support from workplaces. These are now discussed with reference to the phases and stages of becoming bakers.
**The need for personal agency on the part of apprentices**

Hill and Dalley-Trim (2008) studied Australian apprentices in their first year of indenture to understand the factors contributing to apprentice retention. Almost 200 apprentices were studied by matching their demographical and ontological characteristics, to analyse if certain characteristics would predispose apprentices toward dis-continuing indenture. Of note to this study is the importance of apprentices’ personal qualities or attributes. Attributes are indicated by possessing a positive attitude, being able to “use their own initiative,” appreciating the value of workplace learning, and having respect for work colleagues. Additionally, strong work ethic, a mature approach, willingness to accept responsibility, and demonstration of respect for work colleagues and superiors are required.

These personal attributes are important in ensuring apprentices’ enculturation into workplaces. Such attributes could be correlated to some of the premises and themes presented in this chapter, including apprentices making lifestyle adjustments to accommodate requirements for shift work and apprentices deciding to want to become bakers. So beyond provisions for support for learning the technical aspects of the trade, other attributes epitomising bakers’ occupational identity, exemplified by diligent approaches to work tasks, are also availed for these apprentices to develop.

**The concurrent need for workplace support**

In turn, the workplace is required to be supportive of apprentices’ learning. As advanced in this chapter, affordances for learning foundational bakers’ skills and knowledge were positive for all 13 apprentices. Although rapid development in work readiness of apprentices is commercially motivated by workplaces, this study has established that apprentices were granted sufficient training to become competent and capable practising bakers; in doing so they have become bakers in different ways and by different degrees.

Of note to this section is an extension on the discussion on the concept of mateship (Page, 2002). Teamwork is an important component of bakery work. Many bakeries are organised through delegating business objectives to smaller work teams. In many bakeries, there are distinct work teams often delineated by the product each team manufactures, an example of a production-focused work team (Rasmussen & Jeppesen, 2006). As detailed in Chapter 4, bread bakers often commence work at a different time from cake and pastry cooks.
Therefore, work teams form an essential part of bakeries’ work organisation. One characteristic of masculine work teams is the Australian/New Zealand institution of mateship, discussed now in relation to its contribution to workplace support towards apprentices becoming bakers.

Page (2002) defines mateship as a fraternity often brought together by occupation, sport, or nationhood. Mateship requires special connections to be formed, leading to the establishment of camaraderie within groups. Bonds of mateship require mates to assist friends (i.e., other mates) whenever and wherever required. Therefore, mateship is a form of teamwork. However, the term teamwork does not depict the intense relationships involved in mateship, which is perhaps a uniquely Australian and New Zealand trait (Page, 2002). Some advantages of mateship are useful in promulgating factors that support identity formation in apprentice bakers. These include providing a sense of belonging, support, and solidarity; promoting cooperation and respect amongst workers; encouraging collaborative effort in work; and presenting opportunities for mateship to continue beyond the workplace. A workplace practice community could be enhanced by aspects of mateship, and bakeries which encourage teamwork and mateship may find it advantageous for improving morale, productivity, and profitability.

The features defining practices within (bakery) communities (Gherardi, 2010) may be matched to characteristics of effective teamwork. The three dimensions that proscribe communities of practice are joint enterprise being understood and continually negotiated by members; mutual engagement that binds members together as a social entity; and shared repertoire of communal resources including routines, schedules, artefacts, and vocabulary developed by members over time (Wenger, 1998). Qualities of effective teamwork include greater cooperation amongst team members, more and easier communication, increased resistance to frustrations, reduced labour turnover, lower absenteeism, and lower tolerance of non-performing team members (Adair, 1987). Rasmussen and Jeppesen (2005) also report positive correlation between job satisfaction and effective teamwork. Therefore, the concept of mateship (Page, 2002) may be useful as a non-threatening means to initiate and establish proximal participants’ belongingness to a workplace, leading to engagement with craft practice and enhancement of the becoming phase of occupational identity formation.
5.5 Becoming a baker

In this chapter, the important process of how novices become trade workers is detailed and discussed. The length and components of this chapter reflect the significance of the becoming stage within the apprenticeship process, as becoming a baker is a major objective not only for individuals, but also for workplaces and the larger industry practice community. The becoming stage of apprenticeship encompasses the bulk of time and effort that apprentices expend over the course of indenture. Hence, the prime goals of apprenticeship are to attain practical or manual skills, knowledge, and dispositions indicating eventual assumption of bakers’ occupational identity. Therefore, in this chapter, the process of what constitutes the apprenticeship experience for these 13 novice bakers is reported and discussed. The primary objectives of apprenticeship, as derived from this study and reported and discussed in this chapter, include how novices attain trade or craft competency, conferment of occupational identity by peers before apprentices’ eventual self-recognition and acceptance of trade worker status, and transformation of novice apprentices from dependent workers reliant on other for assistance, into independent senior apprentices able to teach junior workers trade skills.

The next chapter extends the presentation and discussion of findings on how apprentice bakers continue on their journey by being bakers.
Chapter 6

Being a baker and gaining a vocation

6.1 The identity trajectory into being a baker

This chapter discusses 13 apprentices’ continuing occupational development as bakers: being bakers and gaining vocations as bakers. The previous two chapters discussed how these apprentices become bakers through firstly establishing a place in bakery workplaces (i.e., belonging) and then through continual employment in the work of baking (i.e., becoming). The developmental processes of capacity and identity formation within a trade, and connection with baking work, arise through support from apprentices’ workplaces as well as through these apprentices’ intense engagement with bakery work. These two aspects of workplace support and apprentices’ willingness to participate with opportunities provided for workplace learning sustain the development of extensive skill and knowledge construction and consolidation. In turn, processes of belonging to a workplace, and becoming, initiate endorsement by others and eventual formation of these apprentices’ identity and sense of self as bakers (i.e., their vocation). This chapter continues the discussion of this study’s findings by advancing the account of apprentices’ identity formation trajectories as they continue practising as bakers. In particular, accounts of the influences of specific workplace practices on these apprentices’ occupational identity formation comprise a central theme of apprentices’ perception of baking work as a vocation.

The following precepts are presented and discussed here. Firstly, apprentices’ developing passion for the trade (i.e., as their vocation) is evidenced through analysis of 3rd-year interview transcripts. From these data, evidence of the majority of these apprentices’ developing and deepening enthusiasm and interest in baking is identified. A passion for baking work emerges through intensive, effortful, and meaningful engagement with baking work practice. The opportunity to connect and form affiliations with baking craft and establish relationships with people in specific bakery workplaces provides substantial affirmation to these young people, thereby increasing self-worth. Furthermore, the confirmation is particularly important for these apprentices, many of whom became
disengaged during the formal school system because of poor academic achievement. These apprentices had not identified an occupation, let alone a vocation, as a possible post-school destination.

Secondly, 10 of the 13 apprentices now consider baking as a career or vocation they are prepared to follow beyond completion of apprenticeships. There is evidence of a gradual shift from apprentices conceptualising baking as a job, towards becoming a baker with a worthwhile and interesting career (Wrzesniewski et al., 1997) or vocation (Hansen, 1994). Indeed, for at least 5 apprentices, the interview transcripts suggest that baking has become their vocation or calling (Hall & Chandler, 2005) through offering personal fulfilment and satisfaction. The apprentices’ accounts evidence transformation in how they approach baking as a form of meaningful work or work that is more than a routine job (Bunderson & Thompson, 2009; Michaelson, 2009). Those apprentices who display deep commitment to baking are able to describe the intricacies of their continual efforts to interact with and understand the vagaries of bakery product manufacture and thereby extend their knowledge. These apprentices have become knowledgeable about some of the important nuances present in baking and derive great satisfaction from their abilities to apply skills and knowledge towards the manufacture of baked products of a consistently high quality.

Thirdly, accompanying an interest in contemplating baking as a vocation is a growing awareness by these apprentices of their increasing success in baking. Their success is evidenced in their recognition of bakers’ capacities, including limitations, and a developing capacity to make judgements about the quality of their own and others’ work. Their improved self-recognition of skills and understanding of baking activates acknowledgment and comprehension of the parts of their baker’s identity not matching their transformed conceptualisations of bakers’ characteristics. Apprentices compare their current abilities with expertise they observe in their role models.

Fourthly, the apprentices’ willingness to look beyond the present and construct plans for their future as bakers reinforces their growing occupational identity as bakers. In particular, this aspect confirms their growing appreciation of the baking trade’s complexities and their commitment to continual learning towards becoming bakers.
The chapter continues by discussing influences and contributions of the workplace to their ongoing development as bakers. These include exploration and discussion of workplaces’ roles during indenture, emphasising this role in extending apprentices’ practice communities towards greater participation in the wider baking industry both in New Zealand and overseas. Then, factors identified as supportive of the being stage are proposed, analysed, and deliberated upon. These factors comprise workplaces encouraging, supporting, and practising continued innovation. In addition, workplaces that form networks beyond local practice communities provide extra support to apprentices traversing the being stage.

6.2 Being a baker

Being a baker is found to arise from ongoing engagement in baking work and is also shaped by particular supportive workplace practices. In elaborating these premises, this section commences outlining the concept of apprentices’ building passion for the baking occupation. Indicators of their growing passion for baking include developing self-knowledge about strengths and weaknesses as bakers and ability to plan for their future baking careers. The occupational identity trajectory of these apprentices, from perceiving baking work as a job to the occupation of baking as a career or vocation, is presented, and the implication for the formation of vocations are discussed.

Evidence of developing passion for baking

The emergence of a deepening curiosity and enthusiasm for baking by apprentices is evident through data from second and third year interviews, such as these comments by William.

Yes. Certainly think I like my job. I am certainly quicker at them.

I suppose it’s doing the stuff that I like. When I started, it was mostly doing the icing and things like that. But now I get to do the things I like and enjoy. It’s really good.

Ben also provides an example:

Yes. I absolutely love it, heh. The variety really. It changes each day.

In 3\textsuperscript{rd}-year interviews, apprentices’ ability to identify and articulate their strengths and weaknesses is indicative. They are able to evaluate capabilities derived from what they perceive is required to be a baker. An example is provided in an interview with Paula.
Do I think I am a baker? No! I think it’s cos, I need more experience and time. Maybe like 5 years. It’s the experience of all the different fields before you can absolutely say that you are a baker. Probably it’s like more like on-job experience rather than academic. Need to know the basics and then apply them to different places. Things may be done slightly differently.

Joe, who left school at 14 with no school qualifications, summarises his attainment of completing his indenture. For him, as for many of these apprentices, the completion of apprenticeship had been perceived earlier as something likely to be unattainable.

And it’s the first thing I really achieved. I really wanted to achieve. Everything else in my life I have half finished. So it was hard to [get to the] finish but personal drive, that’s important.

Occupational callings may be associated with feelings of passion, defined as strong emotional inclinations toward work-related activities that individuals find interesting, important, and worthy of their time and energy (Berg, Grant, & Johnson, 2010). Hence, the interview excerpts in this section evidence apprentices exhibiting forms of harmonious passion, comprising the identity of being a baker that provides motivation to further enhance their bakers’ capabilities. Vallerand et al.’s (2003) accounts of passion are well aligned with the processes of learning of the kinds required to be a baker and develop a vocation. For instance, most seminal constructivist theorists (e.g., Piaget, 1981; VanLehn, 1987; von Glaserfeld, 1987) refer to the importance of an active process of knowing that is shaped by individuals’ interest and which is central to their cognition (i.e., thinking, acting, and learning).

Apprentices are observed in this study to exhibit forms of harmonious passion: they are actively engaged in bakers’ work, recognised by other bakery workers and eventually by themselves as being bakers, aware of their capabilities as bakers, and making plans to progress their baking careers. However, these apprentices do not exhibit intense passion exampled by the obsessive passion described in Ruhlman’s (2006) book on “celebrity” chefs. Here, chefs with established careers as excellent craft workers extend their reputations through the sale of books and appearances on television and other media including instructional videos. Individual chefs in Ruhlman’s book are obsessively absorbed with cooking and all segments of their lives are enmeshed into their professional identity. In comparison, these 13 apprentices indicate they enjoy their work. Their bakers’ roles are reported as satisfying and fulfilling. However, none of these apprentices is obsessively
passionate about being a baker. Instead, they increasingly have come to view it as their vocation. They contribute productively in their bakeries but seem not to be engaged in the occupation to the extent of Ruhlman’s celebrity chefs or celebrity bakers exemplified by Brettschneider (2007). In this present study, apprentices’ level of engagement is evidenced by lack of curiosity about baking practices beyond their own bakeries. Therefore, apprentices’ personal decisions on how deeply they engage with their craft are still important contributors towards establishing interest and connection to the trade. Apprentices’ decisions to engage with baking appear associated with situational imperatives to do with their work performance and standing as a baker, rather than a commitment to an abstracted entity.

**Engendering passion for baking**

It is difficult to quantify passion but from 3rd-year interviews, apprentices describing aspects of their work as challenging or stimulating are used as indicators of dispositions deeper than just ephemeral interest, as indicated by the following.

*At the moment, I am quite happy with the work here. It is important to be progressing, you are not just stuck doing the same thing every day you know, it’s good to try out new things. It’s good to move out of your comfort zone like that.* (John in Year 3)

*It’s been good here. I am planning to stay. The mix of things to do and the people is pretty good. I am definitely staying in the trade.* (Diane in Year 3)

*It’s good because it’s varied, it’s not robotic you can be an individual. Or your own methods come through in the product. The more love you put in, the more love you get out.* (Dean in Year 2)

As elicited from 3rd-year interviews, all four older apprentices and six younger apprentices were committed to advancement in the bakery trade. They were eager to utilise their baking skills and many were planning to seek employment in other bakeries in New Zealand, Australia, or Canada. One of the incentives for completing their indenture would be the ability to be remunerated at trade workers’ wages. Due to a world-wide skilled labour shortage of bakers (Career Services Rapuara, 2009), these apprentices understand their potential marketability. The other aspects that identify passion are advanced in the following sections on enhancing a sense of vocation, exploring beyond their apprenticeship, and learning that baking is a life-long pursuit; that is, the trajectory that these apprentices take to continue with apprenticeship and their commitment to continue into careers as bakers.

Therefore, the next section of considering baking as a vocation explores another perspective.
for explaining the deepening sense of connection that apprentices exhibit with their bakers’ identity.

**Baking as a job, career, or vocation**

A way of elaborating the ideas discussed in the above sections is to explore the concept of apprentices travelling along the continuum of perceiving baking as a job, then a career, and perhaps a vocation (Wrzesniewski et al., 1997). As proposed above, the 13 apprentices have developed beyond viewing baking as a job. In the sections below, apprentices’ perceptions of baking as a career is reported as being aware of their occupational capacities, including their limitations and ability to undertake the formulation of plans for a baking career beyond indenture. Discussion now follows on whether apprentices consider baking as a vocation or a calling. Hansen (2004) proposes a vocation (e.g., in teaching) as two-dimensional, one serving others and the other providing personal satisfaction for work. Additionally, he suggests a vocation cannot occur without some form of personal agency and can only be derived from practice (i.e., at work, home, church, school, etc.).

Although referring to the occupation of teaching, Hansen’s (2004) conception of vocation seems applicable to a wide range of occupations, such as baking. Evidence of the dimension of work providing satisfaction to these apprentices is reported above. An example is also provided with both Dean’s and Diane’s approaches to baking:

*But for me, it’s still every day trying to make a consistent product, no matter what size and just trying to everyday make what looks like a quality product. Consistent and of a high quality is what we are after. So I still find it a challenge, everyday get it done better, to get more done. Simply to make better bread with the other guys. So it still keeps me going.* (Dean in Year 3)

*The challenge really. Always something to learn and improve on. Not only the products but the other things that make a bakery work well.* (Diane in Year 3)

Similarly to the aged care trainees in Somerville’s (2006) study and Bunderson and Thompson’s (2009) zookeepers, all 13 apprentices developed deep attachment to occupational identities as they engaged in meaningful baking craft practice. This finding is particularly noteworthy given that the majority of these apprentices entered into baking by happenstance. Apprentices’ personal agency to participate in the baking practice community encourages connection to the practice of baking. Consequently, these apprentices’ vocations
are directed to serve the specific bakery and this, in turn, secures personal satisfaction for their work. The premise selected here in elaborating these propositions is becoming a baker as personal vocation. An associated aspect of vocation worth considering is the concept of calling, because it provides for a deeper understanding of how involvement in work may lead to work being more than just a job. Again, the terms “to be called” or “a calling” are mainly associated with the religious life (Hall & Chandler, 2005; Reber, 1988). The concept of calling is now discussed as an explanatory basis for this phase of apprentice occupational identity development.

Evidence of a sense of vocation

Besides a growing passion for baking, as explained above, a sense of vocation is evident in some apprentices. Examples are provided in the following interview excerpts.

- Every now and then, I do something small that makes a difference, so it’s like care and knowing when to make small changes or not to. Need to be diligent at it, not slack or lazy or anything like that. (William)

- It’s the artists, a contemporary piece of work and a desirable piece of art. (Diane on sugar work)

For each of the above apprentices, baking is no longer restricted to just crafting or manufacturing bakery products: it now requires extra effort, meticulousness, and commitment. Deep engagement in purposeful bakery tasks may have triggered instances of “flow” or optimal experiences (Csikszentmihalyi, 1975, 1990, 1993). The intense intrinsic motivation through optimal experiences may lead to internal feedback loops, advancing self-directed instances of workplace learning, leading to even deeper, meaningful engagement. For these apprentices, their engagement with bakery work may not yet quite approach a form of calling, defined by Hall and Chandler (2005) and summarised here as coming from within the individual, serving the individual and/or community, being found after much searching, and providing a sense of purpose, meaning, and fulfilment. Instead, there is evidence of a commitment to completing bakery tasks with diligence and dedication. A sense of vocation may have accrued due to the specialised nature of baking work. For instance, manufacturing of products to a consistent quality each and every day requires high levels of concentration in recognising the nuances of bakery products. These products are inherently variable due to the inconsistencies dictated by flour quality and the need to work with a living organism, yeast;
both of these are major ingredients in baking. Constant vigilance and confidence to apply theoretical concepts to practical production issues are necessitated to ensure consistency in bakery product manufacture. The interview extract below on product evaluation and how it leads on to improving the production of pies provides an example of engaging in continuous quality development.

Yes, it’s the products, we analyse them and see how they have turned out and discuss how to get them better. Like we were having a problem with the bottom pastry on our pies, they were shrinking on Monday. It was because we were adding scrap pastry from Friday into it. Well, it was sitting in the fridge since Friday and basically the scrap on Friday is from all the scrap that has build up over the week. It was tired and done in and putting in it in the new pastry made it shrink much more. We stopped doing that and things worked out fine. Then we started adding the scrap back in, we worked out how much to add before we had to stop. So now, it’s good. (William)

The interview excerpts in this section evidence these apprentices’ increased confidence and capability in bakery production. The affordances to engage in meaningful work, as defined by Nozick (1974, p. 247), provides:

(1) an opportunity to exercise one’s talents and capacities, to face challenges and situations that require independent initiative and self-direction (and which therefore is not boring and repetitive work); (2) in an activity thought to be of worth by the individual involved; (3) in which he understands the role his activity plays in the achievement of some overall goal; and (4) such that sometimes, in deciding upon his activity, he has to take into account something about the larger process in which he acts.

In turn, meaningful work may lead to individuals perceiving work as more than a job or vocation, and perhaps as a form of calling (Hall & Chandler, 2005).

In addition, the interview excerpts in this section reveal the application of tacit knowledge gained through association with bakery workers and intensive engagement with authentic and meaningful bakery work. These excerpts also focus on apprentices’ attention to detail and assiduousness in ensuring consistent, quality products are continually manufactured, all of which constitutes a form of dispositional knowledge, requiring personal agency to attain. Pride in their craft is perhaps also an overt indication of a developing sense of vocation. The bakery job has progressed beyond being just a composite of tasks completed to become a source of both intrinsic and extrinsic reward for a well-accomplished job (Hall & Chandler, 2005). This increased self-knowledge and self-confidence may in turn contribute to
these apprentices’ perception of bakery work as a form of calling (Hall & Chandler, 2005). Furthermore, these apprentices are now focused on issues of “craftsmanship” as compared to merely “workmanship” (Ainley, 1993). Craftsmanship comprises the ability to consolidate knowledge and practical skills by making judgement, using dexterity, and taking care to manufacture products of distinction (Sennett, 2008). For many of these apprentices, baking is no longer a mundane job but a career full of interest and excitement, providing opportunities for creativity and problem solving. Consequently, the bakers’ job has become, for some of these apprentices, a form of vocation to better their work skills so as to contribute to the workplaces’ business objectives.

**Success leads to perceptions of work as more than just a job**

The mechanisms for the shift in perceptions of these apprentices towards acknowledging bakery work as a form of vocation is illustrative of the process of being a baker. Hall and Chandler (2005) suggest that continued success in an occupation or career eventually leads to the perception of a career as a calling. For many of this study’s apprentices, the need to complete indenture successfully is perhaps an underlying motivation to establish a sense of self and identify as an adult with a defined societal role. This role is of particular significance as illustrated by Joe’s statement in the above section, and premised on the low school achievements of the majority of the 13 apprentices. Here is another example of the trust now placed in some apprentices by their employers, taking into account discussions in Chapter 2 and 4, on how only bakers who are deemed to be competent in understanding and applying the knowledge of baking technology to product development are allowed to experiment:

*Like I am sure they don’t mind my experimentation and that sort of thing. As long as I am not chewing through too much of their money! Yes, but I think things will work out. Like if I need to get in some ingredients, you know, they are quite happy to do that sort of thing.* (Mary in Year 3)

As discussed in Chapter 4, a developing affinity for baking for these apprentices arose firstly through proximal participation within the bakery, progressing to a feeling of “belongingness” (Levett-Jones et al., 2009) to specific bakery workplaces. This phase of belonging is followed by participating in meaningful work practice, and becoming a baker. As discussed in Chapter 5, the stage of becoming a baker encompasses a great deal of skill and knowledge acquisition coupled with increasing confidence in practising as a baker.
Towards the end of apprenticeship, the status of being a baker is seemingly conferred on apprentices by other workers in the bakery.

I am sole charge really. I do all sorts, including deliveries, look after the production, rosters, all sorts of products. (Diane)

Therefore, recognition of apprentices’ abilities through affirmation of bakers’ identity reinforces their occupational identity formation as a social fact: the endorsement of their work community. Furthermore, the bakers’ identity equates to the strengthening of self-belief in their capabilities and competency in baking. In this way, local practice-based considerations of performance and expertise are seen as being more relevant and supportive to the formation of an occupational identity and competence than abstracted measures of standing (i.e., baking as an occupation). The extent and depth of occupational identity development is difficult to quantify from findings of this study. However, indications from evidence presented in this and the previous two chapters provide recognition of the apprentices in this study coming to view being a baker as something more than “just a job.” That is, it connects them to the particular instance of practice from which they derive much of their standing and status as bakers. Following, the ability of apprentices to make plans beyond apprenticeship is discussed as evidence of these apprentices continual commitment to being bakers.

Aprentices’ developing self-knowledge through apprenticeship

The localised premises for baking work discussed above also carry implications for these novice practitioners’ judgements of themselves as workers: their sense of self. All apprentices were able to identify and report on their perceived occupational strengths and weaknesses as bakers. In particular, they were able to identify the products they are confident in manufacturing and were able to state examples of skill deficits.

In a lot of things I would say yes. But in others, I still need some work on, some of my cake-making skills. Needs more practice on fine cake making, I guess. I can make a gateau and decorate it but when it comes to making wedding cakes, well. I can do the icing but when it comes to the fancy writing and stuff, I struggle. (Tony)

Dean, indentured to an artisanal bakery, is aware of his strengths in bread baking and how this advantage could assist in balancing his perceived weakness in cake decorating.
Yes. I always say that and now I understand the theory and the other things. I definitely feel that I understand this job and this bread. The bread side, I think that I couldn’t just rely on the breads. As I said, knowing the theory and having the hands-on experience, and all the parts of it, the pennies have just fallen into place. And I feel confident in bread, but you are right, if I went somewhere else, I still have to fully experience decorating cakes and actually baking the cakes. But I am just honest, it doesn’t matter.

The ability to identify and evaluate strengths and weaknesses in a field of practice may well be an indication of a growing self-image. In particular, it is evidence of the self-understanding and awareness required to become and remain the kind of workers Schön (1983) refers to as reflective practitioners. The development of self-understanding provides further evidence of apprentices’ strong affinity with the occupation of baking. Apprentices participating in this study aspire to attain perceived standards of skill and knowledge as recognised and modelled by other bakers. They measure their worth as bakers through comparisons between their own levels of skill and understanding and those of their workmates, supervisors, trainers, and managers. In particular, apprentices’ explanations of their levels of competency in manufacturing bakery products are couched in a form of recognition utilised by the bakery industry’s practice community to recognise skill sets. This skill set is in the form of bakers’ product manufacturing repertoire. Again, these specialised skills reinforce the importance of the bakery as a social enterprise where apprentices learn their trade. This in turn provides strong influences on apprentices’ self-perception of their identity as bakers.

**Making plans for the future**

As foreshadowed, the development of self-knowledge and sense of self as a baker is an indication of deepening connection and identification of apprentices with their occupational role. The ability to plan ahead and look towards future prospects of a career in baking is another indication of apprentices’ acceptance of bakers’ identity. Many apprentices are able to articulate their plans for the short-term future.

*I guess I don’t have any plans, at the moment, I don’t mind saying that I will stay. No plans to travel anyway. Ah, I wouldn’t rule out something like buying a café or a bakery or even a fish and chip shop, something like that. But at the moment, I am quite happy to work here.* (John)

*I will definitely go back [to baking after maternity leave]. I don’t think I will look to another bakery either. They [the bakery of her indenture] can accommodate, you*
know. Like they have two young children and she is [breast] feeding at the moment as well. So they are really good, like if I needed to go home, it will be like really accommodating. (Mary)

We are meant go to Australia in August, yes. Me and my other half, my partner are going to go over and see what we feel about Australia and hopefully work over there for 6 months. (Paula)

These apprentices’ recognition that they are able to progress beyond their present work to other bakeries, positions, or countries, supports understanding of their future potential. Both the aspects discussed in this section and above are verification of acknowledgement by apprentices of baking as a career, and possibly their vocation. Although apprentices, near the end of their indenture, are practising baking and identifying as bakers, they are still cognisant of their role as new bakers, and for good reason. That is, as reported in the previous chapter with John measuring his speed and accuracy at completing tasks, they are working with others who daily model evidence for them to measure and monitor their own performance against. Therefore, all 13 apprentices, although recognised by others as bakers, and for some, certified as bakers, understand there is still much to learn about baking. The evidence of self-perceived need in apprentices to continually learn more about baking is another indication of identity transformation from emergent baker to full-fledged baker. The disposition for self-direction includes perhaps going beyond the competence required and status attained in their current baking workplace. In doing so, this disposition suggests a step beyond situational considerations of performance and standing to being a baker more occupationally. This awareness is a significant step, as it is in particular workplaces where their status is largely conferred and affirmed. This is further discussed in the next section.

**Exploring beyond an apprenticeship**

All of the apprentices realise the majority of their training is completed in one workplace. They appreciate learning afforded on block course and off-job training that enhances opportunities enabling evaluation of new baking processes and an increase in their product repertoire. However, interview data reveal that very few apprentices actually explore the world of baking beyond products manufactured in their own workplace or those introduced at off-job training. Here are a few of the exceptions. One apprentice, Diane, is venturing into sugar work:
Yes. The sugar work, Peter [employer] lent me book. It’s Eward Notter [a well-known exponent of sugar work]. It’s the artists, a contemporary piece of work and a desirable piece of art. I have tried sugar work a few times. Made some yellow sugar, so pulled a basket and blow fruits like bananas. But also plums, apples. It’s really great. The second lot worked out better, so I am getting the hang of it each time. Mum is going to get me a marble slab so that I can work better with sugar.

Another is inspired by the work of Heston Blumenthal (2006, 2007), a Michelin-star chef with a restaurant in the United Kingdom:

It’s funny, it’s the TV channel, the Food channel. It’s so easy to do, but I have got some favourite ones. Oh my goodness, there is one called the Pursuit of Perfection. Have you seen it? Heston…? It’s fascinating what he does. I saw him make this black forest cake the other week and he came up with his own interpretation of it. He went to Baden Baden, and he went to where kirshwasser was made. And he went through the whole process and then sat down and came up with his own interpretation of it. I thought that it was magnificent, what he did. (Dean)

Yet, the majority of these apprentices’ views of baking is still very much directed by current workplace practice.

Just Steve and Tom only. If I see something that has come up really nice, I will ask who has made it and ask them why they made it that way. Ask questions like that all the time. Yes. It’s the products. We analyse them and see how they have turned out and discuss how to get them better. (William)

Not all the study’s apprentices are exploring the wider social enterprise of baking beyond their local workplace practice community. It may be surmised from this study that deep engagement, fostered by long working hours and intensive interaction with baking activities, focuses apprentices’ attention on their current workplaces. The norms and values of these workplaces encompass and promote their perception of the epistemology of baking which, for the moment, does not require additional input. Here, the localised and situated occupational identity of these apprentices is evidenced. Apprentices derive their work skills and approaches to bakers’ work through workplace exemplars presented across the duration of indenture.

Learning baking as a life-long pursuit

By their third or fourth year of baking, apprentices, conscious of strengths and limitations as described above, have learnt there is more to baking than just following a recipe. In
particular, they are able to articulate an understanding of baking process beyond just simple descriptions.

Well, I still love the job, and even in the last couple of months, I knew that I had to do something, I knew I had to be more adventurous. For me, it’s still, everyday trying to make a consistent product, no matter what size and just trying everyday to make what looks like a quality product. (Dean)

William provides another example:

Yes. It never stops. Like now I am more conscious of things like costs. When you first start, you never count it. But now it’s important to work out how much it costs, if you put too much on you are not going to recover the cost. All the management type of things they are certainly important to know as a baker as well. How much everything costs, even like power, how much to use and how to save on it, like not leaving the ovens on for half an hour with nothing in them. Stuff like that, to take into account.

As noted, 10 of the 13 apprentices presented evidence of commitment to continued learning about baking. Even apprentices relying solely on their present workplaces for bakery knowledge recognise the limits of their current expertise. This awareness of limitations may be one reason why many would not confidently state they are “now bakers” during the 3rd-year interviews. This reluctance is despite the majority practising skills and techniques of baking, teaching other apprentices and workers the skills of baking, and working autonomously to oversee the baking activity of other bakery workers. Therefore, more than learning just the manual skills of baking, individual apprentices are also learning tacit craft skills, provided with opportunities to undertake microgenetic development of craft and trade knowledge through participation in problem-solving activities (Billett, 1998), attaining interpersonal skills through continued interaction with other baker workers, and learning inter-subjective understandings (Hutchins & Klausen, 1998) that characterise bakeries’ “culture of practice” (Brown et al., 1989). These apprentices are therefore able, as described by Ainley (1993), “to integrate the parts of a whole that is greater than the sum of its parts” (p. 13). Additionally, some of these apprentices have also attained approaches to bakery work that may be aligned to their perception of bakers’ occupations from being a job, to a form of vocation.

6. 3 Factors that support the process of being a baker
In this section, discussion on the two important aspects influencing apprentices’ identity formation, the social milieu in which identity formation occurs and individual agency on the part of apprentices, is commenced.

**Contributors to apprentices’ identity formation and sense of vocation**

To explain the importance of these two aspects of identity formation, vignettes of two apprentices, Paula and Tony, are presented. These two vignettes assist in illustrating the interplay between personal agency and the workplace practice community, in contributing to bakers’ identity formation.

*Paula, aged 16 at the time of first interviews, completed her NCEA Level 2 before leaving school. Paula lives in a rural area and works in a small bakery situated in a small country town. Paula’s original ambition was to become a green keeper. However, when she left school, there were no apprenticeships available in this area. Therefore, she commenced working part-time, assisting with the service side of the bakery’s outside-catering division. After a few months, she was offered a baker’s apprenticeship.*

*Tony was aged 18 at the time of first interviews. He completed just over half the credits required to complete NCEA Level 1 but left school at the end of Year 11. Tony lives in a small town and works in a large bakery that has seven satellite retail outlets. Tony entered baking through school-organised work experience placement when he was still in Year 10. He then applied to the bakery apprenticeship and began baking as soon as he left school.*

*The bakery Paula works in produces a limited range of bakery products. Her owner/manager had not employed an apprentice before but he had completed an apprenticeship himself. This bakery is classed as a “restrictive participative workplace” using the criteria presented by Fuller and Unwin (2003b) and discussed in Chapter 3 on describing how apprentices become bakers.*

*Tony’s workplace is an award-winning bakery producing a wide variety of contemporary products. This bakery has a history of nurturing apprentices, with both the owners/operators, who are father and son, involved at the national level on apprenticeship advisory committees. Bakery production staff are almost all trained through the traditional apprenticeship system. A large number of “apprentices of the year” work in this bakery. Selection of apprentices of the year is based on excellent performance in completing workplace assessments and block course assessments. Therefore, this bakery is classified as epitomising an “expansive participative workplace.”*

*However the outcomes near the end of both Paula’s and Tony’s apprenticeships are very different. Paula capitalised on all possible opportunities to extend her learning, skill, and knowledge. She completed unit standards for theory*
requirements of understanding the baking process and attended seminars organised for modern apprentices that are separate from block courses and seminars organised by bakery suppliers. She obtained part-time work in other bakeries when opportunities became available to learn more about the trade. Despite completing her apprenticeship in a “restrictive” bakery, Paula’s personal motivation to become a good baker succeeded in ensuring her repertoire of work skills would be sufficient for her to seek employment in a good craft bakery in New Zealand or Australia when she completed her apprenticeship.

Tony reported working quite diligently during his apprenticeship, yet did not fully utilise the opportunities presented at his workplace. Despite training in an “expansive” workplace, Tony has not completed large segments of his workplace-based assessment requirements. By the occasion of 3rd-year interviews, Tony had not completed over half of the unit standards assessing the knowledge components of baking. In the workplace, Tony did not accept responsibilities commensurate with his position as a 3rd-year and senior apprentice in the bakery. This is despite his working in a workplace with a history of being supportive towards their apprentices and having an assigned Modern Apprenticeship Coordinator.

In the following sections, the vignettes above are used to discuss two subthemes: (a) the need for personal agency in apprentices, and (b) the impact of the workplace on apprentices’ occupational identity formation.

**Importance of personal agency in attaining a positive apprenticeship completion**

In the vignettes provided above, an expansive participatory workplace did not guarantee an apprentice would engage with opportunities presented for workplace learning. In addition, assignation to a restrictive workplace did not necessarily impede the progress of an apprentice who is cognisant of competency assessment requirements and motivated to capitalise on external opportunities afforded for self-directed learning. Hence, in considering the process of sustaining the engagement required to successfully complete an apprenticeship, it is necessary to go beyond considering the social and physical environment that constitutes the workplace, and incorporate the contributions of apprentices (i.e., their agency and intentionality), and how they engage with environments that might be engaged with, ignored, or rebuffed (Valsiner & van der Veer, 2000).

Personal agency, in the form of interest, intentionality, and direction of effort, is likely to be important for all apprentices who aspire to become competent and dynamic trade workers. Billett and Pavlova (2005) propose two mechanisms that likely influence individuals’ engagement with workplace learning: “agentic action” and individuals creating
learning goals to which they can aspire. Agentic action forms the means by which people decide on whether or not they should engage in workplace learning. The sources of agentic action lie in complex relationships between individuals’ life experiences and histories and their present situations in workplaces, domestic arrangements, and society. The ontogenetic development (i.e., across the lifespan) is shaped by an array of factors that are uniquely experienced. Individuals’ decisions to utilise or to discount opportunities for workplace learning, engagement, advancement, or cooperation contribute towards occupational identity formation. Therefore, it follows that even the most expansive of workplaces cannot ensure all individuals will engage with the learning opportunities afforded, sustain the interest to complete the apprenticeship, and go on to work in that trade: they alone assent to their occupation becoming their vocation.

Much of Paula’s personal agency and agentic action is directed at achieving the goal of completing the National Certificate in craft baking at Level 4. Although young, her aspirations to complete a trade qualification produce strong affiliations with baking. The intrinsic motivation encouraged her to work conscientiously towards traversing barriers in the workplace including adapting to the abrasive interpersonal communication style of her owner/manager. Tony, although deciding to commence indenture, did not establish connection between his usual nonchalant (relaxed) personality and the rigours of bakery work. In addition, he made a choice not to engage totally with the bakery workplace practice community. Therefore, his disconnection from it means he remains on the periphery; his identity formation as a baker remained unresolved at the conclusion of the data gathering.

The need for accommodation from apprentices

As evidence of individual commitment to bakery work, these 13 apprentices made lifestyle changes. Besides adjusting their lifestyles to allow for shift work, some apprentices made substantial sacrifices, in terms of lower wages in the short term, to complete their indenture. This sacrifice is especially difficult for the older apprentices, several of whom could have been able to earn higher wages in other occupations. However, the passion honer (Vaughan et al., 2006) sentiment may assist apprentices in balancing the short-term forfeit of wages for the longer-term gain of attaining a trade with future career prospects. As such, they might be exhibiting traits associated with commitment to their bakery work as being beyond just a job, but as a form of calling, as also exemplified by zookeepers’ commitment to low-paying but
personally fulfilling work (Bunderson & Thompson, 2009) and aged care workers’ allegiance to the care of the elderly, despite poor pay and shift work (Somerville, 2006).

None of the study’s apprentices reported being deterred by health hazards associated with baking, including risk of injury from a range of workplace accidents and workplace induced disabilities or allergic reactions including asthma, hay fever, and dermatitis (Wadsworth, 2000). However, at least four apprentices accessed time off work for work-related injury. An example is provided here from Joe:

*When the boss does not have the correct equipment to do the job, then you put too much stress on your back and my back couldn’t handle it.*

Bakeries, with a long tradition of masculine practice, epitomise some of the masculine responses to workplace safety as reported by Somerville and Abrahamsson (2003) and Somerville (2006) on miners’ attitudes to safety. These masculine attitudes to safety include acceptance of the inherent dangers premised by industrial workplaces and a reluctance to engage in safe practices that are viewed as being non-masculine. Therefore, bakery apprentices, both male and female, assume the viewpoints of the wider culture of practice: bakery workplace hazards are prevalent and part of the workplace landscape. Apprentices adopt a pragmatic stance when approaching workplace accidents, and perceive workplace dangers as a consequence of working with a range of potentially hazardous bakery plant and machinery. This aspect is another affirmation of the influence that workplace culture has on workplace attitudes to areas such as workplace safety (Somerville & Abrahamsson, 2003). Acceptance of industry realities (e.g., shift work, long hours, and health and safety hazards) is another aspect of viewing bakery work as more than just a job but as a vocation with associated challenges.

Additionally, as detailed and discussed with the example from Paula above, accommodation is also required of individual apprentices. Paula accepts and assumes the practices enacted in her workplaces; in comparison, Tony decides not to participate totally with the practices of the workplace. Apprentices who reach a decision to immerse themselves in the workplace culture, utilising intrinsic motivational factors, subsume an identity in baking more thoroughly. Apprentices including William, John, and Joanne, as presented below, repeated verbatim phrases which are used extensively within their bakeries. They epitomise apprentices who are heavily influenced by the dominant workplace culture:
impressions of these bakeries contribute towards their acquisition of workplaces’ inter-subjective understanding (Hutchins & Klausen, 1998) and their eventual identity as bakers. Consequently, apprentices adopt workplace practices that reinforce occupational identities. Incorporating these influences, the next section provides another indication of how apprentices adjust their original perspectives when they embark on the apprenticeship journey.

**The impact of the workplace on apprentices’ vocational identity**

As discussed in the above section, apprentices’ workplaces play a major role in how apprentices regard themselves as bakers. Three separate apprentices repeated phrases that were in turn used by their bakery owners or managers when the researcher was informally conversing with them before or after an apprentice interview/observation session: “value added” (John), “innovation to survive in a competitive market” (William), and “our bakery will only purchase from [a certain] firm” (Joanne). These phrases, encapsulating these bakeries’ business and production objectives, are articulated regularly in the bakery for apprentices to assimilate and repeat the phrases in the interviews. As such, these phrases are an overt manifestation of apprentices’ enculturation into a specific instance of the occupation of baking being enacted, and in particular, the adoption and application of inter-subjective understanding (Hutchins & Klausen, 1998) within individual bakery workplaces.

Those apprentices indentured to bakeries with good reputations are aware of their marketability on completion of indenture. One apprentice is planning to return some of the time his employer invested into training him by working for his employer after completing his indenture.

*Well, I will stay here for a few years. You know, give some of my time back to Steve, for the things he has done for me.* (William)

On completion of this commitment, William envisages good future possibilities. He is able to summon his training in a reputable bakery, to accord opportunities in any other well-respected bakery in New Zealand or Australia.

The apprentices trained in craft bakeries claimed these provided a better category of training. An example is this 3rd-year interview conversation with John, arising from a discussion on apprentice pay rates.
That would be a supermarket bakery right? But they don’t bake much, are they really the pits? It will be completely different from here, hey. (John)

In ways consonant with what has been advanced above, bakers attending block courses at a technical and further education site (TAFE) in Queensland indicate that most of the information they perceived was required to learn about the trade was obtained through direct and indirect engagement with the manager or owner (E. Smith & Martina, 2004). The majority of informants claim to have learnt trade skills and knowledge on the job, which is perhaps not surprising given that 84% of their indenture is carried out in such settings. Therefore, workplaces with good reputations may, in particular, confer apprentices with a sense of confidence in the results of skills and knowledge attainment. These apprentices realise they are trained by excellent crafts people who are passionate about the trade and the products they craft. This viewpoint pervades the workplace culture, and willing and agentic apprentices likely recognise and adopt social signals and appropriate dispositions projected through their workplaces’ practice culture. For these apprentices, their conduct is modelled on actions and protocols deemed to be acceptable in their workplace and this behaviour pattern becomes embedded into their practice as bakers. Consequently, each workplace in which they are indentured profoundly influences apprentices’ current and future practice. This finding again supports the precept of a particular workplace setting as an important platform for the development of occupational competence. These settings provide factors that are important for the way that individuals practice being bakers.

Besides delineating the timeframe required for apprentices to gain overall responsibility for a product range detailed and discussed in Chapter 5, workplaces impose their own conception of workplace pedagogy (Billett, 2002a). The range of bakery products manufactured within workplaces provides strong indicators of the breadth of skills afforded during indenture. In the section above, it was reported many apprentices are aware of their strengths and limitations, which are described with respect to product ranges. Therefore, for these apprentices, affordances to training are categorised and conceptualised by bakery product types. Furthermore, in the section above on enhancing a sense of vocation, William acknowledges that much of what he learns in the workplace is derived from his ongoing discussions with his workmates and employer. William’s example of analysing products is a common trait practised by bakers. This trait is also described by Dean in a slightly different context:
It is the constant touching and feeling, it amazes me how they [bread dough] can be different when you take them out of the bowl and start rounding them up. You are sure that it’s the same dough you just made yesterday, pretty much the same way and how that happens, it must – like right now, with the temperature in the bakery, one week it will be freezing in here and the next week, it’s like this [over 30°C].

Dean works in a restrictive participatory environment and this limits access to learning the full bakers’ product repertoire. However, he is motivated to learn how to manufacture artisanal products to a greater degree of precision. Much of his motivation to “be in control” is derived from his life experiences. Dean, the study’s oldest apprentice, drifted into baking, without concerted planning, after leaving a career in sales. In his previous career as a salesperson, he was continually challenged by his customers along with quotas set by head office. As a consequence, he preferred a second career that permitted greater autonomy with regards to his work activities. The following interview excerpts represent an indication of Dean’s approach to baking, about the important qualities of good baker, during his first interview.

It’s the perfectionist type qualities. That you want to control. And also controlling what I do, controlling my work.

In his final interview, Dean discusses bread making:

I just love it, it’s a job where you can totally control, or have control over and that suits my personality to know things will work.

In addition, the bakers from whom he is learning the trade influenced his identity formation as a baker.

There is an element of, they will let you figure it out, so you go for it, I haven’t had any major disasters yet.

Dean spoke about making decisions on process adjustments required to ensure quality products are manufactured. Artisanal bread products are aerated and developed using wild yeast cultured by bakers. Reliance on wild yeast cultures means that the bread made using artisanal methods possesses greater variability when compared to bread made from commercially cultivated yeast. Here is Dean’s explanation of the complexities of working with wild yeast cultures.
If you did everything the same way, well, like today, for some reason, the rye – 40 minutes of proof and normally you can guarantee 25 minutes and it will be ready to go in. I think the prover was a bit colder, the dough was colder for sure. But it is also the challenge, to have the confidence to leave it in the prover. It was still moving, it didn’t lose its shape and it came our fine [in the end.] Whereas at first, I would have been panicking after 25 minutes and thinking, have you [another baker] put the yeast in?

Therefore, although Dean’s personality directs him to seek control of the overall processes of baking, he is encouraged by other bakers to become adaptable and to allow the artisanal process to dictate the time required for products to reach optimum quality. His concept of control has transformed from his personal preference to exercise total control towards gaining, utilising, and applying his newly acquired deep knowledge of bread making technology.

The interview transcript above on the production issues of manufacturing rye bread provides an example of the transformation with Dean’s perception of the terms of control. Before he reached the equilibrium of allowing an understanding of the process to take control, he would follow procedures, such as a set prove time for the bread, and become frustrated at how his process control failed. However, once he understood the artisanal bread-making process more profoundly, he “controlled” these processes, for example by ensuring rye breads are provided a longer period of prove time to reach the required optimum bread-making stage. Therefore, Dean maintains control, but differently from how he envisaged and defined control at his first interview. Hence, the shift in perception for Dean represents a case for the argument for the strong contribution towards occupational identity formation of workplace structure, workplace processes, products produced in the workplace, workplace culture, and workplace relationships. In engaging deeply with the processes of bread making and learning bread making from bakers producing artisanal breads, Dean has attained an attitude of care and pride in work, premised on the established artisanal bakery culture of his workplace. Consequently, it is the opportunities provided by extensive and meaningful workplace practice that have transformed Dean’s approaches to baking practice.

The contribution of expansive participative workplaces may be helpful

As proposed in Chapter 3 on investigating how apprentices become bakers, the bakeries apprentices worked in are categorised using Fuller and Unwin’s (2003b) classification of expansive and restrictive participative workplaces. This categorisation permits an analysis of
the kinds of opportunities afforded to learners in individual bakeries to understand the efficacy of support factors. As presented earlier in Chapter 2 on the bakery as a learning environment for apprentices, opportunities afforded by training in an expansive participatory environment comprise broader product range, better access to a wider range of qualifications, access to off-job training, increased experience of workplaces with training, and a workplace culture encouraging of learning. Comparisons between on- and off-job training affordances for apprentices indentured in expansive participative and restrictive participative bakeries were reported in Chapter 5.

Apart from the above examples featured in the vignettes of Paula and Tony, all but two apprentices who worked in expansive workplaces completed their apprenticeships. Both Tony, who lacked high and directed levels of intentionality as presented and described in the above vignette, and Karl, who due to learning difficulties may complete much later than his peers, are still working through their qualifications. Mark, who worked in three in-store bakeries, and David, who also worked in three bakeries, have also not completed their qualifications. All of the six bakeries these two apprentices worked in are classified as being on the restrictive side of the participative continuum. Of note are these bakery managements’ lack of knowledge about apprenticeship systems and accompanying administrative procedures. As both Mark and David are young people without ongoing workplace support, they shifted from their former to their new workplace without transferring the required paperwork for on-job assessments. Although the onus could be placed on these young men to organise the prerequisite paperwork, both were not positioned in the workplace hierarchy to petition on their own behalf for training opportunities. Therefore, their agency was bounded by the prescriptive practices imposed by their workplaces. Despite Mark’s practising as a baker, his skills are not recognised due to administrative oversights and lack of understanding about the qualification system.

By the time of the third interviews and observations, all 13 apprentices are confident in their use of industry jargon. They were sufficiently self-assured to discuss technical points of baking during interviews or observation sessions. Hence, development in workplace expertise occurred despite the noisy and industrious nature of bakery workplaces as environments that discourage extended conversations between workers. Examples of the progress made by apprentices include the following answers to the question regarding from
whom they mostly learnt baking. In the main, the answers provided are focused on the workplace.

*My main inspiration, even though I don’t get to see him work much is Rob [owner/manager], because he has done a lot for himself. He’s a person I look up to. He’s come a long way.* (Tony)

*Basically, just Steve [owner/manager] and Tom [supervisor]. Just as I am getting to the end of my apprenticeship, I get to look after the ovens by myself. So no one else can get on there. And if Tom is around, he helps me out with any other stuff. And also asking me questions and stuff like that to make sure I understand.* (William)

*I think my current boss, as they make the product that sells, so I need to be inspired by business people.* (Dean)

Therefore, for apprentices prepared to engage with workplace learning opportunities, an expansive workplace presents fewer barriers and a richer environment for occupational identity formation to occur. For identity formation in apprentices to progress and develop, both personal agency from apprentices to engage with bakery work and workplaces’ organisational objectives to provide meaningful opportunities for learning the craft of baking need to be complementary.

Workplaces promoting and supporting a culture of innovation and pride in work and products manufactured provide young apprentices with a sense of worth. Apprentices most apt to affirm they are bakers during 3rd-year interviews are also realistic about their strengths and limitations. In addition, these apprentices are eager to plan towards a future beyond apprenticeship. Employers who are active in local and national bakery associations are held to be more supportive of apprentices motivated to progress beyond the constraints of their local workplace as proposed in Chapter 5. These employers utilise and maintain wide networks within the New Zealand baking industry and are proactive in introducing newly qualified bakers into the wider national and international social enterprise that constitutes baking. Bakeries that are active beyond local networks compete in national competitions as a means to benchmark their product quality and as a part of organisational continuous quality improvement processes. Positive results from national bakery competitions are then utilised as part of bakeries’ marketing strategy to increase sales.
Presented below is an example of how bakery competitions help increase awareness of bakery standards and John’s perception of the importance of obtaining external feedback and recognition of his bakers’ skills.

*It’s just like entering competitions. Like the Easter bun or pie competitions. Apprenticeship competitions and things like that. It’s sort of like a standards check. And you know, Peter [owner/manager] really wants me to do well, so you want to do well to keep him happy. Not that he will growl at you if things don’t work out. So it’s good to do it and then everyone will say, oh yeah, this guy is a good baker, he knows what he is doing, you know. And yes, he is achieving.*

The above extract also presents an example of the need for external endorsement to reinforce John’s occupational identity development as a baker. This approval represents another source of verification for John’s occupational identity formation as not just a baker, but as a baker who gained his qualifications in an award-winning bakery. In addition, this example emphasises external endorsement of apprentices’ status, in turn further supporting apprentices’ specific workplace-influenced identity development. In this study, apprentices are richly situated in their workplaces as sources of trade knowledge and skill acquisition. However, workplaces on the expansive participative side of the expansive-restrictive participative continuum may provide affordances to observe role models (e.g., managers, bakery owners, supervisors, senior apprentices) utilising industry networks outside of workplaces to increase individual workplaces’ knowledge base, and in so doing, promote the sense of the apprentice’s vocation. Hence, involvement with a wider industry practice community confers recently recognised bakers with potential sources of learning that could further cultivate their bakers’ identities.

The above contributions to their developing identities are further evidenced from analysis of 3rd-year interviews with Diane, William, and Dean. Diane’s curiosity about sugar confectionery stems from her employer recommending and lending her his book on sugar-work. William’s interest in the managerial aspects of baking is founded on a workplace culture continually discussing not just the technical aspect or techne of baking, but also retailing and business management. Dean’s workplace culture is one of providing the best product possible that is authentic and faithful to its artisanal roots. Therefore, in this way, these apprentices are immersed into their workplace, which affords many of them the means for exploring further into other aspects of baking and is generative of developing apprentices’ engagement in ways that leads them to assent to it being their vocation.
6.4 Being a baker as a form of vocation

In this chapter, the various ways these 13 apprentices have assumed baker’s occupational identity is presented, explained, and discussed. In the previous chapter, detailing the skill and knowledge acquisition, the attainment of competency/capability in bakers’ work is observed to have occurred with all these apprentices through engagement with meaningful and purposeful work. In this chapter, the dispositional and occupational identity development of these apprentices is deliberated more thoroughly. Individual apprentices’ personal agency, in conjunction with the practices of workplace communities (Gherardi, 2010) that in turn affect the development of inter-subjective understanding (Hutchins & Klausen, 1998), are found in this study to have profound influences on approaches apprentices acquire towards work. Apprentices who have cultivated intrinsic interest for the work of bakers and who are encouraged by workplace culture and workmates, adopt conscientious and attentive focuses towards workplace practice. For some apprentices in this study, the diligent attitudes to work may have led to positive feedback (Hall & Chandler, 2005) stimulating the perception of the bakery occupation becoming a form of vocation.

To follow, the findings in this inquiry require consolidation into a model that can contribute to improving apprenticeship systems for future apprentices in the New Zealand baking industry. Therefore, the next chapter progresses findings elucidated in both this and the previous two chapters. Interpretations of findings are used to synthesis a model, based on descriptive metaphoric representations of the phases of apprenticeship as belonging to a workplace, becoming, and being, which is accessible to industry training organisations, bakery industry representatives, and training providers. It is envisaged the model will assist the baking industry and New Zealand industry training organisations to better comprehend how young people become trade workers through the apprenticeship training system.
Chapter 7

The apprentice journey

7.1 Belonging to a workplace, becoming, and being a baker

This chapter advances a model to explain the process of apprenticeship comprising belonging to a workplace, becoming, and being a baker. A synthesis of deductions from findings, as presented in the earlier chapters, is used to elaborate this model of how these young people become bakers. It is developed by combining the concepts discussed in these chapters into an explanatory construct illustrating these apprentices’ journeys. Personal and situational factors supporting each stage of the apprentices’ journey are incorporated, as these contribute towards the overall identity formation of young people becoming bakers. Therefore, this chapter summarises the role and influences of personal and situational factors on how young people (a) begin participation in a trades-based occupation (i.e., belong), (b) identify with a profession through a process of engagement with the trades’ culture of practice and through processes of craft skill acquisition (i.e., become), and (c) continue life-long development of occupational identity formation and further develop their capacities as bakers (i.e., be). Additionally, deductions and contributions in this chapter lead into the next and final chapter—Becoming Bakers—that summarises key findings and contributions of this study to the scholarship on apprenticeship, provides guidelines for improving apprenticeship systems, and formulates and rationalises ideas for continuing research into apprenticeships both in New Zealand and in other countries.

7.2 Synthesising and building a model of apprenticeship

The model as proposed here aims to depict the phases of the apprenticeship journey as encompassing skill acquisition and occupational identity formation as influenced by apprentices’ agency and workplace contributions. As detailed and discussed in Chapter 3, the model is composed by using the theory-building method of case study process tracing (George & Bennett, 2005). In particular, the model is proposed as depicting the various elements of, and contributions towards, how occupational identity and skill formation occur during apprenticeship. As also described in that chapter, the process of occupational identity transformation from novice to competent baker is envisaged as a state of equifinality (George & Bennett, 2005). A diagrammatical model (Figure 6) is comprised of four horizontal
segments. The first segment (i.e., the top boxed line of Figure 6) shows the phases of belonging, becoming, and being, as descriptive metaphors for the apprenticeship journey. The phases are placed at the top as these are the overarching themes and developmental stages that describe the processes of the apprenticeship journey. The second segment of the model (i.e., the second boxed line in Figure 6) summarises progressive skill acquisition of apprentices as they advance from dependent to inter-dependent and then to independent craft practitioners. The third segment summarises the identity formation trajectory traversed by these apprentices during their indenture. The three tables at the bottom of the model (comprising the fourth horizontal segment) detail major factors that influence and support the identity trajectory from novice (on the left) to baker (on the right). Two major factors—apprentices’ personal agency and social agency in the form of the workplace relationships, structures, and organisation—are enacted and experienced at each stage of the apprenticeship journey. These factors’ contributions to the developing occupational capacities and identity formation of these apprentices as they progress towards becoming trade workers are discussed and consolidated.

Subsequently, the following sections of this chapter explain each component of the model in turn. Connections between the findings presented in Chapters 4, 5, and 6 are made with the various aspects of the model. Implications and outcomes are also discussed.
Identity metaphors --- BELONGING → → → BECOMING → → BEING

![Progressive skill acquisition diagram](image)

**Identity Formation**

- Hopeful reactor
- Proximal participation
- Legitimate peripheral participation
- Passion honer
- Confident explorer

**Influencing factors**

<table>
<thead>
<tr>
<th>WORKPLACE TYPE</th>
<th>Product range</th>
<th>Emphasis on quality</th>
<th>Degree of innovation and customer focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERSONAL AGENCY</td>
<td>Participation in interesting and challenging work tasks</td>
<td>Being good at baking</td>
<td>Planning for future</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Degree of persistence and diligence</td>
<td>Awareness of strengths and limitations</td>
</tr>
<tr>
<td>Workplace ENVIRONMENT</td>
<td>Degree of support and welcome</td>
<td>Affordances to training opportunities</td>
<td>Level of involvement in industry affairs</td>
</tr>
</tbody>
</table>

**Figure 6.** Model of belonging, becoming, and being. The top segment denotes the metaphors of belonging, becoming and being; the next segment down names progressive skill acquisition over the course of apprenticeship; the third segment represents the occupational identity formation way markers across the apprenticeship journey. The series of boxes across the base summarise the socio-cultural influences on occupational identity formation.
Explaining the model

As proposed at the commencement of this dissertation, the themes of belonging to a workplace, becoming, and being, are useful for establishing a metaphoric structure for explaining the apprenticeship journey. Therefore, the themes characterising the phases through which apprenticeships traverse, are placed at the top of the diagram (see Figures 6 & 7). These themes define or characterise the identity formation progression phases or stages of apprenticeships.

**Figure 7.** Themes of belonging, becoming, and being linked to the relevant chapters.

These themes and concepts, derived through data analysis, all contribute towards a more detailed explanation of how each stage of apprenticeship proceeds. These findings are summarised in Figure 7, which is derived as a segment of the main model in Figure 6. The findings presented and discussed in the previous three chapters (4, 5, and 6), describe how these young people come to belong to a workplace before progressing to become, and then be, bakers. Each of these three themes is now summarised, consolidated, and discussed.

The theme of belonging

Chapter 4 established these 13 apprentices as embarking into baking through a series of unplanned decisions. Firstly, through the process of proximal participation, 10 of the apprentices were afforded opportunities to try bakery work as allied or ancillary staff members. An extended period of induction is perhaps required in some trade-based occupations and this may be because the work and industry are unfamiliar to the inductee. It is posited that proximal participation may be a precursor to actual engagement with an established practice community, such as a bakery. Secondly, through engaging in the baking workplaces, 12 of the apprentices who commenced as reluctant entrants attained a sense of belongingness (Baumeister & Leary, 1995; Levett-Jones et al., 2009) to the workplace and thereby crossed the threshold from being “hopeful reactors” to becoming “passion honers” (Vaughan et al., 2006). So it can be seen that concurrent with individual inductees’ initiation into workplace practice communities, workplaces may adapt some induction and training.
practices to accommodate newcomers. Thirdly, these apprentices instituted lifestyle changes to their domestic routines (e.g., cooking dinner earlier for the rest of the family), leisure interests (e.g., giving up team sports and replacing with individual sporting pursuits), and social activities (e.g., curtailing nightclubbing and partying) to continue with their bakery work. This change is deduced as evidence of these apprentices’ growing commitment to the baking occupation.

Therefore, the belonging stage traces movement from detached observer and proximal participant, to acceptance of an identity as novice, learner, apprentice, and imminent baker. At this stage, personal and agentic agency on the part of novices and new apprentices is an important contribution. The apprentices’ initial decisions to engage may assist with establishing connection and engagement with bakery work and the workplace. Yet, the identity trajectory of how young people decide to engage is still dependent on their assent and personal agency. Concurrently, workplace type and environment both play roles in aiding or hindering entry trajectory into the practice community.

**The theme of becoming**

In Chapter 5, the 13 apprentices are held to have become bakers through intensive involvement in bakery work. Firstly, skill acquisition progressed through these apprentices’ engagement and willingness to complete tasks leading to practical and manual skill and knowledge attainment. Beginning as dependent learners, these apprentices acquired skill sets from various workplace trainers/supervisors/senior apprentices through processes of guided participation (Billett, 2002a; Rogoff, 1995). By the second year of indenture, these apprentices’ increased work skills are recognised through increased autonomy, ability to multitask (Lee & Taatgen, 2002), and delegated responsibilities. Secondly, these apprentices learn and apply the many covert skills, knowledge, and dispositions not quantified in national qualifications. Hence, apprentices adopt localised inter-subjective understanding (Hutchins & Klausen, 1998) important in bakery workplace interactions; develop knowledge microgenetically through engaging with affordances for participation in ongoing and situated problem-solving activities (Billett, 1998); and acquire tacit knowledge (Gamble, 2001; Sennett, 2008), perhaps through application of trade maxims or “tricks of the trade” (Farrar & Trorey, 2008). The learning of tacit aspect and nuances of bakery craft is attained through time, practice, and repetition, requiring deliberate and reflective deployment of sight, smell,
hearing, taste, bodily understanding, and tactile awareness (Farrar & Trorey, 2008; Gamble, 2001; Sennett, 2008). In essence, apprentices are provided with ongoing opportunities to form a “dialogue between concrete practices and thinking; this dialogue revolves into sustaining habits, and these habits establish a rhythm between problem solving and problem finding” (Sennett, 2008, p. 9). Consequently, the repetitive and cyclic aspects of bakery work provide apprentices with opportunities for observing and learning from other workers as problem-solving techniques are modelled, as and when variances in products are encountered. In summary, some of the hallmarks and advantages exemplified by situated cognition (Brown et al., 1989), authentic and situated learning (Lave & Wenger, 1991), guided participation (Billett, 2002a; Rogoff, 1995), cognitive apprenticeships (Brown et al., 1989; Collins, Brown, & Newman, 1989), and learning as becoming (Hodkinson et al., 2008) are evidenced, observed, and reported in this dissertation. Thirdly, all 13 apprentices required external acknowledgement of their occupational status. Even though many were practising as bakers by the occasion of the 3rd-year interviews, these apprentices still required the status of being a baker to be conferred on them by workmates, managers, retail staff, family, and friends, as conferment by others legitimised their occupational roles. Hence, this study affirms the premise proposed by Vygotsky (1974) of the need for individuals to firstly be able to persuade others (and then themselves) about who they are and what they value (Penuel & Wertsch, 1995). This conferment provides opportunities for introspection and gradual acceptance of bakers’ identity.

The process of becoming also comprises the development of increased self-knowledge from apprentices, leading for some to notions of self-efficacy and strengthening of self-esteem (Deci et al., 1991). These dispositional transformations are required for apprentices to appraise their progression towards individual conceptualisations of being a baker (Hall & Chandler, 2005). Acceptance of occupational identity entails personal agency and assent from apprentices but is also influenced by types of bakery in which these apprentices serve their indenture. As discussed in Chapter 6, apprentices such as John, trained in craft bakeries, and Dean, who trained in an artisanal bakery, recognise their skill range as being superior to their peers who serve indentures in in-store or franchise bakeries. Therefore, the process of belonging and then becoming bakers is shaped by workplaces’ specific or specialised goals and objectives, apprentices’ personal agency, and the workplace training environment.
The theme of being

As discussed in Chapter 6, these apprentices have become bakers, and in being bakers, some have begun to perceive baking as more than a job or career—perhaps as a form of vocation (Hansen, 2004; Wrzesniewski et al., 1997). Firstly, being a baker is characterised by apprentices’ improved ability to analyse strengths and limitations of their occupational practice. Additionally, “being” is further supported with comprehension by apprentices of learning baking as an ongoing journey, as their bakers’ career is only beginning. These apprentices’ diligent and attentive attitudes are proposed to be brought about by their individual agency and by some workplaces’ cultural practices focused on quality and craftsmanship. Thirdly, for apprentices who have adopted conscientious work tasks orientation, a degree of vocation for bakery craft work is observed. Hence, bakery work has become much more than just a job: it is a means by which some of these apprentices find self-worth and direction. This outcome is especially significant when the entry trajectory of these apprentices is recognised.

Centrally in Figure 6, four thick curved arrows are used to depict the stage of being a baker. Individuals are acknowledged as traversing many directions of becoming in their lives. Therefore, pathways towards identity formation overlap and continually and progressively occur throughout individuals’ “lived lives” (Good & Brophy, 1995; Petersen, 2004). Importantly, the young people in this study have interests beyond the workplace. They also live a life encompassing relationships with partners, peers, family and friends, and the wider society, which offer engagements and bases for other kinds of personal development. Therefore, for apprentices, the processes of becoming and being bakers have beginnings but perhaps no endings, and their occupational identity is interwoven into other aspects of their lives.

The identity transformation fulcrum for apprentices at the becoming stage is evidenced by conferment of bakers’ identity by others, before inference by apprentices. The being phase begins with motivation from apprentices to “become more.” The phase then continues with the realisation that being a baker requires ongoing learning.
Skill acquisition over the course of apprenticeship

Skill and knowledge acquisition is depicted in the second boxed segment in the model (Figure 6) and repeated below in Figure 8. The acquisition of skills and knowledge is related to workplace relationships, as apprentices progress from being dependent on others to achieve work goals, to becoming firstly inter-dependent, and then fully independent bakers.

Progressive skill acquisition - - - dependent → inter-dependent → independent

Figure 8. Skill acquisition as it progressed through the apprenticeship.

Firstly, substantial skill acquisition, knowledge consolidation, and attitudinal transformation were observed to accompany the evolution of novices to bakers. As presented and discussed in Chapter 2 and summarised above, many aspects of bakers’ practice are surmised through assessments of set competencies, described as standards, embedded into baking qualifications that have national standing and currency. In contrast, the summary of skill acquisition in the progressive descriptors of dependent learner, inter-dependent co-worker, and independent baker, reflects an observable transition of novice to practising trade worker. The consolidation of many skills, knowledge, and dispositions embodied in trade practices is required before recognition by others of apprentices’ emergent baking competencies. This recognition by individual apprentices and acknowledgement by other bakery workers of the attainment and application of strategic knowledge and tacit skills, learnt during apprenticeship, is perhaps better represented by the concepts of belonging, becoming, and being. As in becoming a baker, apprentices enact in their own practices the rituals, both explicit and tacit, of their trade. These practices are in turn recognised and affirmed firstly by others, and then by apprentices, and recognised in their identity as bakers.

Secondly, as presented in the preceding chapters, the learning of baking by these apprentices occurs almost exclusive through participation and engagement with bakery work. Essentially, most if not all of the trade skills are learnt through access to authentic and situated learning (Lave & Wenger, 1991) and through guided participation (Billett, 2002a; Rogoff, 1995). Access to authentic learning supported by guided participation may lead apprentices to form their own conceptualisations of baking practices. Their understanding and application of their conceptualisation of baking principles represents an example of the acquisition of aspects of situated cognition (Brown et al., 1989). As their competency and
capability increase, these apprentices are able to move beyond reliance on earlier stages of cognitive apprenticeship (Brown et al., 1989; Collins et al., 1989) comprising modelling, coaching, and scaffolding. Progressively, these apprentices are able to articulate, reflect on, and explore their nascent understandings of baking concepts by assisting and teaching junior apprentices the precepts of baking. As the ability to conduct guided participatory sessions for junior apprentices proceeds, apprentices who are on the cusp of being bakers are recognised by other bakery workers, through conferment of the title of baker. In turn, emergent bakers begin to accept their role as bakers. In learning the discrete baking skills, apprentices are also learning how to become bakers (Hodkinson et al., 2008), as acknowledged by others and eventually self-surmised.

**Identity formation trajectory over the course of apprenticeship**

In this study, many instances of identity change transpiring during an indenture are observed or deduced. In this section, the segment summarising identity formation through apprenticeship presented in Figure 6 is further extended and detailed in Figure 9. In the various identity descriptors presented in Figure 9, several identity transitions are more dramatic than others. The scale, speed, and depth of each stage of identity transformation appear to differ amongst these 13 apprentices. A process of “boundary crossing” (Engestrom, 2004; Tanggaard, 2007) is seemingly actuated as apprentices traverse from one set of identity markers to the next. Boundary crossing also involves changes in the way individuals and others perceive their roles and identities (Tanggaard, 2007). Hence, the identity trajectory of apprentices is from hopeful reactors to proximal participants and then to passion honers, comfortable with identity as an apprentice baker, followed eventually with conferred status as baker. Additionally, assiduous approaches to bakery work are observed in several apprentices. As illustrated in Figure 9, reluctant entrants (hopeful reactors) traverse a pathway through proximal participation in a related bakery occupation before they transform into passion honers. Those entrants who decide to train as bakers from the outset, may be classified as confident explorers. Thus, identity on entry into baking is perhaps dependent on initial motivators to accept a baking job. Uncommitted and disengaged hopeful reactors enter the trade identifying as non-committed observers. Proximal participation may open prospects for some to move from being an uncommitted spectator of baking work, to adoption of a role as contributing member of the bakery workforce. Eventually, proximal participants establish identity as passion honers, leading towards acceptance of indenture as an apprentice.
Figure 9. Trajectories of occupational identity transitions, expressed as identity way markers, across apprentices’ journey from novice to baker.

Once potential apprentice identity is offered, accepted, and defined for entrants, legitimate peripheral participation as a novice likely commences for these apprentices. This legitimate peripheral participation may comprise the three to six months of probation apprentices serve, before actual indenture is formalised. Hence, once an indenture is officially recognised, identity as apprentice is conferred. The indenture formally grants individuals with opportunities for skills training and knowledge attainment, a privilege that is not an established right for bakery workers not employed as apprentices. Eventually, the processes of skills and knowledge consolidation, as detailed and discussed in the above section on skill acquisition, contribute towards apprentices becoming independent practitioners. Recognition by other bakery workers of apprentices’ competency leads eventually to the bestowing on
apprentices, the title of baker by their co-workers. As reported in Chapter 6, acceptance of the identity of baker means acknowledgement of capacities as bakers, including limitations. The recognition of individual strengths and weaknesses, may involve apprentices connecting the various external sources (i.e. peers, workmates, supervisors, trainers) of occupational identity conferment and individual internal mechanisms of self-reflection (Schön, 1983). The “new” bakers identified strongly with the bakery of their indenture. They identify themselves as craft bakers or in-store bakers as this is how they will be categorised and acknowledged by the national and international baking practice community. Here, we have evidence of the contributions of individual workplaces shaping the development of workplace typified apprentices’ identities. The microgenetic development (Billett, 1998) afforded by access to workplace activities and workplace-based guided participatory learning (Billett, 2002a; Rogoff, 1995) all contribute substantially to apprentices’ ontogenetic development (Billett, 1998).

The identity trajectories, as explained here, may be ascribed to various socio-cultural aspects impinging on how the majority of indentures in this study were enacted. Some of these aspects are now discussed. Firstly, 12 apprentices came into the baking occupation by happenstance. Therefore, the trajectory from an uncommitted observer into a formalised apprenticeship indenture through proximal participation occurs through the process of belonging to a bakery. Secondly, there are expectations placed on apprentices by workplace management and other bakery workers, for apprentices to traverse expediently the pathway from novice to practising baker. This expectation is evidenced by bakery workers conferring the responsibilities and title of baker on apprentices who attain a recognised level of capability in baking, as detailed in Chapter 5. Thirdly, the role of apprentice contributes access for training, ensuring willing and motivated apprentices are taught required skills and provided with opportunities to hone them, necessary to become productive contributing members of the bakery workforce. This role is analysed and discussed in Chapter 5 on learning at work. Fourthly, bakery type is a significant factor towards how apprentices identify as bakers, as reported in Chapter 6. Therefore, these aspects provide the identity trajectory of these apprentices, with a common pathway as summarised in Figure 9 and presented and discussed here.

Boundary crossing (Engestrom, 2004; Tanggaard, 2007) between each stage in the trajectory from novice to competent baker, as recognised by others and acknowledged by
apprentices, is enhanced by apprentices’ individual agency and support factors from workplaces. A synchrony between apprentices’ increasing competency, driven by the exigencies of the workplace, form the impetus for many boundary crossings through the stages in the identity trajectory, as explained. Therefore, and importantly, boundary crossings in the context of apprenticeship are envisaged not as barriers to be crossed, but rather as way-markers delineating the journey from novice to trade worker.

**Situational and personal factors influencing apprenticeship**

The technique of case study process tracking as detailed in Chapter 3 was used to establish how situational and personal factors affect the overall processes of belonging, becoming, and being. These aspects are incorporated into the explanatory model to help consolidate the two main contributions towards identity formation. These aspects are the individual apprentice’s contribution and agency and the socio-cultural arena within which identity formation is enacted. Findings reported in Chapters 4, 5, and 6, and represented as tables at the base of the overall model in Figure 6, are now summarised in Tables 15, 16, 17, and 18. Each factor is now briefly discussed.

Table 15

**Influences of Workplace Type and Personal Agency**

<table>
<thead>
<tr>
<th>Workplace type</th>
<th>Belonging</th>
<th>Becoming</th>
<th>Being</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace type</td>
<td>Product range</td>
<td>Emphasis on quality</td>
<td>Degree of innovation and customer focus</td>
</tr>
<tr>
<td>Personal agency</td>
<td>Willingness to engage</td>
<td>Competency in baking</td>
<td>Planning for future</td>
</tr>
<tr>
<td></td>
<td>Participation in interesting and challenging work tasks</td>
<td>Degree of persistence and diligence</td>
<td>Awareness of strengths and limitations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Awakening passion</td>
<td></td>
</tr>
</tbody>
</table>

In Table 15, contributions of these influences are summarised in the column on the left as workplace type and personal agency. In workplace type, the aspects at each of the stages or phases of belonging, becoming, and being, are workplaces providing learning opportunities across a wide range of bakery products, focusing on quality, and emphasising innovation and customer focus. Within personal agency, the key factors at each stage include apprentices possessing willingness and enthusiasm to learn, engaging enthusiastically in work, being resilient and persistent at practising skills, and being able to capitalise on learning.
opportunities and develop an awareness of strengths and limitations. Each aspect is now further discussed.

**Influences of workplace type**

Table 16

<table>
<thead>
<tr>
<th>Workplace type</th>
<th>Belonging</th>
<th>Becoming</th>
<th>Being</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace type</td>
<td>Product range</td>
<td>Emphasis on quality</td>
<td>Degree of innovation and customer focus</td>
</tr>
</tbody>
</table>

Workplace influential factors, presented above in Table 16, are placed at the top of the tables in Figure 6, indicating the importance of these aspects to identity formation of bakers. As explained in Chapter 2, most workplace influences are beyond apprentices’ control. However, workplaces evidenced a degree of latitude in several cases reported in this dissertation. Adjustments to workplace practices are made to assist apprentices and to accommodate individual personality preferences for skills learning as substantiated in the cases of John, detailed and discussed in Chapter 4, and Paula, in Chapter 5. Both these workplaces modified their practice to accommodate individual preferences of their most junior apprentice.

As reported in Chapter 5, workplaces manufacturing a wider product range offer apprentices an extensive range of skill and knowledge learning affordances. Innovative and customer-orientated bakeries with a focus on quality epitomise aspects of expansive participative workplaces (Fuller & Unwin, 2003b). Apprentices working in these bakeries are presented with a wider potential repertoire for skill acquisition. Bakeries thus defined often encourage feedback, from all their employees, for methods to improve or originate products that meet constant and fast-changing food and customer market trends. These bakeries exemplify cultures of practice (Brown et al., 1989) encompassing values of sharing, continual learning, and innovation. In turn, these characteristics are reflected in workplace learning experiences afforded to apprentices and other workers. These characteristics contribute in part to identity formation of apprentices training in these bakeries. Apprentices exemplified by Dean, William, John, and Diane, as reported in Chapter 6, provide overt exemplars of apprentices who have accepted the acculturation process instilled by their workplaces. The
work of these apprentices is observed to evidence care and commitment towards manufacturing consistently high quality bakery products.

**Contribution of personal agency on the part of apprentices**

Table 17

**Influences of Personal Agency**

<table>
<thead>
<tr>
<th>Personal agency</th>
<th>Belonging</th>
<th>Becoming</th>
<th>Being</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Willingness to engage.</td>
<td>Competency in baking</td>
<td>Planning for future</td>
</tr>
<tr>
<td></td>
<td>Interesting and challenging work tasks</td>
<td>Degree of persistence and diligence</td>
<td>Awareness of strengths and weaknesses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Awakening passion</td>
<td></td>
</tr>
</tbody>
</table>

Table 17 summarises the contribution of personal agency to the process of apprenticeship. Apprentices are still required to contribute towards their own progress in learning baking. Apprentices, who are most prepared to follow instructions conscientiously, to practise persistently to attain speed, accuracy, and skill in bakery production, and to engage in team work activities within bakeries, are seemingly able to progress rapidly through the bakery skills repertoire and up workplace organisational hierarchies. As skill attainment increases, apprentices who accept responsibility for bakery production are often granted affordances to work with a wider range of product categories and further broaden their skill range. Furthermore, these affordances enhance opportunities for microgenetic development (Billett, 1998) of craft knowledge.

The aspect of personal agency on the part of apprentices is demonstrated with the vignettes of Paula, Tony, and Dean in Chapter 6. In these vignettes, apprentices Paula and Dean, through their personal agency, enhance their learning about baking by utilising opportunities beyond their workplaces. Both Paula and Dean work in workplaces manufacturing a limited or specialised range of bakery products and defined as “restrictive participative” workplaces (Fuller & Unwin, 2003b), yet, through their agency, these apprentices are able extend the scope of their learning in what for others might be restrictive learning environments.

Both the above aspects of workplace type and personal agency as discussed in the previous chapters are difficult to separate. The workplace provides an overt incentive to ensure novices are afforded sufficient training to become expediently productive and
contributing workers. Apprentices are motivated to learn the trade to qualify as a baker and in
turn, attain bakers’ wages. In Chapter 6, several examples provided evidence of apprentices
accommodating accepted industry practices to engage willingly with the bakery influenced
lifestyle. Therefore, when objectives of workplaces and apprentices are in synchrony, there is
progression within the phases of belonging, becoming, and being.

Each workplace has a perceived but perhaps not formally documented ordering for
workers’ skill development (Billett, 1996). In baking, as discussed in Chapter 5, the range of
skills, knowledge, and dispositions supporting baking capability is dependent on the range of
products manufactured and overall objectives of individual bakeries as exemplified by retail
or wholesale. Each bakery initiates 1st year apprentices by providing different kinds of guided
participative experiences (Billett, 2004), directed towards preparing apprentices for eventual
positions of responsibility within bakery production teams. Therefore, the inter-relationship
between workplace (i.e., social agency) and individual apprentice motivation to progress (i.e.,
personal agency), proscribe the velocity, depth, and eventual outcomes of how identity
formation proceeds in the stages of apprentices belonging, becoming, and being bakers.

**Other factors influencing processes of belonging, becoming, and being**

In addition to the two aspects above is a series of aspects unique to each stage of the
processes of belonging, becoming, and being. In Figure 6, these aspects are summarised in
the boxes at the bottom of the tables. In Table 18, factors are presented with their inter-
relationships to each stage of the apprentice journey.

**Table 18**

*Influences of Other Factors*

<table>
<thead>
<tr>
<th>Workplace environment</th>
<th>Belonging</th>
<th>Becoming</th>
<th>Being</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of support and welcome</td>
<td>Quality of training environment</td>
<td>Affordances to training opportunities</td>
<td>Extent of professional affiliations</td>
</tr>
</tbody>
</table>

In the process of belonging, aspects of workplace environment are important, as they
contribute towards initial introduction of apprentices to baking. These aspects are reported in
Chapter 4. If workplace environments are not perceived by potential apprentices to be
conducive to newcomers’ induction, the process of belonging might become extended or lead to disengagement. Workplace environments are also important as newcomers’ affinity to workplace culture is an important feature of proximal participation. In proximal participation, newcomers are provided with opportunities to join the workplace team and to assimilate important work readiness skills, and are afforded prospects to observe the trade as outsiders. Therefore, a supportive workplace environment provides proximal participants the opportunities to build workplace relationships, develop generic work skills, and investigate workplace expectations. Furthermore, establishment of belongingness (Levett-Jones et al., 2009) is couched as a sense of belonging to the workplace, founded perhaps on innate human desires to be part of a social group (Baumeister & Leary, 1995). Belonging to a workplace includes acceptance by other workers of newcomers’ occupational competence in the workplace, accompanied by recognition of newcomers as contributing members of the workplace team. Personal agency on the part of apprentices to “want to belong,” in collaboration with workplaces welcoming newcomers, are important aspects of this factor.

In the process of becoming, training environments should be experienced as capable and willing to support novices. Workplaces on the restrictive end of the workplace participative continuum are not necessarily impediments to apprentices becoming an effective baker. Hence, as also explained above on personal agency, an expansive participative environment does not guarantee apprentices will utilise workplace learning opportunities. However, providing sufficient affordances for learning skills and applying knowledge maintains motivation and focus for apprentices, and correlates to apprentices expeditiously becoming bakers. In particular, opportunities are required for learning skills and knowledge through engagement in microgenetic activities (Billett, 1998) to progress beyond procedural and declarative knowledge and apply strategic knowledge (Gott, 1989).

In the last theme—being—professional affiliations supported through workplaces are held to be important. Affiliations provide opportunities for apprentices and other workers employed in bakeries to explore industry resources, beyond their localised workplace. These affiliations also provide external networks for people who are involved in an internal practice community that occupies many of their waking hours. Utilising external networks, individual bakery workers are able to progress beyond the confines of their workplace. They are able to enrich and enhance their own learning and in turn contribute to individual bakeries’ learning capital. A workplace culture that supports continuous learning offers additional incentives
and role models for emergent bakers, new to the baking practice community. This aspect is perhaps one distinguishing expansive workplaces from restrictive workplaces.

In all, this model provides an explanatory account of the factors, processes, and themes, as structured around the phases of belonging to a workplace, becoming, and being a baker, of how these 13 apprentices progressed through their indentures to become bakers. The next chapter details the key findings and contributions derived from this study and reported in this dissertation.
Chapter 8
Becoming bakers

8.1 The apprentice journey

In this concluding chapter, the description and elaboration of the factors that shaped the apprentice journeys, taken by a group of indentured bakers, are brought to a close through summarising the key findings proposed in earlier chapters, and advancing the contributions to knowledge that have been made through this dissertation. In addition, the chapter proposes some recommendations for improvement of apprenticeship systems and identifies topics for future research. The way of progressing within this chapter is through presenting key findings in the form of deductions from the data analysis, and then identifying contributions arising from those deductions. In preview, nine contributions to knowledge are advanced:

1. An updated description of apprentices becoming trade workers.
2. The requirement of both personal and situational contributions to apprentices’ occupational identity formation.
3. Synthesis of a model of apprenticeship based on descriptive identity metaphors of belonging to a workplace, becoming, and being a trade worker.
4. Extension of the scholarship on vocational identity formation.
5. The conceptualisation of belonging to a workplace as a precursor to apprenticeship.
6. The need for apprentices to acknowledge conferment of occupational identity by others before self-recognition of progress in skill competency as trade workers.
7. The designation of identity way markers, as these apprentices transition through skill and knowledge acquisition and dispositional transformation, from dependent learner to independent crafts person.
8. Description and rationalisation of how deep engagement in meaningful work and workplace practice engenders passion for work, leading to strong occupational identity formation.
9. Observation, description, and discussion on the transformation of apprentices’ perception of trade occupation from job to career to vocation.
Key deductions and contributions

The reporting of consolidated findings as deductions and contributions that encompass apprentices’ journeys are now summarised.

1. An updated description of how apprentices become trade workers

An updated account of how apprenticeships are enacted in the 21st century is reported in this dissertation. This account is premised on utilising and synthesising current concepts of learning through engagement in work and work practices, including those furnished by situated accounts of learning (Lave & Wenger, 1991), learning as a process of participation and belonging (Colley et al., 2003; Hodkinson et al., 2008), communities of practice (Wenger, 1998), practice of communities (Gherardi, 2010), workplace learning curriculum and affordances (Billett, 1996, 2001a, 2001b, 2002b, 2006a), workplace-based identity (Kirpal, 2004), vocational identity formation (Billett, 2006b; Vondracek, 1992), and the concept of learning as becoming (Hodkinson et al., 2007). The description provided here offers a timely synthesis and integration of key ideas from these current conceptualisations and together proposes the themes of belonging, becoming, and being as metaphors for elaborating the phases of occupational capacity and identity formation. These phases are enacted within the multi-faceted socio-cultural contexts that comprise workplaces, including how these contexts are shaped by contributions from apprentices and their workplaces, apprentices’ personal histories or ontology, their personal intentionalities, and how these engage with and learn through negotiations with workplace factors and affordances that are circumscribed by workplace type. Through these negotiations arise the learning of practical/manual skills and craft/technical knowledge and attainment of dispositions required to become bakers which contribute to form occupational identities.

Therefore, the first contribution from this dissertation is to provide a contemporary account of apprenticeship as a process of occupational identity formation of a cohort of young people engaged in a trade. This account has relevance as the profile of young people and their expectations have shifted (Brown, 2002; Vaughan, 2005; Zevenbergen, 2004). Social changes, including the increased use of technology (Brown, 2002) and the changing nature of work (Unwin et al., 2005) along with changing patterns in the employment market
(McDowell, 2000), all support the need to present an updated description of the apprentice journey. In particular, this study has identified the ways in which apprenticeship processes most clearly lead to identity transformation from novice workers to baker, when assisted by supportive workplaces and as engaged in by motivated individual apprentices. Moreover, as detailed in Chapter 2, many studies of apprenticeship derive their findings from limited contributions from apprentices’ voices. Yet, the apprentices’ viewpoints identified in this study and its findings, recommendations, and guidelines as reported throughout this dissertation come to identify the significance of the duality between the circumstances of practice and apprentices’ engagement in those circumstances. Therefore, as apprenticeships retain a significant role in preparing people for work in trades and craft industry sectors, it is important that we take account of these dual contributions, because one without the other is unlikely to be sufficient to achieve these purposes.

2. Personal and situational contributions to apprentices’ occupational identity formation

Following from the above, the second contribution of this dissertation is the elaboration and detailing of the situational and personal factors that together constitute the process of becoming trade workers. Consequently, it is held that apprenticeships need to be considered both as personal and personally-directed journeys and as institutional artefacts established to provide experiences and engage newcomers to develop the skills they need to practise and come to be acknowledged, in a particular occupation and workplace, as members of that community. These situational and cultural factors are powerful and necessary expressions of societal norms and practices. However, without individuals to engage, respond, enact, and transform occupational practice, these trade practice communities (i.e., workplaces) would not be sustained nor maintain continuity. Consequently, synchrony between both personal and social agency is important for occupational identity formation to be enacted within a process of learning trade skills through apprenticeship. Each of the stages of belonging to a workplace, becoming, and then being, are dependent on the inter-relationships and negotiations between individual motivations and directions with workplace objectives.

Additionally, factors in apprenticeships that support each step in processes of belonging to a workplace, becoming, and being are identified here. Primary factors of workplace contribution and personal agency are deduced to be important at all stages of
young people becoming bakers. This interplay between workplace and personal agency contributes to all apprenticeship phases. The inter-relationship contributes substantially to the identity trajectory and eventual identity recognition for apprentices who are motivated participants in workplace enculturation processes.

Therefore, consistent with Billett’s findings (1996; 2001b; 2002a), this study has also affirmed the strong influence of particular character of workplace settings on apprentices’ skill, knowledge, and dispositional acquisition. The observable manifestation of particular workplace influences includes aspects contributed by workplace type exemplified by bakery categories (i.e., craft, in-store, or artisanal). There are also covert influences on occupational identity contributed by workplace approaches to the task of baking that are not dependent on the types of bakeries, but are shaped by localised factors including the approaches bakers utilise to meet business objectives. This influence is evident in how apprentices from different categories of bakeries have developed diligence and care in their approaches to baking, illustrated by attention to detail and careful monitoring of bakery manufacturing processes. These apprentices include Diane from a retail café bakery situated in a large city, John and William who indentured at retail café bakeries situated in small rural towns, and Dean working in an artisanal wholesale bakery. All these apprentices adopted approaches to baking that are norms in the workplaces to which they were indentured. Although these bakeries have diverse organisational objectives, each seemingly provided experiences that instilled in their apprentices a form of task orientation requiring conscientious application of bakery skills supported by aspects of reflective practice (Gomez et al., 2003; Schön, 1983). Of course, apprentices’ individual agency is still required to engage and secure this learning and the ability to apply these dispositions to baking tasks. As an example, Tony, who works in an award-winning bakery that afforded expansive participative workplace experiences, did not secure the kinds of learning that Diane, John, William, and Dean did. This was due to Tony’s decision to disengage from the norms and practices of his workplace’s culture of practice. So it can be seen that individual personal agency is an aspect that mediates workplace-imposed influences in both expansive and restrictive ways. Consequently, beyond what the workplace affords apprentices, the apprenticeship process will always include how individuals elect to engage with and utilise such affordances. Hence, regardless of whether workplaces are held to be expansive or restrictive, individuals’ agency will always ultimately mediate their worth as learning environments.
This study also found that individual agency may obviate limited workplace learning affordances. Workplaces defined as on the expansive side of the expansive-restrictive participative workplace continuum (Fuller & Unwin, 2003b), are found to be conducive to supporting the skill and knowledge acquisition aspects of becoming a baker. However, the study has also shown that assignation to a restrictive workplace is not necessarily an impediment to apprentices with strong motivations to become bakers. The case study of Paula provides evidence of personal agency circumventing the disadvantages of working in a bakery producing a limited repertoire of bakery products. Agentic action may also be undertaken to disconnect from the prevailing workplace culture, as illustrated by the comparative case study presented in Chapter 6 on Tony. Therefore, the dual requirements of expansive participative workplace and willing apprentice are pre-requisites to apprentice engagement and eventual adoption of a salient occupational identity. It is not sufficient to make judgements about the quality of likely learning outcomes on the basis of seemingly objective accounts of apprentices’ workplaces as learning environments (i.e., restrictive-expansive). Instead, these qualities can only be understood through accounting for both the circumstances of practice and individuals’ engagement with those circumstances.

3. **Synthesis of a model of apprenticeships**

A *third* contribution is the development of a model that more fully depicts how the process of apprenticeship contributes to these young people becoming trade workers. The model is constructed through a case-study process (George & Bennett, 2005) tracing the various workplace contributions, together with individual apprentices’ perspectives and engagements. A model (Figure 6) is used to depict apprenticeship as a phased process through various identity markers. As explained in Chapter 7, this phased process is characterised by a metaphor of apprenticeship as traversing the phase of belonging to a workplace, before learning craft skills to become and then be bakers. The model and metaphoric phases offer an accessible construct for informing policies on support structures for apprenticeship systems, organisation of workplace learning, and industry-based training initiatives. Guidelines constructed taking account of this model may be useful in informing government policy, ITOs, and training providers on improvement of apprenticeship systems. The guidelines or recommendations reported later in this chapter are developed through a process of connecting findings from Chapters 4, 5, and 6 to improve the existing New Zealand apprenticeship system. In particular, the guidelines are proposed to assist considerations for occupational
identity formation as indenture proceeds. The depiction provided by this model in emphasising the formation of situational and occupational identity goes beyond an account primarily focused on the acquisition of skillful occupational attributes. Instead, by placing the formation of the apprentices’ subjectivity centre-stage, the importance of individuals as those who learn and assent to becoming trade workers is captured.

4. Extension of the scholarship on vocational identity formation

The field of vocational identity formation is still relatively under-researched (Torres et al., 2003; Kirpal, 2004). Therefore, this study makes a particular contribution to scholarship on vocational identity formation. In particular, and as a fourth contribution, the aspects of occupational identity formation of young people entering a craft-based practice community are well elaborated in terms of how workplaces’ cultural practices contribute to apprentices’ occupational identity. Also, the findings here shift understandings of apprenticeship processes from providing the means for young people to learn occupational skills to earn a living, towards apprentices becoming members in a workplace community, acquiring a specific workplace and vocational culture (i.e., practice of a community), and forging and consolidating occupational identity as competent trade practitioners. Moreover, the transition of apprentices through various phases of their apprenticeship can be explained in terms of boundary crossing (Engestrom, 2004; Tanggaard, 2007), not as barriers to be crossed, but as way markers denoting apprentices’ and their co-workers’ recognition of occupational status based on these apprentices’ work competencies and roles, and also their progress towards becoming trade workers.

Key findings and contributions pertinent to each phase or stage in apprenticeship (i.e., belonging, becoming, and being) are now identified and presented.

Findings and contributions from belonging to a workplace

In this section, contributions from this study informing the initiation of young people into a craft/trade practice community are advanced.
5. Belonging to a workplace as a precursor to apprenticeship

The substantiation of the role of proximal participation in assisting the induction of reluctant entrants to a trade is the dissertation’s fifth contribution. This study has found the phase of practice-based workplace induction to be salient for introducing young people, uncommitted to an occupation, into a work community, albeit through a process of proximal participation for these particular apprentices. In turn, workplaces are presented with opportunities to assess the suitability of newcomers’ entry into established workplaces. This capacity to attract will vary in its importance to the workplace’s continuity. However, workplaces like bakeries, with their unattractive hours and relatively low status, need to continually find ways of attracting new workers. As the young people in this study had few conceptions about the bakery workplace, the initial induction period provided access to what constitutes bakery work, albeit one particular instance of that work. Another important consideration is the opportunity for young people to develop worthwhile relationships with established workers, leading to the formation of strong mateship bonds (Page, 2002), an important component in workplaces characterised by a reliance on effective teamwork (Rasmussen & Jeppesen, 2006). Therefore, the study has found that instead of direct peripheral legitimate participation (Lave & Wenger, 1991) with the trades’ culture of practice (Brown et al., 1989), occupationally uncommitted entrants’ initial encounters were indirect: through ancillary or support occupations, such as cleaner or retail assistant roles. This indirect entry into an established trade may be a less intimidating and measured induction for young people, not only into an occupation, but also into the world of work. Yet, these would-be apprentices came to know something about baking through their indirect participation in related activities. In this way, the established concept of movement from peripheral to central participation is augmented by a process of engagement and initiation that arises through being invited to participate in this practice. Hence, these workplaces actively afford opportunities to those who are selected to participate as apprentices.

Following from the above, the term proximal participation was created to explain how neophytes enter into distinctive workplace cultures through engagement in ancillary occupations. Therefore, the substantiation of the role of proximal participation in assisting the induction of reluctant entrants to a trade is the dissertation’s fifth contribution. Ancillary jobs provide potential apprentices with an opportunity to evaluate the baking trade from a position outside of the practice: beyond the periphery of the practice and therefore a form of proximal
participation. The process of proximal participation is, therefore, a precursor to actual peripheral legitimate participation which Lave and Wenger (1991) describe as the commencement point for learning and identity formation within trade or craft-based workplaces. During the process of proximal participation, prospective apprentices are afforded opportunities to view bakers’ work without actual participation in it. Many aspects of the bakers’ trade, including the specialised nature of communications in bakeries along with important learning related to ingredients used in a bakery, products manufactured, and required standards and quality of bakery products, would also be accessible and more importantly, afforded to proximal participants, thereby informing them of the nature of baking work and the particular workplace practices in the bakeries they observed. Proximal participants are thus provided with opportunities to experience aspects of a trade, gauge their affinity with bakery work, and build inter-personal relationships with other bakery workers.

The experiencing of certain aspects of the bakery workplace provides these individuals with opportunities to engage with and assess both the advantages and disadvantages of the occupation of baking. Through the process of proximal participation, potential bakery workers may also explore their capacity to conduct baking work requiring a good level of physical fitness, possession of innate manual dexterity, and an interest in food production. Additionally and importantly, proximal participation provides the opportunities for newcomers to initiate and consolidate initial workplace inter-personal relationships that are important both for individual and organisational function. Therefore, whereas those who have already selected their occupation may progress directly to be peripheral participants, often in quite uninformed ways and into unknown practices, individuals who are undecided and uninformed may well benefit from proximal participation of this kind. Indeed, given the high attrition rates in apprenticeship programs in many countries, such a form of participation may well have benefits for those who have selected their occupation without actual experience of it. For instance, it has been suggested that to inform potential teachers about the requirements for practice, they might initially commence as teaching or classroom assistants. Given the concerns about high attrition rates, such a concept might be helpful for a number of occupations.
Findings and contributions on becoming

In this section, the findings that assist in understanding how young people become bakers are presented.

6. Conferment of occupational identity by others

The sixth finding and contribution of this study has been the role of conferment of apprentices’ status by others as an important aspect of the socio-cultural approach to identity formation (Penuel & Wertsch, 1995). Through this conferment, apprentices are able to match appraisals of their own baking abilities with those availed through and modelled by other more experienced workers, and also gauge their development as trade workers. Hall and Chandler (2005) propose that goals for and efforts expended in acquiring occupational skills lead firstly to objective success (i.e., meaning). Conferment of achievement by others is an example of objective success, which progressively grants status to these novices and thereby gives them license to begin to identify as a skilled worker (e.g., baker). This objective success then progresses to individuals surmising their own subjective or psychological success, affirming their sense of self as a skilled worker. On attaining subjective or psychological success, acceptance of vocational identity may be accompanied by transformative dispositional changes. In this study, apprentices, through intense engagement in baking activities and interactions, attain competency in baking. The developing baking capability is recognised through the allocation of a wider repertoire of bakery duties to the novice, including responsibility for discreet tasks and processes. Eventually, the emergent independence of apprentices to initiate tasks and respond to workplace procedures garners conferment of the status of baker as a subjective or psychological success marker. The apprentices are afforded such opportunities by the consent of other and more experienced workers. Therefore, apprentices are afforded opportunities to find connection between “their choice of a career that is consonant with one’s own desires and with what others recognise as genuine potential for success” (Penuel & Wertsch, 1995, p. 88), with its consequent legacies for their sense of self. In very real ways, this conferment stands as a key affordance of the workplace as a circumstance of practice in which the effective enactment of work activities is the primary purpose. Thus, what distinguishes educational institutions and workplaces is that they have quite distinct primary goals: one of production and service, the other of generative learning. Both engage and support learning, yet can be understood through different
conceptions of pedagogy and curriculum. Just as recognition by education institutions is provided through certification, the conferment of occupational identity by co-workers forms such acknowledgement in workplaces.

7. Transition of apprentices from dependent learner to independent crafts person

The seventh finding from this study is the alignment of observable role transitions enacted as apprentices traverse through apprenticeship, reflecting the phases of belonging to a workplace, becoming, and being a baker. Apprentices in this study were observed to progress from learners dependent on other more experienced bakers for guidance, to inter-dependent bakers able to conduct most bakery tasks. This transition eventually leads them to practising as independent bakers able to guide the activities of junior bakers. Although as noted, workplaces have a pre-ordained purpose to expeditiously prepare apprentices to maximise their contribution to bakery productivity, apprentices’ learning is also privileged by this approach. Apprentices’ access to learning experiences is enhanced when workplaces are motivated by the financial recompense of accessing apprentices’ progressively increasing craft skills, while apprentices are still paid lower apprentice wages. From these apprentices’ perspectives, affordances to learn the range of bakers’ skills are provided, albeit in different ways and to different means across their workplaces. The temptation for workplaces to accelerate apprentices into positions of responsibility is, in turn, restricted by the production driven demands of the bakery workplaces. Small businesses are unable to subsidise sub-optimal work performance for very long and, therefore, only apprentices deemed to be competent will generally be supported in the pathway to greater production responsibilities. This progression from dependent learner to inter-dependent and then independent craft practitioner prevails, therefore, as a hallmark of phases of development within apprenticeships. The pathway which constitutes these transitions stands as a basis for a workplace curriculum and the means by which novices are allowed to progress. It is important to be reminded here that the term curriculum refers to the track to be run or course to be taken. In this way, this finding assists understanding about how a curriculum for practice might best progress. One reason this aspect of apprenticeship may have survived the test of time is in the balance between workplace exigencies and apprentice’ readiness to learn. In turn, apprentices’ learning leads to adoption of workplaces’ inter-subjective understanding (Hutchins & Klausen, 1998) through access to microgenetic activities (Billett, 1998). Hence, this contribution provides an
evidence-base for understanding the progress of novices to trade workers. In doing so, what has been outlined here is a key element of a practice-based curriculum.

**Findings and contributions on being**

In this section, the contributions made through this study on apprentices’ continuing identity formation as bakers are presented.

8. **Deep engagement in a workplace engenders passion for the work**

The *eighth* contribution is the identification of the interplay between apprentices’ agency and workplace factors which have been shown to lead to the development of deep interest in craft/trade practice and to the eventual engendering of passion for bakery work. In turn, an intense attachment to occupational identity, all of which is characterised by an on-going process of maturity, is also observed. Through the study, data were provided about apprentices intensely engaged in purposeful bakery work. For some of the 13 apprentices, this immersion into the baking practice community provided opportunities to build capacities for and affinities with aspects of bakery work, and in ways that were interdependent. For several apprentices, these affinities led to growing realisations of self-confidence and efficacy (Deci et al., 1991) further consolidating their emerging vocational identities (Hall & Chandler, 2005). In particular, those apprentices reporting finding bakery work to be meaningful, varied, interesting and challenging, and the observations of them at work support that claim. Although the outcome for this deep engagement in a workplace ultimately may be both positive and negative by measure, the nature of bakery work, workplace learning affordances, and personal agencies of individual apprentices coalesce towards engendering a passion for bakery work. This passion then underpins their consent to identify as a baker. The varied nature of bakery work, not only in the types and range of products manufactured but also in the characteristics of bakery ingredients, provides on-going and myriad opportunities for microgenetic or moment by moment development (Billett, 1998). The individual workplaces may also provide forums for expansive development of skills, knowledge, and dispositions beyond bakery skills. This is evidenced in Chapter 6 with examples from William, who learns much about small business management from his manager. The personal agencies of apprentices who are focused on learning the trade and self-directed towards achieving the objective of becoming a baker may also assist in building passion for the job. The finding here augments Ericcson’s (2006) claim about the importance of deliberate practice in the
development of exceptional expertise. That is, no amount of supportive work environment would be sufficient unless the novice engages in effortful and considered practice interludes to hone and perfect their work.

9. Transformation of perception of occupation from job to career to vocation

The ninth contribution is the provision of evidence of the ways in which apprentices gain a vocation through engagement with meaningful work and apprenticeship experiences. This includes, importantly, their assent to identifying as a tradesperson. 10 of the 13 apprentices, as exemplified by Diane, John, William, Paula, and Dean, have shifted from perceiving the baking occupation as a job towards practising baking as a vocation. This transformation is perhaps premised on these apprentices’ individual agencies, in conjunction with the expected approaches to baking inherent within their workplaces. Intense engagement in bakery work has afforded these apprentices opportunities to explore a range of production orientated skill sets. One outcome of this exploration may be for these apprentices to discover a correspondence or correlation between their innate affinities and specific bakery task orientations. This may then lead to a cycle of affirmation and success (Hall & Chandler, 2005), culminating with intensifying occupational identity in relation to the source of subjective success. External support for individual success in the form of workplaces that operate with high expectations of work performance may also influence deepened senses of commitment to the occupation. Therefore, both individual agency and workplace influences contribute towards individuals’ appreciation of bakery work as being more than a job or career; rather, a form of vocation. Importantly, this combination of experiences is central to individuals electing to view their work not just as a paid occupation but as their vocation.

8. 3 Some recommendations for improving how apprentices become trade workers

In this section, some suggestions are promulgated to provide guidelines useful in assisting apprentice supporters (i.e., family, friends, and caregivers), workplaces, ITOs, and government departments with supporting the belonging to a workplace, becoming, and being stages or phases of apprentices’ occupational identity formation.

Enhancing the phase of belonging to a workplace

In this section, recommendations derived from findings related to apprentices belonging to a bakery are presented.
Experience real-world practice during transition from school to work

This recommendation proposes the provision of opportunities for young people to experience real-world work practice whilst still at school. This recommendation is deduced from findings of how young people in this study entered baking by happenstance, but then progressed to belonging to bakery workplaces. Enhancing the process of belonging through beginning as proximal participators as reported in Chapter 4, and further rationalised in the above section, may assist school-leavers’ decisions on post-school destinations. As reported in Chapter 2, Gateway and STAR are New Zealand government funded initiatives to assist with transition of school-leavers into work. Both these programmes offer school students opportunities to evaluate affinity to jobs that might lead to careers of interest. However, the actual amount of time students enact in the workplace is relatively brief. Many STAR and Gateway “courses” are foreshortened due to the need to optimise funding across large numbers of students, schools, and industries. Therefore although both STAR and Gateway offer senior school students with opportunities to sample real-world workplaces, these experiences are often fleeting. These programmes do not provide sufficient time or opportunities for real engagement with the actual intricacies of the workplace or for building strong and enduring relationships with workers in workplaces. To be effective, proximal participation opportunities need to be sustained. This affords prospects for experiencing the work environment and building workplace relationships that are precursors to becoming full members of workplace communities.

As reported in Chapters 2 and 4, Fuller, Hodkinson et al.’s (2005) reassessment of learning as peripheral participation in communities of practice indicates the extent to which newcomers are peripheral to a community. Therefore individuals approaching practice communities bring different skill, knowledge, and cultural capital levels as compared to existing members. Young people due to their immaturity may have a greater distance to bridge between their newcomer status and entry into a community of practice as legitimate peripheral participants (Stokes & Wyn, 2007). Therefore, affordances presented by proximal participation in a workplace may proffer young people a neutral platform from which to view trades-based practice communities. Hence, workplaces should maximise proximal participative experiences of potential recruits into their craft practice. Organised or structured introductory or induction sessions to workplace learning, supported by a structured evaluative process (Billett & Ovens, 2007), may provide better opportunities for potential entrants to
participate in actual practice, interact with other workers, and explore and evaluate their affinity to the workplace and the occupation.

**Induction packages on workplaces learning expectations**

This recommendation discusses the need to better prepare young people for entry into production focused workplaces. As detailed in Chapter 2 and evidenced in Chapter 4, some young apprentices are not prepared for adult-preferred methods of learning including self-directed learning (Boote, 1998; Choy & Delahaye, 2000; P. Smith, 2001, 2003). The differences between novice and experienced workers (Cornford & Beven, 1999; Stokes & Wyn, 2007) along with transition of novice workers from a university environment to work (Dahlgren et al., 2006) and the examples provided in Chapter 4 with the experiences reported by John and Paula, reveal differences between expectations of learners from a formalised learning environment to the realities of workplace practice. Current induction packages issued to bakery apprentices only provide information detailing completion of competency assessment and National Qualification requirements. Therefore, information and background on how an apprenticeship proceeds are useful to apprentices and their supporters. This information should include expectations of the indenture from the employer and industry viewpoint along with providing guidelines for apprentices on their entitlements to workplace learning.

**Assisting the process of apprentices becoming trade workers**

In this section, brief discussion is conducted on recommendations to assist the process of apprentices’ occupational identity formation.

**Provision of guidelines for workplace learning**

This recommendation proposes the need to provide apprentices and employers with succinct guidelines on the responsibilities of apprentices and employers through the apprenticeship process. As reported in Chapter 5, bakery workplaces as learning environments require support from employers and bakery workers. Presently, bakery apprentices and their employers are deluged with material on apprentice on-job assessments. Most material is in the form of workplace assessment “evidence guides.” Several iterations of assessment packages comprising assessment instructions for apprentices, their workplace assessors, and employers, along with the required evidence guides, have been produced over the decade and
a half existence of National Certificates in Baking. However, there is still a paucity of understanding about workplace assessment (Vaughan & Cameron, 2010) further exacerbated by the complex “resource” materials accompanying workplace assessment (Chan, 2002). Therefore, the provision of concise and user-friendly apprentice assessment materials and accompanying resources for workplace assessors and employers could assist apprentices and their employers in navigating the complexities of the current baking apprenticeship system.

Assessment materials and support resources form part of the current baking apprenticeship system. These materials have been found to be complex and difficult for both apprentices and their employers to operate. Most bakeries are small and medium enterprises which do not employ personnel dedicated to training apprentices. However, from this study as reported in Chapters 4, 5, and 6, apprentices learn baking through guided participation (Billett, 2002a; Rogoff, 1995) and deep engagement in bakery work tasks. As reported in Chapter 5, recognition of apprentices’ competencies and capabilities is initiated by workplace colleagues and the status of baker is externally conferred on apprentices before they themselves readily infer their own capabilities. Therefore, greater usage of workplace-based assessments through verification and recognition of the efficacy of using workplace-based peer-generated testimonials may simplify procedures of competency assessment. These workplace-generated testimonials may be further supported by evidence collated in the form of multimedia portfolios of apprentices’ work. The use of these multiple forms of evidence, workplace verification, and apprentice-generated portfolios to replace the present onerous text-based workplace assessments may lead to higher numbers of apprentices completing their National Certificates in Baking. This may help ameliorate the current poor completion rates (Mahoney, 2009) not only in baking but across all trades-based national certificate qualifications requiring workplace-based assessments.

Supporting the process of apprentices being trade workers

In this last section, recommendations to assist the process of apprentices continuing to be bakers are presented.

Opportunities to network beyond workplace

This recommendation proposes the provision of structured opportunities for apprentices to network beyond their individual workplaces. This study has established the important
influence the bakery of indenture contributes to the identity formation of novice bakers. In addition, bakery type affects apprentices’ construct of occupational identity. As reported in Chapter 6, apprentices who train in craft bakeries recognise that they possess different skill sets from in-store trained apprentices. However, even within the craft bakery category there are many differences between individual bakery practice communities, and these contribute to each bakery’s culture of learning and innovation. As Chapter 6 illustrates, apprentices in this study are evidenced to obtain all of their work knowledge from the workplace of their indenture. This privileges apprentices who indenture into bakeries encompassing large segments of the bakery product repertoire but in turn disadvantages apprentices indentured in bakeries which produce a specialised but limited range of products.

In several trades in New Zealand, there is recognition by the industry that individual workplaces are unable to encompass the full range of skills and knowledge training required by the industry as a whole. Examples include building/construction and engineering trades. Apprentices are not indentured to one fixed workplace but indentured to a coordinating body. This coordinating body assigns apprentices to a collective of workplaces from which apprentices are able to learn the myriad aspects of building or engineering required to complete national certificates. Therefore, the opportunity for apprentices to undertake “shared” apprenticeships may provide individuals with opportunities to attain skills and knowledge across a wider repertoire, but it also eventually supplies industries with multi-skilled and multi-disciplinary crafts practitioners.

Processes for engendering passion

This section discusses the recommendations to assist workplaces and apprentices with developing interest in work beyond just a job. In Chapter 6, concepts of passion and vocation are discovered and evidenced in several of this study’s apprentices. Literature on encouraging vocation has an emphasis on the religious life or professions with high degrees of interpersonal relationships (Hansen, 1994; Reber, 1988; White, 2002). However, these recommendations may be adapted to the lay context to offer helpful direction. For example, Hansen (1994) suggests that for work to become a vocation it must provide fulfilment and meaning to individuals. The provision of a source of personal vision is suggested by Reber (1988) to decide on changing a view of an occupation to becoming a vocation. White (2002) writes of the need for individuals to obtain personal identification and personal engagement
in their working roles. In addition, recommendations from Csikszentmihalyi (1975, 1990, 1993) on flow may be helpful in encouraging deeper engagement. Enhancement of optimal experiences includes encouraging individuals to adopt mind-sets promoting the need to continually learn and improve and to develop individual affinities with an occupation. So perhaps workplaces with high expectations of workers, who also provide support for workers to meet these standards, provide a means for individuals to adopt attitudes to work that may be explained as a form of passion.

8.4 Further research into belonging, becoming, and being

Although comprehensive in its scope and advancing particular findings, deductions, and contributions, there were also identified three areas of research that need to be engaged in for understanding more fully the process of belonging, becoming, and being a tradesperson. These are now briefly introduced.

**Young people's entry into a trade**

The first area recommended for further research is the transition of young people from school into apprenticeship. Research articles informing this study about how young people enter into the workplace are focused on school-leavers transitioning from school into work (McDowell, 2000, 2002; Vaughan, 2005; Vaughan et al., 2006). A major focus of these studies was to describe the career choices of young people as they leave school rather than to study initial experiences when engaged with work. Lehmann’s (2005) comparison of young apprentices in Germany and Canada and the Swedish study by Dahlgren et al. (2006) focus on the transition of young people from school or university into the workplace. Lehmann studies the young people’s perceptions of the differences between school and apprenticeships; Dahlgren et al. propose a transitional trajectory from the university community of practice to work. Hill and Dalley-Trim (2008) contribute to the literature by reporting on a study of Australian first-year apprenticeship experiences. However, the study concentrates on retention factors. Therefore, there is a gap in the research literature warranting research into the workplace experiences of young apprentices in the initial year of their apprenticeship that explores, in greater detail, initial legitimate peripheral experiences. As reported in Chapter 4 and extended in Chapter 7, entry trajectory and initial work experience of this study’s apprentices are varied. Eventually all apprentices attained skills, knowledge, and attitudes defining them as bakers. However, other young people who enter into baking through similar pathways may not have sustained
their employment. It is therefore important also to explore the reasons young people initially engage with and then perhaps choose to disengage with trade occupations. This then provides a more holistic understanding of young people’s entry into work, decision-making mechanisms, and factors that assist decisions to engage or disengage with a trade or occupation after initial entry experiences.

Furthermore, several studies discuss the issue of disenfranchised youth who engage with work, discovering that waged employment provides a sense of purpose in life (Lehmann, 2005, 2007). The reasons postulated for workplace engagement improving lifestyle choices for disenfranchised youth include their attachment to a workplace and the ability to command waged employment. Therefore, apprenticeship is one potential avenue that may contribute to improved outcomes for youth. As reported in this dissertation, apprenticeships offer entry into an established workplace. Insider status in practice communities includes many advantages involving access to the learning of worthwhile craft skills, possible connection with appropriate workplace mentors, and the creation of occupational identity. Targeted and structured use of existing school-to-work programmes exemplified by STAR and Gateway may be one avenue to encourage disengaged youth to initiate connections and find affinity with trade occupations. Therefore it is important to investigate further the factors that assist young people’s exploration processes for matching individual affinities with possible jobs or careers.

**Extending research in workplace learning to encompass novices**

The second area recommended for deeper research is the study of young people’s initial experiences in work. Adults spend many years of their lives engaged in work; workplace learning literature therefore is inclined towards the study of adults and their experiences and perspectives on work. Young people who are commencing their working lives in the 21st century view work differently from people who began work in the previous century (Vaughan, 2005; Zevenbergen, 2004). As the older workers in the baby-boomer generation retire, a younger generation of workers with different world views will commence to influence workplace dynamics. Therefore, the study of workplace learning needs to be ongoing to examine changes as each generational cohort influences workplaces’ organisational structures.
Many studies on specific aspects of apprentice learning, including P. Smith (2000, 2001, 2003), Fuller and Unwin (2003a) and E. Smith (2003a), examine overall systems impacting on apprentice learning. Apprentice voices are largely embedded and subsumed in these reports. In contrast, this study has sought to investigate and report apprentices’ perceptions on how apprenticeships progress. However, it has only made a modest beginning towards understanding what apprentices actually learn in the workplace, how they learn trades-based knowledge components, and how theoretical knowledge is consolidated with practice. This work may lead to better understanding of young people’s viewpoints and approaches to learning a trade and contribute towards improving apprenticeship systems. Study of how youth communicate and form viewpoints is a specialised area of research (Stokes & Wyn, 2007). Youth studies adopt a sociological platform to research youth activity. However, there is very little research from the youth perspective of workplace learning or occupational identity formation. As discussed in the above, research on workplace learning has concentrated on the generalised worker profile. Therefore, there is a need to study the world of work as perceived by young people.

**Adoption of multimodal research analysis**

In this section, a shift from traditional methods of observation and study of workplace learning towards a more holistic form of data gathering and analysis is proposed. As reported in Chapter 5, this study has revealed the importance of interpersonal relationships in learning craft or trade skills. This study has also found many skill sets that exemplify trade or craft practices as not quantified by competency standards detailed in National Certification qualifications. In particular, many tacit aspects of the trade are not recognised. Tacit practices are subsumed into trade workers’ practices. Workers evidencing deployment of tacit knowledge are perceived by apprentices and workers as way markers or signifiers of trade workers’ becoming and being trade or craft practitioners. Therefore, a detailed collection and analysis of the many fine distinctions in interpersonal relationship, including individual vocal and non-vocal communications, may reveal aspects of how nuances of trade practices are learnt and expressed. This requires modifying workplace-based investigations of learning from the use of interviews and questionnaires towards utilising multimodal data collection and discourse analysis. The use of multimodal analysis provides a primary evidence data-gathering tool to assist with deeper study of how trade skills or crafts are learnt in the workplace (de Saint-Georges & Filliettaz, 2008). Some of the mechanisms behind
multiliteracies (New London Group, 1996; Kalantzis, Cope, & Harvey, 2003; Williams, 2008) required in learning and practising a trade may also be better understood through detailed multimodal study of workplace processes, workplace interactions, and workplace practice.

8.5 Concluding the dissertation

In this dissertation, the apprenticeship journeys of 13 individuals—12 of whom did not intend to become bakers—were studied. These apprentices became bakers as acknowledged by their employers, workmates, peers, family members and, eventually, by themselves. The transition from novice to craft practitioner has not been without challenges. Yet, despite the inherent disadvantages of a lifestyle proscribed by the requirements of bakery work, almost all apprentices in this study developed strong occupational identities as bakers. Central to vocational identity formation has been many of these apprentices’ acknowledging baking as a worthwhile career or vocation. In synchrony, apprentices’ workplaces have provided affordances for learning skills, acquiring and applying craft knowledge, and gaining the dispositions that are bakers’ identity traits. This study has, therefore, been privileged to investigate, describe, and better understand the dual contributions of individual agency and workplace socio-cultural factors in how apprenticeships play a role in occupational identity formation of crafts and trade workers.

“Ma te mohoi ka ora, te ora ka mohoi.”

Through learning there is life, through life there is learning.
References


Appendices
Appendix A

Information sheet for apprentice participants

Factors that contribute to how apprentices become bakers

Informed consent form for research participants

What is this research about

The case study research project is to find out about the factors that contribute to how apprentices become bakers. You are invited to participate as you are an apprentice in your first or second year of your apprenticeship.

What it will involve

The research study will involve three interview sessions with you of about one hour and two observations of you working in the bakery. There will be a time lapse of about 9 to 10 months between each interview, with the observations to be carried out just before or after the interviews. Permission will also be sought from your employer for the interviews and the observations to take place in your workplace.

The interview sessions with you are to find out the factors that motivated you to take up baking as a trade, the motivations you have to complete your qualification, the support structures in your workplace and the ITO that were helpful and the strategies (for learning skills and knowledge, for ongoing assessment etc.) you are using towards achieving your goal of becoming a baker.

How your interests will be protected

The interview sessions 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. Interview transcripts and information from the questionnaire will then be used to build a narrative. Your narrative will form the basis of a comparative case study. The findings from the study 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 throughout 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 and other countries. Your cooperation and assistance will therefore be highly valued and very much appreciated.

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This research project has been approved by Griffith University and the Christchurch Polytechnic Institute of Technology Academic Research Committee.

Ethical conduct of this research

Griffith University conducts research in accordance with the (Australian) National Statement on Ethical Conduct in Research Involving Humans. If potential participants of participants have any concerns or complaints about the ethical conduct of the research project they should contact Manager, Research Ethics on 61-7 3875 5585 or research-ethics@griffith.edu.au
Appendix B
Information sheet for Employers

Factors that contribute to how apprentices become bakers

Informed consent form for employers of apprentice participants

What is this research about

The case study research project is to find out about the factors that contribute to how apprentices become bakers. Your apprentice has been invited to participate as he/she is an apprentice in his/her first or second year of apprenticeship and is also under the age of 20 years.

What it will involve

The research study will involve two interview sessions with your apprentice (of about 1 hour each) and two observations of the apprentice working in the bakery. There will be a time lapse of about 9 to 10 months between each interview, with the observations to be carried out between the time the first and the second interviews take place.

The interview sessions are to find out the factors that motivated the apprentice to take up baking as a trade, the motivations apprentices have to complete their qualification, the support structures within your workplace and the ITO that were helpful and the strategies (for learning skills and knowledge, for ongoing assessments etc) that apprentices are using to work towards their goal of becoming a baker. Observations in the workplace are used to work out how well the apprentice relates to other staff in the bakery and the skill level that they are working towards at the time when each interview takes place.

How your interests will be protected

The interview sessions will take place at a date, time and venue that you and I will agree to. With the apprentice’s permission, the interview will be audio taped and will take about one hour. The tape will then be transcribed. The transcription will then be returned to the apprentice for checking to ensure that the transcription is accurate. The transcription will then be analyzed to look for strategies common to other apprentices and suggestions that might improve workplace training and assessment procedures. The findings will be summarised in a short report.

At the end of the research process, the audio taped interviews will be wiped and the transcripts will be shredded. Your anonymity as the apprentice’s employer will be maintained throughout the research process. Your name, the bakery 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 have the right to terminate observations in your bakery at any time the observations are taking place.
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 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.

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This research project has been approved by Griffith University and the Christchurch Polytechnic Institute of Technology Academic research committee

Ethical conduct of this research

Griffith University conducts research in accordance with the (Australian) National Statement on Ethical Conduct in Research Involving Humans. If potential participants or participants have any concerns or complaints about the ethical conduct of the research project they should contact the Manager, Research Ethics on 61-7 3875 5585 or research-ethics@griffith.edu.au.
Appendix C

Consent form for interview and observation

**Research project**

**Becoming a Baker: The Role of Apprenticeships**

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, to decline to answer any particular questions and to stop observations being continued.

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 to the interview being audio taped. I agree to being observed while working in the bakery. 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 or to have observations discontinued.

I realise that whether or not I decide to participate is my decision and will not affect my treatment in the workplace or when I attend block courses at CPIT.

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

**Participant :-**

Signed:- Name:- Date:-

**Researcher:-**

Signed:- Name:- Date:-
Appendix D

Profile Questionnaire for Apprentice

Name: ________________________

Address: _________________________________________ (home)
________________________________________________________ (work)

Telephone number: (home) ______________ (work) ______________

Bakery: ________________________________________________

How long working in bakery before starting on apprenticeship:- _________

Qualifications from school:- __________________________________

Any relatives in the trade:- ______________________________________

Any friends in the trade:- ______________________________________

How job in bakery / apprenticeship came about? _______________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Present hours of work:- ______________ days of work:- ______________

Present duties:- ________________________________________________
Appendix E

Profile Questionnaire for Bakery Manager

Name of Bakery : ________________________

Address: ____________________________________________

Telephone number: ____________

Bakery Manager : ________________________________

Type of bakery:- ________________________________

Product lines:- ________________________________

No. of total staff:- ________________________________

No. of staff in the bakery:- ________________________________

Hours of work for bakers:- ________________________________

How many apprentices:- ____________

History of working with apprentices:-
____________________________________________________
Appendix F

Suggested interview questions for INTERVIEW ONE

- Researcher begins with brief introduction and sets the scene for the interview.
- Profile sheet of apprentice details filled in at this stage (15 minutes max)
- Interview proceeds with following questions that are a guideline into the areas to be discussed.

1) How did you become interested in baking?

2) What jobs do you enjoy most in the bakery at the moment?

3) Who teaches you new things on the job?

4) How are you finding the work?

5) What do you think are important things that a baker needs to be able to do?

6) How did you know that these things are important in becoming a baker?

7) Are there any other things you think are important for a baker to know?

8) How are you coping with your work hours in the bakery? or Has your job in baking made any changes to your leisure activities? Are these changes good?
Appendix G

Suggested interview questions for INTERVIEW TWO

Begin with a brief introduction of what has happened since last interview to establish rapport.

1) What sort of jobs are you doing in the bakery now?

2) What jobs do you enjoy the most?

3) Who has been training you for these jobs?

4) What do you think are the important things that make someone a good baker?

5) Why are these things important?

6) Are you learning these important things that will make a good baker?

7) How are you learning these things?

8) How would you improve the way in which you are being taught how to bake?

9) How would you improve the way in which you learn about baking?

10) How are you coping now with the hours of work in baking? Do you find that your lifestyle has changed? How do you feel about making the change in lifestyle? Are many of your friends working similar shifts to you? Do you still maintain the same contacts with your friends?
Appendix H

Suggested interview questions for INTERVIEW THREE

1) Check on progress in apprenticeship & assessments towards completing qualifications.

2) What has been your motivation / inspiration to finish?

3) What type of tasks are you now involved with?

4) Are there things you are particularly good at?

5) Are there things that you could improve on?

6) Can you name someone or something (book, TV programme etc) that has inspired you in progressing on your career in baking?

7) Have you enjoyed your experiences as an apprentice?

8) What are your plans for the near future?
Appendix I

Apprentice observation checklist

Apprentice name:-

Observation date:-

Apprentice observations

Task:-
___________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
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_____________________________________________________________________________
General comments
### Appendix J

**Bakery observations summaries**

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Bakery type</th>
<th>Status – √ observed or X not</th>
<th>Bakery layout</th>
<th>Apprentice task</th>
<th>Apprentice performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Retail (small amount) plus large wholesale</td>
<td>√</td>
<td>Small but purpose build for production of pastry products.</td>
<td>Assisting with depositing filling, assembling products and cleaning.</td>
<td>Still lacks confidence in completing tasks. Needs to check regularly with employer.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>X – employer not present &amp; due to prior instruction from employer -no observations in his absence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>X</td>
<td>√</td>
<td>Making savoury products.</td>
<td>Able to complete, initiate and control tasks.</td>
<td>Able to multitask.</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Cafe bakery</td>
<td>√</td>
<td>Galley style Small and space a premium</td>
<td>Depositing muffins.</td>
<td>Able to complete task on his own but slowly. Checks regularly with employer.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>X</td>
<td>√</td>
<td>Pinning pastry out for a variety of products.</td>
<td>Completing most tasks independently. Speed increased along with ability to multitask.</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>&quot;</td>
<td>✓</td>
<td>Making bread rolls – 3 varieties. Traying up for baking and retarding. Completing all tasks and supervising a younger apprentice.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Traditional retail</td>
<td>X – older apprentice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>&quot;</td>
<td>✓</td>
<td>Large bakery divided into several distinct work stations. Making muffins and biscuits Able to complete all tasks without supervision.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>&quot;</td>
<td>X – apprentice on maternity leave – interview carried out at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>In-store</td>
<td>✓</td>
<td>Small, between delicatessen and butchery. Shared refrigeration / storage with other divisions. Making French bread Completed task independently without supervision or assistance/input from the supervisor.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>In-store – but different bakery</td>
<td>X – phone interview.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>X – apprentice not working in baking.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Traditional retail</td>
<td>✓</td>
<td>Large bakery with lots of room and extensive machinery. Filling quiche. Assembling turnovers, sausage rolls. Doing ‘helping jobs’. Not able to complete tasks unsupervised.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Cafe bakery</td>
<td>✓</td>
<td>Making biscuits – pinning out and cutting biscuits. Completing some tasks alone but still under supervision.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>&quot;</td>
<td>✓</td>
<td>Making biscuits – mixing dough, Completed most tasks on his own</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td></td>
<td>Location</td>
<td>Apprentice</td>
<td>Description</td>
<td>Feedback</td>
<td></td>
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<tr>
<td>-----</td>
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<td></td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Cafe bakery – wholesale &amp; retail</td>
<td>X – older apprentice</td>
<td>Depositing, filling and baking. but still checks with employer at various stages of the process.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Large bakery with glass windows on three sides allowing public to view bakers at work</td>
<td></td>
<td>Making filling for gateaux. Worked independently and checked with supervisor once task completed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Assembling two varieties of gateaux</td>
<td></td>
<td>Completed task independently and supervised two other staff working in the bakery.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>Traditional retail</td>
<td></td>
<td>Moulding bread rolls. Completed task independently with minimal supervision from his employer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Wholesale bakery</td>
<td>X – employer did not want observations to be carried out.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>In-store</td>
<td>X – apprentice no longer working in baking at time of interview.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Artisan bread – commissary &amp; wholesale</td>
<td>X – older apprentice</td>
<td>Large bakery with semi-plant equipment layout for bread production.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Shifting bread from moulder to</td>
<td></td>
<td>Completed task independently.</td>
<td></td>
<td></td>
</tr>
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</table>

267
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th>prover.</th>
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<tbody>
<tr>
<td>3</td>
<td>&quot;</td>
<td>✓</td>
<td>Tidying up bakery and weighing up ingredients for the next day’s production. Completed task independently. Supervised cleaners while he completed his own task.</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>Cafe bakery</td>
<td>✓ Small, narrow production area but clean and organised. Helped fill pies and tray these up ready for baking. Completed most tasks and checked when unsure.</td>
</tr>
<tr>
<td>2</td>
<td>&quot;</td>
<td>✓</td>
<td>Making bread rolls. Completed task independently.</td>
</tr>
<tr>
<td>3</td>
<td>&quot;</td>
<td>✓</td>
<td>Making pies and Cornish pasties. Controlled task and was teaching a newer apprentice.</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>Cafe bakery</td>
<td>✓ Bread and cake bakeries separate. Bread bakery larger. Cake bakery small and cluttered. Mixing bread dough Completed task but checked final dough consistency with the employer.</td>
</tr>
<tr>
<td>2</td>
<td>&quot;</td>
<td>✓</td>
<td>Traying up bread rolls and baking bread. Completed task. Able to multitask effectively.</td>
</tr>
<tr>
<td>3</td>
<td>&quot;</td>
<td>✓</td>
<td>Finish biscuits, pack biscuits and deliver an urgent order. Completed all tasks and was supervising the cake shift.</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>Traditional retail</td>
<td>✓ Small bakery with large number of staff. Greasing trays, helping with general tasks. Completed tasks albeit slowly.</td>
</tr>
<tr>
<td>2</td>
<td>&quot;</td>
<td>✓</td>
<td>Mould bread and mix biscuit dough. Completed tasks efficiently but checked to ensure products were made correctly.</td>
</tr>
<tr>
<td>3</td>
<td>&quot;</td>
<td>✓</td>
<td>Mix and make Completed all tasks without</td>
</tr>
<tr>
<td>No.</td>
<td>Tier</td>
<td>Industry</td>
<td>Equipment</td>
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</tr>
<tr>
<td>12</td>
<td>1</td>
<td>Cafe bakery - commissary</td>
<td>✓</td>
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<td></td>
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<td>3</td>
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<td></td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>Traditional – retail &amp; wholesale</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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### Appendix K

Matching expansive / restrictive workplaces

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<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
<td>x</td>
<td>R</td>
</tr>
</tbody>
</table>
Appendix L

Narratives :- The Bakers Dozen

1) Karl:- K. lives and works in a city. He left school after year 11 with no ideas or plans as to what to do. He parents insisted that he did not leave school without a job and through friends at church, found him a position at the bakery. This is the bakery he began his apprenticeship in.

His first bakery is a small bakery specialising in Dutch products. This bakery is situated in a busy street just off the main shopping area within the city centre. This bakery makes a wide range of mainly cake, biscuit and pastry products and K. learnt most of his baking from a third-year apprentice. The bakery produces their bread products in a bakery situated in a suburb of the city but K. did not have the opportunity to train at this bakery as the bakery was sold to another business in his second year of indenture.

K. transferred to another bakery, situated in a suburban mall. This bakery also specialises in Dutch products but is a café bakery with an emphasis on quality and presentation. K. took some time to adjust to working in this bakery as the owner had more exacting standards and found K’s bakery skills to be inadequate. However, the owner was sufficiently well-versed in training young apprentices and invested time and energy into re-training K. However, K. has not reciprocated with similar commitment and this has meant K. is not progressing with skill attainment.

Even into the third year of his apprenticeship, K. was still only completing the task of a junior baker. The bakery owner lacks confidence in K’s abilities and does not provide him with opportunities to take on responsibilities or to work on more complex tasks. K. is ambivalent about continuing in baking as he has not acquired interest in the occupation. It is a job that pays him enough to do what he enjoys doing outside of the workplace. Having a job also keeps his parents from pressuring him about making something of himself.

2) Paula :- Lives and works in small farming community. She had conceived of an ambition to be a green keeper but was unable to secure an apprenticeship or a job in the field. P. left school after year 11 with NCEA level 1. She started baking after working part-time by assisting with outside catering jobs (waitressing, cleaning, general duties) with the bakery she now currently works in. Part-time work eventuated through her sister, who was also working part-time for the company.

P. started full-time as an apprentice a few months after leaving school at age 16. The bakery is small, very busy with a small workforce. The owner had purchased the business only a short time before P. started her apprenticeship. The owner has experience mainly in in-store bakeries and has trained several young male apprentices before. P. found difficulty in relating to the owner / manager’s style of training. She was intimidated by his brusque manner and his impatience with her attempts to learn the skills required. The owner’s wife
was more willing to be accommodating and this, along with support from P’s modern apprenticeship coordinator, allowed P. to settle in better and to progress with her apprenticeship.

P. takes time to learn and practice skills and therefore needs to work through each task many times in order to first build up skill and then work on speed, accuracy and efficiency. The owner could not understand P’s slowness, especially considering the skill set required in the bakery was narrower due to the bakery’s reduced product lines. However, to P., everything was new and each task required time to learn, practice and consolidate.

P. has progressed well through her apprenticeship. The owner has also mellowed and matured as an employer. She now looks after the bakery production whenever the owner is away and will continue employment in the bakery. There are few opportunities in the area she lives in to find equivalent work. P. is does not intent to move into the city, as she is well settled into a ‘country lifestyle’. However P. has been self-directed in exploring opportunities for learning more about baking beyond what her workplace offers. She attends supplier and modern apprenticeship seminars to network with other apprentices and increase her baking repertoire.

Her only reservation about baking has been the impact the hours of work has on her social life. She finds it is difficult to be out too late, as she has to be in bed early for the early morning starts. She also understands if she is not sufficiently rested, the following working day will be a struggle. P. has support from her sister (whose family she lives with) to ensure that she makes the relevant lifestyle changes to accommodate the baking occupation. P. would still like to be more socially active and is exploring ways in which this can take place, taking into account her rural environment and her hours of work.

3) Ben:- B. left school with no qualifications and on advise from his school’s careers advisor, applied for and gained entry to a full-time baking programme at the local polytechnic. B. struggled with some aspects of the course and often took longer than his peers to learn skills and complete theory work.

However, the full-time programme provided an opportunity for B. to indenture with a small bakery in a small town.

B. had completed some work experience while still at school but prefers baking to cooking as cooking in restaurants is very high pressured. B. could not mange the stresses of a-la -carte cooking. B. is a slow learner but is very conscientious and puts in the effort required to complete tasks.

The small bakery B. is indentured to makes a good range of bakery products. The production quantities are not large but the range is sufficient to provide B. with a well-rounded skill base. B’s employer also completed a full-time baking programme at the same polytechnic, before completing an apprenticeship. His is cognisant of B’s abilities and has put effort into nurturing B.
As the years of indenture have progressed, B. has built up confidence in his abilities. He has honed his skills and is able to complete baking tasks at speed and to a good degree of competence. He looks after the bakery production when his employer is away and is often responsible for all the baking production on Saturdays.

B. has no plans to seek employment at other bakeries after he has completed his apprenticeship. He is not sure if his employer will continue his employment but prefers to stay in a familiar bakery. However, he is aware of the need to move on and extend his skill-base. Therefore he will be evaluating his future career prospects in the next year.

4) **David** :- Left school in year 11 and has 60 credits towards NCEA level 1 (needs 120 to complete full certificate). On leaving school, he worked at the freezing works as a general hand but did not like the job as it was cold and wet. He then found a position at a small bakery in his home town, a small town.

The first bakery he worked in made a good range of bakery products from scratch. D. is grateful to the owner of this bakery for the training which has provided him with a good foundation in bakery skills. The owner did not start off as a baker and had no formal baking training but the need to ensure business profitability had provided incentives to develop and maintain baking skills. However, D. left this bakery after a year and a half due to the low pay and lack of social interaction.

In his second job, D. moved to another larger town on the West Coast. He worked for a wholesale baker, who also owns a retail bakery. This is one of the largest wholesale bakeries on the West Coast and manufactures products in large volume. The owner is an ex-mechanic who is focused on maximising profit and so the overall ethos of the bakery is based on quantity production. Most of D’s training is overseen by a senior apprentice, who left the bakery as soon as his apprenticeship was completed. D. therefore also left the bakery as there was no one to oversee his training and job had become routine. He also understood standards in the bakery would not improve and he would not be progressing as a baker.

D. then obtained a position in an in-store bakery in his home town. He worked for ten months in this new job. He did not enjoy the more routine nature of the baking and there was also a succession of bakery managers whom D. perceived, knew less about baking then he did. At the last interview, D. was working in a saw mill but was keen to re-enter the baking industry. He was looking for a baking job either on the West Coast or over the mountains, in Christchurch.

5) **Joanne**:- J. completed a one year full-time course cookery programme at a polytechnic. She found it very difficult to obtain employment and worked briefly as a chef at a buffet restaurant. When a friend had an accident, J. substituted for her friend in a small retail craft bakery. She discovered she enjoyed the challenges of baking and when her friend returned to work, she obtained another bakery job.

This bakery is a large bakery manufacturing products for its own retail shops and the wholesale market. The bakery produces a full range of bakery products and has an emphasis
on quality and consistency. After working for a few months, she was offered an apprenticeship, which she accepted.

J. works a late night to early morning shift. She enjoys this shift as she is a late night person. She has found baking to suit her temperament and she enjoys the daily challenges of baking which often includes variability or problems requiring solving or rectifying. This makes the job far from routine. She also enjoys the variety in the products manufactured and requirement to have to think on her feet at all times.

In her second year of her apprenticeship, J. transferred to another bakery. This second bakery is a large wholesale bakery run by a father and son team. Both of these bakery owners have completed their apprenticeship and are active in the local apprenticeship board, so they are familiar with the responsibility having an apprentice entails.

The second bakery bakes a wide range of products and P. works in the bread and cake shift which is from 8am to 4pm. J. moved to this bakery as the pay and hours are better. She also decided although this bakery makes a similar range of products to her previous bakery, this one had higher standards of production and the staff are better supported and work together as a team.

J. is keen to improve on the finishing and decorating aspects of bakery work and after her apprenticeship, she will stay with her current employer until an opportunity eventuates in one of the bakeries in town which also specialises in decorated cakes. This is an area of baking J. is interested in developing and attaining skills.

6) **John**: Left school at the end of year 12 but without formal school qualifications. He started as an apprentice electrician but did not enjoy the work. He found the people he worked with to be difficult and the work repetitive. J. lives and works in a small town. The café bakery J. works in is situated on the main street of the town and is an award winning bakery, with an excellent local and national reputation.

From a friendship at church, J. started dishwashing at the café bakery he now currently works in. After three months, he was offered an apprenticeship in the bakery, which he accepted. This offer of indenture occurred due to the dismissal of another apprentice who had a car accident and could not travel to work bakers’ hours. At the start of Js’ apprenticeship, he found it difficult to work out who he needed to take orders from. J. was intimidated by the elder owner and found it difficult to learn skills from him. It was especially difficult when the way in which the younger owner went about doing things, was different to the way the elder owner would prefer things done. However, after a period of settling in and mediation, it was decided that J’s training would be completed with the younger owner and after that, things ran smoother.

J. is learning a wide range of skills at the café bakery due to the nature of the bakery’s product range. He is afforded opportunities to work with all the products manufactured in the bakery and to contribute to innovations occurring on a monthly basis to ensure the bakery maintains its market share. N. realised how far he had come when the younger
owner went on an extended working holiday to the United States of America last year for almost six months (J. was then in his third year as an apprentice). He was able to run the production side of the bakery, and supervise the production planning and other aspects of the bakery.

J. has been very much influenced by the owner’s son approaches to baking and philosophies on life, baking and business. He greatly respects his mentor’s abilities and is grateful for the opportunities to learn baking. He feels that the apprenticeship has provided him with skills that he is able to make use of regardless of whether he continues in baking. He displays great diligence to his work and is proactive in accessing opportunities outside of his bakery (e.g. volunteers to assist at baking society conferences, attends supplier demonstrations) to further his learning about baking.

J. plans to continue working in the bakery for the present. He does not have any specific plans for the future, but will explore self-employment in his own food-related business. This is because the wages he is paid in his current employment is not very high and the only way to increase earnings is to work for his own business.

7) **William**: W. lives and works in a small town. It is a small farming community and he enjoys the small town lifestyle.

W. left school after year 11 without any school qualifications. During his last two years at school, he worked a couple hours, cleaning at the bakery and started his indenture, as soon as he left school.

The bakery café that W. works in is a busy bakery which produces a wide range of bakery products. The owner was a chef and the bakery specialises in pies and filled rolls, all of which are very popular with customers. The bakery has a focus on quality and innovative products that have added value and which sell well for a good profit.

Much of W’s training is completed with a senior apprentice. This apprentice subsequently left in the second year of W’s apprenticeship and W’s training was overseen by the next senior apprentice. Into his third year, W. is second in-charge of the production area and helping to train the junior apprentices. H. is also absorbing many of the business philosophies expounded by the bakery’s owner. He is enthusiastic about his work and diligent about how work tasks are conducted.

W. is unsure as to how long he will work in the bakery as it is traditional for senior apprentices to leave (and usually travel overseas) at the completion of indenture. He does want to stay on for at least a year, as a way to repay his manager/bakery owner for the mentorship he has received. He is eager to remain working in the bakery as he does not have any current motivation to travel overseas. He is comfortable with his current routine, enjoys his hours of work, his work in the bakery and his current social network.
8) **Mark** :- M. left school at the middle of year 11 without completing any school qualifications. He started part-time work at a supermarket, cleaning the butchery and bakery areas after production in these areas had been completed. He commenced working in a bakery after about 6 months as a cleaner. M. lives and works in a city.

M. was interviewed at the second in-store bakery of his indenture. He commenced apprenticeship at another bakery, which had several changes of staff. He found one skilled and knowledgeable bakery manager and learnt a great deal from him. However, this bakery manager left and M. was shifted over by the supermarket management to the current bakery.

His second bakery is smaller and makes a smaller range of products but supervision is less stringent and he is able to initiate and adopt his own production schedule and routine. He finds working in a bakery to be very satisfying as he begins each day with only the ingredients and at the end of his working day, the shelves are filled with products he has made during his shift.

M. then continued to move about from one in-store bakery to another. At the next interview, he is working in a different bakery and had transferred out of a formalised indenture. He left the apprenticeship due to the low wages and lack of training and assistance towards apprenticeship completion. He is able to earn more as a baker (albeit an unqualified one) and has realised that he has to find a way to qualify in order to be able to transition into craft bakeries where he will be able to learn a wider range of product types.

M. is very competent with his work but is unable to transition into the craft bakery work. He finds this frustrating and it will be one of the reasons for him to leave the trade all together. However, his options are limited and if he leaves the baking trade, he will end up working as an unskilled labourer in the building industry or become a cleaner or similar in the hospitality industry.

9) **Tony** :- T. lives and works in a small city. He left school at the end of year 11 without completing NCEA level 1 (he had 50 credits but needed 120). While still at school, he worked in the bakery for a few days through work experience.

On leaving school, T. commenced bakery work on a trial basis and after three months, was offered an apprenticeship. The bakery T. works in is a multiple-award winning bakery. There are seven bakeries in the city, all owned by the same family. Some of these bakeries are café bakeries and some are solely retail. All the baking is completed from one large commissary bakery, run by the company owner’s son. Most of the training is undertaken by a supervisor, who completed an apprenticeship in baking over ten years ago.

The commissary bakery has bread, pastry and cake and biscuit sections. Apprentices are cycled through each section to ensure they obtain well-rounded training. The bakery culture places emphasis on quality and excellence and has a history of nurturing apprentices who eventually become ‘apprentices of the year’. 
T. has learning difficulties and the bakery has worked hard to support T. through his training. However, T. still struggles with some aspects of the bakery tasks and is still not in a position to supervise others.

At the last interview, T. was not working but on accident compensation leave. He had a bad fall in the bakery, leading to concussion and short-term memory lost. This has acerbated his learning difficulties and T. is reluctant to postulate on future directions.

The bakery is frustrated with their lack of success in helping T. become a baker. However, the staff support T’s rehabilitation and hope to continue to assist T. to attain his potential in baking. T’s parents are also keen to ensure that he completes his apprenticeship due to the time already invested and money invested into attaining a trade qualification.

10) **Mary**: M. has a passion for fashion design and the creative visual arts. However family circumstances (low socio-economic origins) have meant that she is unable to afford to attend tertiary education to further her dreams. She has evaluated an investment in three to four years of full time study towards a Degree in Fashion Design, may not lead to a guaranteed career or income from design and has taken the pragmatic solution to move into the workforce instead of pursuing her dream.

M. left school in the middle of year 11 to start work at the bakery as a shop assistant. She worked in this role for over a year before accepting an indenture. She only did this as her sister-in-law, who was working in the bakery, was going on maternity leave and someone was required as a replacement. So M. undertook the apprenticeship and learnt skills required to make the cakes, muffins, biscuits and slices.

M. continued in this role for most of her apprenticeship, she had limited opportunities to learn about bread and pastry making. The occasions for increased workplace training were usually just before M. was due to go for block courses at CPIT. There was no one to relief M. of her role and she was happy to continue with her work as the work suited her temperament. The employer also allowed M. the latitude to make use of her creative side and this provided M. with large amounts of job satisfaction.

Near the end of her apprenticeship, M. left the bakery on maternity leave to take care of her first born son. M. will be returning to work in the bakery as soon as her son turns four months old. She needs to continue working to help finance a mortgage as the earnings from her husband’s building apprenticeship, is insufficient to support a growing family. M. is keen to return to the bakery as the owners are supportive of her motherhood and will be flexible enough to allow her to work around looking after her son and working at the bakery.

11) **Joe**: J. lives and works in a city. He left school at fourteen, without any school qualifications. He began work as a mechanic where he fell into bad company and became addicted to drugs. The need to fund his drug addiction led him into petty crime and a serious wakeup call occurred when he was arrested for shop lifting. His father supported him through his rehabilitation and found him a dishwashing job at the bakery.
Through the dishwashing and cleaning job, J. eventually commenced the baking indenture. He began working in the bread bakery where most of the bread is made using artisanal methods. Much of the work is very physically demanding and the bread shift also works from late afternoon to late at night. J. did this for almost three years and found he was becoming physically over-taxed. Consequently, he had to seek medical treatment for a bad back. After J. recovered, his employer transferred him to the cake making section of the bakery.

During the second and third interviews, J. is working in the cake bakery, situated at the rear of one of the café bakeries of the company’s many retail outlets. By the third interview, J. has been working for the bakery for almost six years. He is running the cake shift and training other staff.

J. has been saving money for overseas experience. He had travelled overseas the year before to a bakery exposition in Germany with a group of other bakers. This revealed the future possibilities of baking but J. does not have any capital or possibilities of support from his family, to open his own bakery. He is instead focused on reclaiming some of the years he lost through drug addiction and through commitment to bakery work. Therefore, he had developed plans to travel to Canada, where he will concentrate on snowboarding. If he finds a job in a Canadian bakery, it will be a bonus but meanwhile, he is planning to enjoy a year without working.

J. has no clear plans as to what will happen after his overseas experience year. He is inspired by the entrepreneurs he has associated with while on the bakery tour to Germany but is unable to realise the dream of starting his own business, without the ability to raise capital. However, he acknowledges he has attained good baking skills and that these will always be something he is able to benefit from.

12) Diane:- D. completed year 12 at school. She has always been interested in food, cooking and baking. Her mother always baked at home and D. was always eager to help and to learn about cooking and baking at school.

After she finished school with a form 6 certificate (equivalent to NCEA level 2), she travelled overseas and this awakened her to the possibilities with food and with baking. When she returned, she ensured she gained an apprenticeship at a reputable bakery, manufacturing a range of products in which matched her interest.

The bakery D works in is a busy artisanal café bakery situated in a bohemian suburb of a large city. The bakery produces some wholesale products but the majority is for sale from its own retail café bakery. The products have a Swiss/German/Austrian influence as the bakery’s owner completed his apprenticeship in a Dutch/NZ bakery but then travelled to Switzerland and worked there for several years before returning to NZ to open his own bakery.

D. commenced her apprenticeship working in the bread shift. This was followed by a year working in the cake and pastry section. Into the fourth year of her apprenticeship, D. is in
charge of the cake and pastry shift. Before that, she had supervised the bread shift for almost a year. The cake and pastry shift is more diverse and busier, so production planning is more complex, but the bread shift is also very production intensive and she enjoys the challenges of making bread using artisanal methods as the variability in ingredients always provides for a continual challenge.

D. is interested in extending her range of baking skills and has started (outside of her work hours) to learn and practice the art of sugar work. Her short term plans are to remain working at her current bakery and to increase skills in cake and pastry decoration.

13) Dean:- D. is the oldest apprentice in the study. He completed his schooling with university entrance and progressed through a series of sales/marketing jobs for almost twenty years before thinking about training in a trade that he would enjoy and which would enable his ambition towards self-employment.

On leaving his career in sales, D. evaluated jobs in the building industry but discovered they were too physically taxing. He commenced baking through the recommendations of a family friend. He only accepted the position in the bakery on a guarantee they would provide an apprenticeship. The bakery D. works for is an artisanal bakery, manufacturing German-inspired products. The majority of the products are bread-based with a small range of cakes and biscuits. Most of the bakers in the bakery are Germans who come to New Zealand on one-year work permits to work in the bakery and travel around New Zealand, before returning to Germany. This means the staff turnover in the bakery is high and D. is eventually the person who has worked in the bakery the longest and has learnt the details and expectations of the bakery production cycle.

D. found learning baking to be a challenge as he has a perfectionist-type temperament. However, the work expectations associated with bread making have modified his perspectives on ensuring all instructions are followed verbatim. He believes the baking job has taught him about how to work with people from other cultures and his own aptitudes and attitudes. D. takes great pride in his ability to produce artisanal bread products with a high degree of diligence and craftsmanship.

D. is eager to explore opportunities for self-employment at the end of his apprenticeship. It is his original goal, when he first started in the apprenticeship, to eventually own a business. He has possibilities for financial backing from his family and is working at assessing the marketing niche for his bakery.
Appendix M

National Certificate in Baking (Craft Baking) (Level 4)

Level 4

Credits 287

Purpose

The National Certificate in Baking (Craft Baking) (Level 4) is designed to recognise the competence, knowledge, and specialist skills required for baking craft products within craft baking enterprises. It is awarded to people who are able to demonstrate the ability to prepare, apply, and mix baking products from raw baking materials. Candidates are required to produce baked specialised craft products that are frequently required for niche markets and also meet industry standards and the Australia New Zealand Food Standards Code.

Holders of this qualification have gained a range of knowledge and skills assessed both off the job (during courses and correspondence conducted and monitored by accredited training providers) and on-job (in the workplace).

Holders of this qualification have the following skills and knowledge relevant to the craft baking industry:

- first aid;
- health and safety;
- food safety;
- baking ingredients and science;
- recipe calculations;
- preparation and baking of craft bread, pastry, cakes, biscuits;
- assessment of craft baking products quality.

As this qualification represents the specialist skills required for the craft baking industry all standards are compulsory.

The qualification can be achieved in the course of a three to four year traineeship or apprenticeship programme. People who have completed the National Certificate in Baking (Level 3) [Ref: 0589] and wish to progress to working in craft baking enterprises, will already have significant credits towards this level 4 qualification.
This qualification shares credits with other baking trade qualifications at level 4:

- National Certificate in Baking (Instore/Franchise) (Level 4) [Ref: 1267];
- National Certificate in Baking (Plant Baking) with strands in Bread, Biscuit, Cake, and Pastry (Level 4) [Ref: 0591].

**Credit Range**

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<tr>
<th>Level</th>
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<tbody>
<tr>
<td>Level 1</td>
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<td>Level 2</td>
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<td>Level 3</td>
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<td>Level 4</td>
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**Requirements for Award of Qualification**

This qualification will be awarded to people who have gained credit for the listed standards.

<table>
<thead>
<tr>
<th>Award of NQF Qualifications</th>
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<tbody>
<tr>
<td>Credit gained for a standard may be used only once to meet the requirements of this qualification.</td>
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</table>

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided in the Qualifications Authority *Rules and Procedures* publications available at [www.nzqa.govt.nz/ncea/](http://www.nzqa.govt.nz/ncea/).

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (Id). Any version of a standard with the same Id may be used to meet qualification requirements that list the Id and/or that specify the past or current classification of the standard.

**Detailed Qualification Requirements**

**Compulsory**

All the standards listed below are required.

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<tr>
<th>Field</th>
<th>Health</th>
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<tbody>
<tr>
<td>Subfield</td>
<td>Health Studies</td>
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### Domain: Core Health

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<th>Level</th>
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<tr>
<td>6400</td>
<td>Manage first aid in emergency situations</td>
<td>3</td>
<td>2</td>
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<tr>
<td>6401</td>
<td>Provide first aid</td>
<td>2</td>
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<tr>
<td>6402</td>
<td>Provide resuscitation level 2</td>
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### Subfield: Occupational Health and Safety

### Domain: Occupational Health and Safety Practice

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<tr>
<td>497</td>
<td>Protect health and safety in the workplace</td>
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### Field: Manufacturing

### Subfield: Food and Related Product Processing

### Domain: Baking

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<tr>
<td>14706</td>
<td>Prove products for batch baking</td>
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<tr>
<td>14721</td>
<td>Prepare and apply icings and glazes to bakery products using manual production methods</td>
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<tr>
<td>14722</td>
<td>Prepare and decorate bakery products using manual production methods</td>
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<td>14723</td>
<td>Prepare and apply toppings to bakery products using manual production methods</td>
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<td>14724</td>
<td>Prepare and apply fillings to bakery products using manual production methods</td>
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<tr>
<td>15135</td>
<td>Demonstrate knowledge of the legislative and food code requirements in the baking industry</td>
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<td>15136</td>
<td>Demonstrate knowledge of bakery science</td>
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<tr>
<td>15137</td>
<td>Demonstrate knowledge of the characteristics and processes of flour technology</td>
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<td>Demonstrate knowledge of bakery smallgoods and smallgoods baking technology</td>
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<td>Prepare, mix, shape, and fry deep fried bakery products</td>
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<td>15148</td>
<td>Prepare, mix, deposit, and bake choux paste products</td>
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<td>Prepare marshmallow and egg white-based bakery products</td>
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**Domain**  
**Baking – Biscuit**

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<td>Prepare and mix biscuit doughs using manual production methods</td>
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<td>Form and cut biscuit doughs using manual production methods</td>
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<td>14727</td>
<td>Batch bake biscuit products</td>
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<tr>
<td>15143</td>
<td>Demonstrate knowledge of biscuit products and biscuit baking techniques</td>
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<td>15152</td>
<td>Assess biscuit products for quality</td>
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**Domain**  
**Baking – Bread**

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<td>Divide and mould bread doughs using manual production methods</td>
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<td>Prepare and develop bread doughs using bulk fermentation processes</td>
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<td>14702</td>
<td>Prepare and weigh ingredients for white bread doughs using manual production methods</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>14703</td>
<td>Mix and develop white bread doughs using manual production methods</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>14704</td>
<td>Prepare and weigh ingredients for grain and meal bread doughs using manual production methods</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>14705</td>
<td>Mix and develop grain and meal doughs using manual production methods</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>14707</td>
<td>Batch bake bread products</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Id</td>
<td>Title</td>
<td>Level</td>
<td>Credit</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td>15139</td>
<td>Demonstrate knowledge of bread baking technology and bread products using manual systems</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>15151</td>
<td>Assess bread products for quality</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15154</td>
<td>Prepare, mix, and bake specialty breads</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Domain: Baking – Cake

<table>
<thead>
<tr>
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<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>14719</td>
<td>Prepare, mix and deposit cake batters using manual production methods</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>14720</td>
<td>Batch bake cake products</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>15142</td>
<td>Demonstrate knowledge of cake products and cake baking technology</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>15150</td>
<td>Assess cake products for quality</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15155</td>
<td>Prepare, mix, bake, and finish specialty gateau and torten</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Domain: Baking – Pastry

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7842</td>
<td>Roll and laminate pastry doughs using manual production methods</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>10605</td>
<td>Prepare and mix pastry doughs using manual production methods</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>10608</td>
<td>Batch bake pastry products</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>14728</td>
<td>Form and cut pastry doughs using manual production methods</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>15141</td>
<td>Demonstrate knowledge of pastry technology and pastry products</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>15153</td>
<td>Assess pastry products for quality</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Field: Service Sector
Subfield: Hospitality
Domain: Food Safety

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>167</td>
<td>Practise food safety methods in a food business</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

**Transition Arrangements**

**Version 2**

Version 2 was issued following review of the Food and Related Products Processing standards specific to the baking industry.

Changes to structure and content

- Titles, levels, and credits of reviewed standards updated.
- Elective A and B removed so all standards are now compulsory.
- Standards 62, 2989, 3488, 4098, 7755, 8489, 9681, 10790, 15138, 15145, and 15147 removed.
- Standards 6400, 640, 6402, 7841, 7842, 7864, 70605, 10605, 10608, 14702-14707, and 14719-14728 added.
- Total credits increased from 279 to 287.

People currently enrolled in year 3 programmes in 2007 leading to the award of version 1 of this qualification will complete version 1. People enrolled in year 2 programmes will be provided with the option of moving from version 1 to version 2 of this qualification in 2007. People enrolled in year 1 programmes in 2007 will complete version 2 of this qualification.

All versions of this qualification will be recognised by Competenz, with version 1 awarded up to December 2011.

Competenz has endeavoured to ensure that no person has been disadvantaged by the review of this qualification. Anyone who thinks that they have been disadvantaged should, in the first instance, contact the ITO at the address below.

**NQF Registration Information**

<table>
<thead>
<tr>
<th>Process</th>
<th>Version</th>
<th>Date</th>
<th>Last Date for Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>1</td>
<td>February 1999</td>
<td>December 2011</td>
</tr>
<tr>
<td>Review</td>
<td>2</td>
<td>December 2006</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Standard Setting Body

Competenz
PO Box 62 561
CENTRAL PARK
Auckland
Telephone 0800 275 5400
Facsimile 09 525 7737
Email qualifications@competenz.org.nz
Website http://www.competenz.org.nz

Any person or organisation may contribute to the review of this qualification by sending feedback to the standard setting body at the above address.

The review of this qualification is planned to take place in 2011.
Appendix N

National Certificate in Baking (Level 3)

Level 3

Credits 140

Purpose

The National Certificate in Baking (Level 3) is the second in a series of Baking qualifications for baking trainees/apprentices employed in the varied workplaces of the baking industry. This qualification builds on the introductory National Certificate in Baking (Level 2) [Ref: 0588]. It is designed to expand on relevant industry skills and knowledge and is intended for people already working in baking industry roles.

The qualification consists of a compulsory and two elective sections.

The compulsory section covers:

- health and safety;
- food safety;
- legislative and food code requirements;
- bakery science;
- personal presentation.

Elective A requires 60 credits for industry specific standards from the domains for Baking; Baking – Biscuit; Baking – Bread; Baking – Cake; and/or Baking – Pastry.

Elective B allows candidates to select from a range of skill standards such as quality management, computing, storekeeping, retail and customer service, which will support varied roles within baking industry.

This qualification is a progression from the National Certificate in Baking (Level 2) [Ref: 0588]. It is designed to provide a pathway to trade qualifications at level 4 such as:

- National Certificate in Baking (Craft Baking) (Level 4) [Ref: 0590]
- National Certificate in Baking (Plant Baking) with strands in Bread, Biscuit, Cake, and Pastry (Level 4) [Ref: 0591]
- National Certificate in Baking (Instore/ Franchise) (Level 4) [Ref: 1267].
## Credit Range

<table>
<thead>
<tr>
<th></th>
<th>Compulsory</th>
<th>Elective A Industry Specific</th>
<th>Elective B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 credits</td>
<td>1</td>
<td>0-6</td>
<td>0-59</td>
</tr>
<tr>
<td>Level 2 credits</td>
<td>8</td>
<td>0-91</td>
<td>0-59</td>
</tr>
<tr>
<td>Level 3 or above credits</td>
<td>12</td>
<td>28-119</td>
<td>0-59</td>
</tr>
<tr>
<td>Minimum totals</td>
<td>21</td>
<td>60-119</td>
<td>0-59</td>
</tr>
</tbody>
</table>

## Requirements for Award of Qualification

This qualification will be awarded to people credited with a minimum total of 140 credits from the compulsory and elective sections of the qualification.

**Compulsory**

All the listed standards are required.

**Elective A - Industry Specific**

A minimum of 60 credits, of which a minimum of 28 credits is at level 3 or above, is required from the specified domains.

**Elective B**

The balance of credits, to achieve a minimum total of 140 credits, is required from the specified subfields and/or domains.

## Award of NQF Qualifications

Credit gained for a standard may be used only once to meet the requirements of this qualification.

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided in the Qualifications Authority *Rules and Procedures* publications available at [www.nzqa.govt.nz/ncea/](http://www.nzqa.govt.nz/ncea/).

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (Id). Any version of a standard with the same Id may be used to meet qualification requirements that list the Id and/or that specify the past or current classification of the standard.
## Detailed Qualification Requirements

### Compulsory

All the standards listed below are required.

**Field:** Health  
**Subfield:** Occupational Health and Safety  
**Domain:** Occupational Health and Safety Practice

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>497</td>
<td>Protect health and safety in the workplace</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Field:** Manufacturing  
**Subfield:** Food and Related Products Processing  
**Domain:** Baking

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>15135</td>
<td>Demonstrate knowledge of the legislative and food code requirements in the baking industry</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15136</td>
<td>Demonstrate knowledge of bakery science</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

**Domain:** Food and Related Products Processing – Safety and Health

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>7755</td>
<td>Apply safe working practices in the food and related product processing workplace</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Field:** Service Sector  
**Subfield:** Hospitality  
**Domain:** Food Safety

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>167</td>
<td>Practise food safety methods in a food business</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
Subfield | Service Sector Skills  
Domain | Service Sector – Core Skills

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>Maintain personal presentation in the workplace</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Elective A - Industry Specific**

A minimum of 60 credits, of which a minimum of 28 credits is at level 3 or above, is required from the following domains.

<table>
<thead>
<tr>
<th>Field</th>
<th>Subfield</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>Food and Related Products Processing</td>
<td>Baking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baking – Biscuit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baking – Bread</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baking – Cake</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baking – Pastry</td>
</tr>
</tbody>
</table>

**Elective B**

The balance of credits, to achieve a minimum total of 140 credits, is required from the following subfields and/or domains.

<table>
<thead>
<tr>
<th>Field</th>
<th>Subfield</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Business Administration</td>
<td>Business Information Processing</td>
</tr>
<tr>
<td></td>
<td>Business Operations and Development</td>
<td>Any</td>
</tr>
<tr>
<td></td>
<td>Management</td>
<td>First Line Management</td>
</tr>
<tr>
<td>Field</td>
<td>Subfield</td>
<td>Domain</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>Management – Developing and Coordinating People</td>
<td>Quality Management</td>
<td></td>
</tr>
<tr>
<td>Computing and Information Technology</td>
<td>Computing</td>
<td>Generic Computing</td>
</tr>
<tr>
<td>Education</td>
<td>Generic Education and Training</td>
<td>Assessment of Learning</td>
</tr>
<tr>
<td>Health</td>
<td>Health Studies</td>
<td>Core Health</td>
</tr>
<tr>
<td>Humanities</td>
<td>Communication Skills</td>
<td>Interpersonal Communications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Writing</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Food and Related Products Processing</td>
<td>Any</td>
</tr>
<tr>
<td></td>
<td>Manufacturing Skills</td>
<td>Competitive Manufacturing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturing Processes</td>
</tr>
<tr>
<td></td>
<td>Meat Processing</td>
<td>Any</td>
</tr>
<tr>
<td>Sciences</td>
<td>Mathematics</td>
<td>Number</td>
</tr>
<tr>
<td>Service Sector</td>
<td>Hospitality</td>
<td>Cookery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food Safety</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food and Beverage Service</td>
</tr>
<tr>
<td></td>
<td>Retail, Distribution, and Sales</td>
<td>Distribution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Merchandising and Marketing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retail and Distribution Core Skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retail and Distribution Management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retail Delicatessen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retail Produce</td>
</tr>
</tbody>
</table>
### Transition Arrangements

**Version 2**

Version 2 was issued following review of the Food and Related Products Processing standards specific to the baking industry.

Changes to structure and content

- Titles, levels, and credits of reviewed standards updated.
- Standards 2989, 3488, 8489, 9681, and 10790 removed from the compulsory section.
- Standards 167 and 15136 added to the compulsory section.
- Level 2 and level 3 credit requirements in Elective A - Industry Specific section replaced with 60 credits of which a minimum of 28 must at level 3 or above.
- The subfield Manufacturing Skills and the domains Competitive Manufacturing and Manufacturing Processes added to Elective B Section.
- The domain Food and Beverage Service added to Elective B.
- The Food and Related Products list of domains replaced with all domains.
- Domains from the subfields Dairy Manufacturing and Mechanical Engineering removed from Elective B.
- Domain Food and Beverage Service added to Elective B.
- Subfield Retail Distribution and Sales replaced the lapsed subfields of Retail and Wholesale and Service Sector Skills.
- Credit total for Compulsory section decreased from 24 to 21, credit total for Elective A decreased from 62-145 to 60-119, and credit total for Elective B decreased from 0-83 to 0-59.

People currently enrolled in programmes leading to the award of version 1 of this qualification may either complete version 1 or transfer to this version. All versions of this qualification will be recognised by Competenz, with version 1 awarded up to December 2010.

This qualification contains classifications that replace earlier classifications. For the purpose of version 2 of this qualification, people who have gained credit for standards in the lapsed classifications may continue to use those credits to meet the qualification requirements.

<table>
<thead>
<tr>
<th>Field</th>
<th>Subfield</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td></td>
<td>Sales</td>
</tr>
<tr>
<td>Sales Transactions</td>
<td></td>
<td>Sales Transactions</td>
</tr>
<tr>
<td>Stock Control</td>
<td></td>
<td>Stock Control</td>
</tr>
<tr>
<td>Lifting Equipment</td>
<td></td>
<td>Powered Industrial Lift Trucks</td>
</tr>
<tr>
<td>Credits for standards in</td>
<td>Count towards qualification requirements where the following is specified</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Service Sector &gt; Retail and Wholesale Customer Service</td>
<td>Service Sector &gt; Retail, Distribution, and Sales &gt; Retail and Distribution Core Skills</td>
<td></td>
</tr>
<tr>
<td>Service Sector &gt; Retail and Wholesale &gt; Retail and Wholesale Sales Transactions</td>
<td>Service Sector &gt; Retail, Distribution, and Sales &gt; Sales Transactions</td>
<td></td>
</tr>
<tr>
<td>Service Sector &gt; Retail and Wholesale &gt; Retail and Wholesale Visual Merchandising</td>
<td>Service Sector &gt; Retail, Distribution, and Sales &gt; Merchandising and Marketing</td>
<td></td>
</tr>
<tr>
<td>Service Sector &gt; Service Sector &gt; Skills &gt; Selling Skills</td>
<td>Service Sector &gt; Retail, Distribution, and Sales &gt; Sales</td>
<td></td>
</tr>
</tbody>
</table>

Competenz has endeavoured to ensure that no person has been disadvantaged by the review of this qualification. Anyone who thinks that they have been disadvantaged should, in the first instance, contact the ITO at the address below.

**NQF Registration Information**

<table>
<thead>
<tr>
<th>Process</th>
<th>Version</th>
<th>Date</th>
<th>Last Date for Assessment</th>
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<td>February 1999</td>
<td>31 December 2010</td>
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<td>Review</td>
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<td>December 2006</td>
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</tr>
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**Standard Setting Body**

Competenz

PO Box 62 561

CENTRAL PARK

Auckland

Telephone 0800 275 5400

Facsimile 09 525 7737

Email qualifications@competenz.org.nz

Any person or organisation may contribute to the review of this qualification by sending feedback to the standard setting body at the above address.

The review of this qualification is planned to take place in 2011.
Appendix O

National Certificate in Baking (In-store/Franchise) (Level 4)

Level 4

Credits 210

Purpose

This Baking qualification is designed to recognise the competence, knowledge, and skills required for baking products within Instore/Franchise baking enterprises. It is awarded to people who demonstrate the ability to prepare, mix and bake Instore/Franchise products that meet industry standards and the Australia New Zealand Food Standard Code.

The qualification reflects the skills required for bakers working in New Zealand Instore/Franchise bakeries and encompasses baking, retailing, merchandising, and bakery management.

Holders of this qualification have the following knowledge and skills, assessed both off the job (during courses and correspondence conducted and monitored by accredited training providers), and on-job (in the workplace).

The qualification consists of a compulsory and two elective sections.

The compulsory section covers:

- health and safety;
- food safety;
- baking ingredients and science;
- recipe calculations;
- preparation using manual production methods;
- batch baking.

Elective A requires 60 credits for industry specific standards from the domains for Baking; Baking – Biscuit; Baking – Bread; Baking – Cake; and/or Baking – Pastry.

Elective B allows candidates to select from a range of skill standards such as quality management, computing, and customer service which will support roles within instore bakeries or franchised bakeries.

The qualification can be achieved in the course of a three to four year traineeship or apprentice programme. People who have completed the National Certificate in Baking (Level 3) [Ref: 0589] and wish to progress to working in instore bakeries or franchised bakeries, will already have significant credits towards this level 4 qualification.
This qualification shares credits with other baking trade qualifications at level 4:

- National Certificate in Baking (Craft Baking) (Level 4) [Ref: 0590];
- National Certificate in Baking (Plant Baking) with strands in Bread, Biscuit, Cake, and Pastry (Level 4) [Ref: 0591].

**Credit Range**

<table>
<thead>
<tr>
<th></th>
<th>Compulsory</th>
<th>Elective A Industry Specific</th>
<th>Elective B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 credits</td>
<td>1</td>
<td>0-6</td>
<td>0-52</td>
</tr>
<tr>
<td>Level 2 credits</td>
<td>37</td>
<td>0-46</td>
<td>0-52</td>
</tr>
<tr>
<td>Level 3 credits</td>
<td>34</td>
<td>0-46</td>
<td>0-52</td>
</tr>
<tr>
<td>Level 4 or above credits</td>
<td>26</td>
<td>14-60</td>
<td>0-52</td>
</tr>
<tr>
<td>Minimum totals</td>
<td>98</td>
<td>60</td>
<td>52</td>
</tr>
</tbody>
</table>

**Requirements for Award of Qualification**

This qualification will be awarded to people credited with a minimum total of 210 credits from the compulsory and elective sections of the qualification.

**Compulsory**

All the listed standards are required.

**Elective A - Industry Specific**

A minimum of 60 credits, of which a minimum of 14 credits is at level 4 or above, is required from the specified domains.

**Elective B**

The balance of credits, to achieve a minimum total of 210 credits, is required from the specified subfields and/or domains.

**Award of NQF Qualifications**

Credit gained for a standard may be used only once to meet the requirements of this qualification.
Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided in the Qualifications Authority Rules and Procedures publications available at www.nzqa.govt.nz/ncea/.

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (Id). Any version of a standard with the same Id may be used to meet qualification requirements that list the Id and/or that specify the past or current classification of the standard.

Detailed Qualification Requirements

Compulsory

All the standards listed below are required.

Field Health

Subfield Occupation Health and Safety

Domain Occupation Health and Safety Practice

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>497</td>
<td>Protect health and safety in the workplace</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Field Manufacturing

Subfield Food and Related Products Processing

Domain Baking

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>14706</td>
<td>Prove products for batch baking</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>15135</td>
<td>Demonstrate knowledge of legislative and food code requirements in the baking industry</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15136</td>
<td>Demonstrate knowledge of bakery science</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>15137</td>
<td>Demonstrate knowledge of the characteristics and processes of flour technology</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
### Domain: Baking – Bread

<table>
<thead>
<tr>
<th>Id</th>
<th>Title</th>
<th>Level</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>7841</td>
<td>Divide and mould bread doughs using manual production methods</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>14702</td>
<td>Prepare and weigh ingredients for white bread doughs using manual production methods</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>14703</td>
<td>Mix and develop white bread doughs using manual production methods</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>14704</td>
<td>Prepare and weigh ingredients for grain and meal bread doughs using manual production methods</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>14705</td>
<td>Mix and develop grain and meal doughs using manual production methods</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>14707</td>
<td>Batch bake bread products</td>
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<td>10</td>
</tr>
<tr>
<td>15139</td>
<td>Demonstrate knowledge of bread breaking technology and bread products using manual systems</td>
<td>4</td>
<td>8</td>
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<tr>
<td>15154</td>
<td>Prepare, mix, and bake specialty breads</td>
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### Domain: Food and Related Product Processing – Safety and Health

<table>
<thead>
<tr>
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<th>Title</th>
<th>Level</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>7755</td>
<td>Apply safe working practices in the food or related product processing workplace</td>
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Field: Service Sector
Subfield: Hospitality

### Domain: Food Safety

<table>
<thead>
<tr>
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<th>Title</th>
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<tbody>
<tr>
<td>167</td>
<td>Practise food safety methods in a food business</td>
<td>2</td>
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</table>
Subfield: Service Sector Skills

Domain: Service Sector – Core Skills

<table>
<thead>
<tr>
<th>Id</th>
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<tbody>
<tr>
<td>62</td>
<td>Maintain personal presentation in the workplace</td>
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**Elective A - Industry Specific**

A minimum of 60 credits, of which a minimum of 14 credits is at level 4 or above, is required from the following domains.

<table>
<thead>
<tr>
<th>Field</th>
<th>Subfield</th>
<th>Domain</th>
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</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>Food and Related Products Processing</td>
<td>Baking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baking – Biscuit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baking – Bread</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baking – Cake</td>
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<tr>
<td></td>
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<td>Baking – Pastry</td>
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Elective B

The balance of credits, to achieve a minimum total of 210 credits, is required from the following subfields and/or domains.

<table>
<thead>
<tr>
<th>Field</th>
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<tbody>
<tr>
<td>Business</td>
<td>Business Administration</td>
<td>Business Information Processing</td>
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<tr>
<td></td>
<td>Business Operations and Development</td>
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<tr>
<td></td>
<td>Management</td>
<td>First Line Management</td>
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<tr>
<td></td>
<td></td>
<td>Management – Developing and Coordinating People</td>
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<tr>
<td></td>
<td></td>
<td>Quality Management</td>
</tr>
<tr>
<td>Computing and Information Technology</td>
<td>Computing</td>
<td>Generic Computing</td>
</tr>
<tr>
<td>Education</td>
<td>Generic Education and Training</td>
<td>Assessment Of Learning</td>
</tr>
<tr>
<td>Health</td>
<td>Health Studies</td>
<td>Core Health</td>
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<tr>
<td>Humanities</td>
<td>Communication Skills</td>
<td>Interpersonal Communications</td>
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<tr>
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<td>Reading</td>
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<td>Writing</td>
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<td>Manufacturing</td>
<td>Food and Related Products Processing</td>
<td>Food and Related Product – Environmental Care</td>
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<td>Food and Related Product Container Filling</td>
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<td>Food and Related Product Development</td>
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<td>Food and Related Product Information Provision</td>
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<td>Food and Related Product Laboratory Practice</td>
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<td>Food and Product Packaging</td>
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<td>Food and Related Product Production</td>
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<td>Food and Related Product Production Equipment</td>
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<td>Food and Related Product Production Line Operation</td>
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<td>Food Production – Confectionary</td>
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<td>Food Production – Edible Oils and Fats</td>
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<tr>
<td>Retail, Distribution, and Sales</td>
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<td>Lifting Equipment</td>
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**NQF Registration Information**

<table>
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<th>Process</th>
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**Standard Setting Body**

Competenz

PO Box 62 561

CENTRAL PARK

Auckland
Telephone 0800 275 5400
Facsimile 09 525 7737
Email qualifications@competenz.org.nz
Website http://www.competenz.org.nz/

Any person or organisation may contribute to the review of this qualification by sending feedback to the standard setting body at the above address.

The review of this qualification is planned to take place in 2011.