

Learning Through Apprenticeship: Belonging to a Workplace, Becoming and Being

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Abstract The transition from school to work, in the form of a trade-based apprenticeship, is one with a long history. Recent socio-historical changes include increased use of technology, the changing nature of work and shifting patterns in the employment market are influencing both the apprenticeship journey and its destination. In this article, the contemporary apprenticeship experience is described and explored using the metaphoric phases consisting of belonging to a workplace, becoming a baker and eventually being a baker. These phases are derived from a longitudinal case study of 13 baking apprentices as they entered bakery work mainly by happenstance and began to belong to the workplace; became bakers through various processes of skill acquisition, knowledge consolidation, dispositional transformation and occupational identity formation; and continued to be bakers, with many attaining a strong sense of vocation and identification with bakers' occupation. An updated understanding of apprenticeship may inform the development of entry pathways into apprenticeship; improve workplace learning opportunities; and widen the means for recognition and certification of skill/knowledge attainment and dispositional transformation.

Keywords Apprenticeship · Learning as becoming · Occupational identity formation · Baking

Setting the Context

In New Zealand (NZ), completion of qualifications amongst apprentices is still low, averaging 33 % across 30 trades, especially when compared to completion of qualifications through institution-based tertiary education (Mahoney 2009). Therefore, it is important to understand aspects of apprenticeships, which encourage

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apprentices to complete qualifications, leading for many trade workers, to better wage gains (Vickerstaff 2007) and opportunities for advancement beyond trade work (Hamilton and Lempert 1996). In this article, the study of the apprenticeship journey of a cohort of 13 bakery apprentices is described, discussed and illuminated as a form of occupational identity formation. These apprentices were followed through their 4 to 5 years of indenture using case study research methodology. Precepts of occupational identity formation, inspired by socio-cultural Vygotskian concepts (Penuel and Wertsch 1995) are used to explain the ‘boundary crossings’ (Engestrom 2004) undertaken by apprentices as they transition through identity way-markers as denoted by job titles. Designated job roles as apprenticeship progressed included a period of job evaluation by both the potential apprentice and employer before entry into a baking apprenticeship. Hence, the apprentices in this study began as uncommitted entrants to baking work through work roles as cleaner, dishwasher or retail assistant and novice bakery worker, before offer and acceptance of an indenture. As apprentices, there was gradual advancement up the workplace organisational hierarchy, beginning as junior apprentice before progressing to nascent baker, senior apprentice, and for many, bestowal of the position of bakery supervisor near the end of indenture. As apprentices traversed the various identity way-markers and job roles, occupational titles were conferred on them by other workers and managers through the allocation of work responsibilities, before apprentices’ own acknowledgement of those roles. The conferment of various progressive occupational identity way-markers by others, before apprentices’ actual self-acceptance of each conferred job role, is therefore an important outcome of occupational identity formation through apprenticeship. Hence, achievement on a personal, internalised level is perhaps more important than certification conferred through completion of a qualification. An understanding of how apprenticeships proceed may lead to more authentic means for recognising and certifying skill/knowledge attainment and dispositional transformation than the current NZ standards-based qualifications system with its low completion rates.

This article begins with a brief overview of the NZ school system, transition beyond school and the apprenticeship. An overview of apprenticeship studies is followed by a review of relevant literature informing the development of belonging to a workplace, becoming and being a baker as a way of describing and comprehending the apprenticeship journey. The research methodology is then detailed. Findings from the study and a discussion of the model of belonging to a workplace, becoming and being as metaphoric phases of apprenticeship, are then presented and discussed.

The New Zealand School and Vocational Education Context

In NZ, school begins at the age of 5 (Year 1) and progresses through to Year 13. Students complete National Certificates in Education (NCEA) at level 1 in Year 11, level 2 in Year 12 and level 3 at Year 13. Completion of NCEA level 2 is required for students to progress into tertiary studies at Certificate and Diploma levels, with NCEA 13 being a pre-requisite for entry into degree/undergraduate studies. Post-school destinations of students who do not complete NCEA 2 include apprenticeship (Vaughan et al. 2006).

In the context of the research participant cohort, the NZ vocational education system in the mid-2000s consisted of three main pathways into apprenticeship. Potential students/or people seeking re-training or a change in career path, could seek indenture through employment in a chosen trade; complete a pre-trade programme at a polytechnic or institute of technology before applying for apprenticeship positions; or for students still at school, participate in a 'school-to-work' programme whilst still at Year 12 which may lead to an indenture.

Apprentices work towards National Certificates (NC) at level 3 (trade worker) or 4 (journeyman/certified or 'qualified' trades worker). The New Zealand Qualifications Framework (NZQF) allows credits from competency-based 'unit standards' accumulated through 'school-to work' programmes to be counted towards either NCEA or NC qualifications. Apprentices' training is completed mainly on-the-job with many trades requiring completion of off-job training either in 'day release' (i.e. a day a week), night classes (a night a week) or block course (usually between 2 and 6 weeks). Many apprentices also complete 'correspondence' courses on the 'knowledge' components of their trade.

Overview of Apprenticeship Studies

Studying the apprenticeship process is important because the journey that young people travel as they move from being school-leavers to becoming qualified trade workers is still a far from fully understood trajectory. The profile of today's young people and their expectations of work and life trajectories 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. There have been many recent studies of apprenticeship in traditional 'trades'. For instance, the work of Lave (2011) on apprentice tailors in western Africa, Rogoff's (1995) work with Guatemalan midwives, Keller and Keller's (1996) ethnographical examination of American craft-based blacksmithing, Gamble's (2001) investigation of how cabinet makers in South Africa learn tacit skills, Racca and Roth's (2001) study of Canadian apprentices in electrical trades, Simpson's (2006) research on apprentice ship-builders in western India, and Marchand's (2008) ethnographical field work with minaret builders in North Africa. Each of these studies, contribute to an understanding of how apprenticeships are enacted. From these studies, emerges the understanding that the enactment of apprenticeship is more than the development of a set of occupational skills. As such, an apprenticeship also constitutes a rite of passage, a form of induction into working life and adult responsibilities (Lehmann 2007), accompanied by the formation of occupational identity (Kirpal 2004). 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 may also be shorthand statements of their individuality (Hall and Chandler 2005).

The description of apprenticeship provided in this article as consisting of belonging to a workplace, becoming and then being bakers, offers a timely synthesis and integration of key ideas from current conceptualisations for better understanding

occupational capacity and identity formation. Current conceptualisations on learning at work include: situated accounts of learning (Lave and 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 2002), workplace-based identity (Kirpal 2004), vocational identity formation (Vondracek 1992), and the concept of learning as becoming (Hodkinson et al. 2008). Apprenticeship entailing belonging to a workplace, becoming and being 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 objectives, 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.

Literature Foundation

The literature relevant to the discussion includes the need to understand the holistic and integrated nature of the procedural, conceptual and dispositional aspects encompassing the concept of 'learning as becoming' that lead eventually to forms of occupational identity formation.

Components of Apprenticeship Learning

Skill acquisition is an overarching objective 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 1994). Smith (2003) offers a list of 10 domains of learning that young people typically encounter in their first year at work. Of these 10 domains, three are explicitly included in NZ national certificates in craft baking (level 4). These domains are technical skills, generic competencies, and knowledge. Inclusion of the other seven domains within the national certificates is largely implied. Four of the seven can be aligned with certificate-based content, focused on helping apprentices becoming better participants in workplace-based practice communities. These four 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/dispositional skills assumed as outcomes of completing the qualifications. Examples of these include 'job-keeping' skills, political skills, understanding oneself and learning about learning.

Apprentices also have to learn those aspects of their trade that are not readily described or easily quantifiable in formal qualifications. Examples include Somerville and Abrahamsson (2003) work with miners on 'pit sense' as a means to evaluate mine safety features and Lee and Roth's (2005) study of salmon hatchery workers identifying the various skills involved to extract information on fish well-being while fish feeding. Many of the senses bakers use to evaluate fine and nuanced distinctions

relating to the quality and type of ingredients, dough characteristics, finished products quality, bakery machinery operation and the baking environment (i.e. temperature, humidity) 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 distinctive and specialised information and skills associated with becoming bakers. In short, their learning at work transforms into the combination of capacities and identity, associated with practising the occupation of a baker.

In becoming bakers, apprentices are possibly afforded guidance, modelling, scaffolding, encouragement and affirmation from more experienced others. Through these others, apprentices learn not only the requisite skills and knowledge, both overt and tacit, of how to bake but also adopt 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. In addition, learning inter-subjective understanding may also include aspects of ‘embodied cognition’ (Marchand 2010) whereby craft knowledge is learnt through observation and interaction with others, often through limited verbal but extensive non-verbal forms of communication between expert and novice. The apprenticeship process thus needs to be studied and evaluated in terms of how apprentices secure a range of capacities which in turn define occupational identity.

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) providing clearer direction and explanations. As an outcome of their work, Felstead et al. 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” (2007, p. 3). This relatively recent consideration of learning as becoming and the fact that much research on vocational identity focuses on the perspectives of older, experienced adults, places importance in undertaking a study that explores learning through 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 young students’ vocational aspiration is by Davis and Tedder (2003). Their conclusion, that 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 to be undertaken on how people ‘become’ in terms of vocational identity.

The Consideration of Work as Being More Than Just a Job

The apprentices participating in this study underwent a series of job role and occupational identity progressions as indenture proceeded. Of interest is the aspect

of how these apprentices viewed their work and the work evolved from being something they had to do to becoming a fulfilling aspect of their lives. 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 rewarding and socially useful occupation. Literature on viewing work as a form of vocation has been primarily focused primarily on religious occupations (Reber 1988) and professions related to medicine (White 2002) and teaching (Hansen 1994). The study reported in this article, explores the development and influence of passion on occupational identity in other forms of work.

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 across the duration of indenture. Individuals' identity trajectories are 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 and identity way-markers (i.e. novice, nascent baker, competent baker, shift supervisor) apprentices experience as they transition, through attaining and applying craft skill and knowledge, from newcomer through apprentice to experienced practitioner.

Approaches to Occupational Identity Formation

Concepts of occupational identity formation are integral to the study reported here. This is because reference to identity formation helps explain how young people, belong to a bakery, and then become bakers. As Fenwick (2002, p. 19) observes, "... identity issues are central in any adult learning theory". She also 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" (p7). Hence, individuals' prior and current experiences are central to negotiated processes of identity formation.

Vondracek (1992) explores the more specific issue of vocational identity. He contends that wider socio-cultural issues of identity formation need to be accounted for because these issues may influence the process of apprentices' occupational identity formation. Penuel and Wertsch (1995, p. 91), for example, argue that explanations directed at identify 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 and Wertsch 1995).

Historically, apprenticeships have provided young people, young men, in particular, with opportunity to be socialised into work (Goodwin and O’Connor 2005; Vickerstaff 2003, 2007). Various explanations of how this socialisation occurs have been offered with Wenger’s (1998) concept of communities of practice as one. Wenger (1998) posits that four interconnecting sectors constitute a community of practice. These are 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 Wenger’s framework as a means of understanding apprenticeship processes. Lave and Wenger (1998) 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; Schon 1983). These reflective experiences cause individuals to continually assess their identities and instigate changes in their workplace or themselves, thereby accommodating or improving workplace practices. Therefore, it is what individuals do as an outcome of their learning experiences as manifested in approaches to work tasks, which are useful outward signifiers of occupational identity transitions.

Research Methodology

A longitudinal case study meta-methodology was used to trace the apprenticeship journey of 13 bakers. Data collected included individual semi-structured interviews taken across a period of 3 years covering the first to fourth year of indenture. In the first series of interviews, the entry trajectory into bakery work was discussed with apprentices. In the second round of interviews, apprentices’ perspectives of skill acquisition and the learning of baking was collated. The final interviews focused on the future plans of apprentices, beyond apprenticeship.

Additionally, demographic and ontological data was gathered using structured questionnaires administered to apprentices and their workplace managers. Participatory observations were also carried out just before or after each interview session. Observations took place in bakeries during apprentices’ work hours. These observations studied apprentices’ assigned work tasks; products manufactured and types of machinery or equipment utilised; and apprentices’ interactions with bakers and other workers in the bakery through various verbal, non-verbal systems and written texts or symbols.

These data were then collated into narratives to provide for horizontal comparative data analysis of apprentices’ experiences and socio-cultural framework within which indenture progressed. Interview and observational data were thematically analysed,

using a case study theory building methodology called process tracing (George and Bennett 2005). Process tracing was undertaken to derive theory from the case study. Recursive evaluation of various data sources identified commonalities and independent data fragments. Further examination, appraisal and verification derived major and secondary themes to describe the trajectory of apprentices from novice to competent baker. Thus, through process tracing, the process of apprenticeship as belonging, becoming and being were recognised and conceptualised.

Apprentices' Profiles

The 13 apprentices participating in the study, ranged in age from 16 to 32. At the time of the occasion of the first interview, 12 of the apprentices were under 24 and of these, nine were under 20. 10 of the apprentices had left school with minimal or no school qualifications. Their post-school career choice was hampered by poor school performance and for some their location in small rural towns, hence nine of the apprentices began work (mostly part-time) in bakeries as cleaners, dish washers, retail assistants or catering assistants. Entry into bakery work was thus premised on a need to find work instead of an interest in bakery work.

Apprentices worked in a range of bakery types located in both the North and South Islands of NZ. In general, the majority of the bakeries were small to medium-sized businesses employing less than 20 workers. The bakeries ranged from in-store (bakery situated within a supermarket), wholesale (no retail sales), artisanal (specialised high value products), traditional (retail sale only) and cafe (retail sales with dining facilities) located in large cities and small country towns/villages. Therefore, these apprentices' workplaces represent a selection of common bakery-types in NZ.

Fenwick and Somerville (2006) position work communities as places in which workplace practices, knowledge and identity contribute to the recognition, competence and participation of workers. Bakeries, as workplaces, can be characterised as 'communities of practice' (Wenger 1998) with the practices within each bakery type, structured and influenced by the types of bakery products manufactured, (bread, cake, pastry), the marketing method (wholesale, retail or retail with dining) and methods used for bakery production ('scratch' baking¹ or reliance on pre-mix or frozen dough). In addition, approaches to bakery work, as practised within individual practice communities (Gherardi 2010), affect the types of learning availed to apprentices (Billett 2002). Therefore, each apprentice case study provided rich data for the comparison of workplace learning opportunities.

Belonging, Becoming and Being

In this section, the findings illustrating apprenticeship as belonging to a workplace, becoming and then being a baker are presented. The development of the phases of apprenticeship is an outcome of the process tracing used to derive theory from case

¹ Scratch baking implies that the baking process begins with the preparation and weighing up of a range of bakery ingredients and proceeds using traditional methods.

study data (George and Bennett 2005). The phase of ‘belonging to a workplace’ was recognised as the common thread evident in apprentices’ first interviews of seeking to be part of the bakery workplace and through observations of their work tasks and interactions with other workers as novice bakers. The phase of ‘become a baker’ was derived from apprentices’ accounts of their progressive skill attainment, knowledge application and integration to work competently as bakers and observations of the workplaces’ recognition of apprentices’ improved skill through allocation of responsibility through undertaking independent work tasks. In the final phase of ‘being bakers’, apprentices voiced their plans for the future, based on their acceptance of their occupational identities as bakers. These apprentices were observed to be working as charge bakers or shift supervisors, overseeing the work of more junior workers and other bakers and acknowledged by others in the workplace as competent bakers. Apprentices’ transition between each phrase would occur through a series of gradual shifts in their work tasks allocations, their assigned workplace responsibilities as their work skills increased. Thus, the apprentices are positioned along a continuum, beginning as novices endeavouring to ‘belong to a workplace’, then becoming bakers through most of the length of indenture and finally recognised as bakers by other workers and eventually by themselves.

Belonging to a Workplace

12 of the 13 apprentices in the study, entered into a baking apprenticeship without clear understandings of their career pathway. As such, they were ‘hopeful reactors’ (Vaughan et al. 2006), semi-reluctant entrants to a bakery position. As ‘hopeful reactors’ these apprentices entered into the bakery occupation through chance and need for paid work. For 10 of these apprentices, entry-level bakery work (as cleaners, retail worker or catering assistant) for periods of up to 2 years, paved the way into offers of an indenture into a bakery apprenticeship. The experiences of two apprentices provide examples:

When I was cleaning after hours (after most bakery work has 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. (Natana)
I worked in the bakery, just cleaning out there. I liked the early hours, getting the afternoon off to do what I want. (Maaka)

The term ‘proximal participation’ is devised to explain how engagement in an associated job, leads to on-going connection with a workplace and progression into a craft or trade occupation. Therefore, for ‘semi-reluctant’ entrants to the bakery occupation, formation of a sense of ‘belongingness’ (Levett-Jones et al. 2009) perhaps through the inauguration of aspects of ‘mateship’ (Page 2002) occurred through initial workplace experiences. Through the process of belonging to a bakery, these apprentices discovered affinity with bakery work and in particular, established interpersonal relationships with other bakery workers. In tandem, bakery employers could evaluate the potentialities of a prospective apprentice, before actual commitment to formalised indenture contract. Consequently, belonging to a workplace can be envisaged as being based on dual assents between pending employee and employer selection.

Becoming a Baker

Once settled and ‘belonging to the workplace’, apprentices progressed with the important intentions of apprenticeship, that is, to attain the skills, knowledge and dispositions that are overt occupational identity markers of a baker. The findings from this study, confirm the effectiveness of workplace learning in providing these apprentices with learning opportunities to engage with bakery work and contribute as productive employees. Apprentices learnt not only the skills but also consolidated knowledge and absorbed the inter-subjective understanding (Hutchins and Klausen 1998) of specialised epistemologies/knowledge structures and practices generated through workplace contexts.

The statements in Table one, provide samples of apprentices describing what they learn about baking in the first interview, with a following statement from the same apprentice in the third interview.

In the vignettes provided in Table 1, both Hemi and Matui progress from novice workers, to contributing members of their work teams. Of note is the increased ability of Matui to consolidate and apply pastry making concepts towards improving pastry production. An increased confidence in individual abilities and identification with the roles of being a baker are also evident from the transcripts. Matui works in a bakery with a culture of ‘continued quality improvement’ whereby the bakery owner constantly develops his workers towards conscientious and diligent monitoring and adjustment of the everyday bakery production cycle. The manufacturing of bakery products, premised on the inherent variability in performance of wheat flour, requires ceaseless vigilance and adjustment of bakery product processes to ensure uniform product quality. In Hohepa’s bakery, continual monitoring of bakery production is practised in parallel within a workplace culture of sustained bakery specific technical development. The bakery works assiduously to maintain a reputation for retailing high quality but price competitive products. Quality assurance requirements also require the workplace learning curriculum to be targeted at ensuring apprentices are coached to attain capabilities congruent with workplace standards. Apprentices are

Table 1 Comparison of apprentices’ work tasks and perceived competency between their first and third interviews

Apprentice	1st year interview	3rd year interview
Hemi	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.	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.
Matui	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.	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.

allowed to move on into progressively more complex work tasks only when they are deemed to be ready by other bakery workers. Small businesses are unable to sustain high levels of wastage brought about by poor work practices. Therefore, a form of market-based quality control occurs to ensure that apprentices are afforded sufficient training to reach workplace operational requirements.

Being a Baker

Of note to this study, is the transformation of apprentices who entered into the bakery trade by happenstance, becoming bakers who approached their work with diligence, attentiveness and enthusiasm. For nine of the 13 apprentices, the baking job was more than a job, but a worthwhile career (Wrzesniewski et al. 1997) and for six, indications of the development of work as being a form of vocation (Hansen 1994). The following statements provide examples of increased engagement in bakery work and the movement of these three apprentices towards perceiving being a baker as interesting and worthwhile work.

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's still keeps me going. (Rangi 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. (Riana in Year 3)

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. (Matui in Year 3)

The above examples provide support for the role of apprenticeships in acculturating apprentices to specialised approaches to work as epitomised in their workplaces. Workplace models in the form of managers/bakery owners, supervisors, senior apprentices and bakery workers, provide daily exemplars for apprentices to aspire towards. Therefore, the occupational requirements for bakery work, founded on specific requirements to work with bakery products, inculcates in many of the apprentices, a specific approach to work summarised in the term 'duty of care'. Beyond the learning of skills and application of knowledge, these apprentices acquire a characteristic dispositional approach to work required to practise 'high-level' bakery work. That is, to complete work tasks with high degrees of personal responsibility requiring the constant reflective monitoring of work tasks and to develop and apply baking techniques towards the production of consistently high quality products.

Formulating a Model of Apprenticeship

The model, as proposed, aims to depict the apprenticeship journey as encompassing skill acquisition and occupational identity formation based on influences of apprentices' agency and workplace contributions. The themes of belonging to a workplace,

becoming, and being, are useful for establishing a metaphoric structure for explaining the apprenticeship journey. These themes define or characterise the identity formation progression phases or stages of apprenticeships. As each occupational identity way-marker (i.e. novice to baker to bakery supervisor) is accomplished, qualitative assessment of apprentices' growing capabilities is recognised through the allocation of more complex work tasks and increased personal responsibility for work task completion. Therefore, apprentices' progression through each stage of apprenticeship provides a means by which increasing capability as a baker may also be recognised and quantified.

The Process of Belonging

Thirteen apprentices embarked into baking through a series of unplanned decisions. Firstly, 10 of the apprentices were initially employed as cleaner, dishwasher, retail or catering assistant (i.e. as ancillary staff). Opportunities for proximal participation as ancillary staff provided an extended period of induction, perhaps required in some trade-based occupations because the work and industry are unfamiliar to the inductee. During proximal participation, the individual could view the work of bakers and assess their affinity for bakery work. 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 and 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). 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 agreement and personal agency. Concurrently, workplace type and environment both play roles in aiding or hindering entry trajectory into the practice community.

The Process of Becoming

The 13 apprentices became 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 2002; Rogoff 1995). By the second year of indenture, these apprentices' increased work skills are recognised through increased autonomy, ability to multitask (Lee and 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 intersubjective understanding (Hutchins and Klausen 1998) possible through embodied cognition (Marchand 2010) that are of importance in bakery workplace interactions; develop knowledge microgenetically through engaging with affordances for participation in on-going 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 and Trorey 2008). The learning of tacit aspects 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 and Trorey 2008; Gamble 2001; Marchand 2010; Sennett 2008). In essence, apprentices are provided with regularly occurring prospects 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 occasions to observe and learn from other workers as problem-solving techniques are modelled, as and when variances in products are encountered. All 13 apprentices required external acknowledgement of their occupational status. Even though many were practising as bakers by the occasion of the third 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, the study reported in this article affirms the premise proposed by Vygotsky (1998) of the need for individuals to be able to persuade others (and then themselves) about who they are and what they value (Penuel and Wertsch 1995). This conferment provides opportunities for introspection and gradual acceptance of bakers' identity. Additionally, this process of dual validation, by workmates and then by the apprentices themselves, provides for a possible methodology for a more formalised recognition of occupational identity attainment, allowing for the tracking of an apprentice as he/she crosses the boundary from novice/learner, to become a baker with the ability to guide junior apprentices.

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 and Chandler 2005). Acceptance of occupational identity entails personal agency and assent from apprentices but is also influenced by the types of bakery in which these apprentices serve their indenture. Apprentices, trained in craft or artisanal bakeries, 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 Process of Being

As these apprentices become and be bakers, some have begun to perceive baking as more than a job or career—perhaps as a form of vocation (Hansen 1994; Wrzesniewski et al. 1997). Being a baker is characterised by apprentices' improved ability to analyse strengths and limitations of their occupational practice. Progressively, 'being' is further supported with comprehension by apprentices of learning baking as an on-going 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. Additionally, 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 indeterminate entry trajectory of these apprentices is recognised.

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'. Becoming a baker continues with the realisation that being a baker requires continual learning.

Towards a Better Understanding of the Role of Apprenticeship in Occupational Identity Formation

Across the 4 to 5 years of apprenticeship/indenture, novices to baking are transformed by engagement in bakery work, into independent and effective craft bakers. The shifts through occupational identity way-markers and designated occupational roles as these 13 apprentices progressed through apprenticeship, indicates recognition by others and of themselves, of these apprentices' progressive skill and knowledge acquisition, dispositional transformation and adoption of strong occupational identities as bakers. The study observed and recorded these apprentices firstly as dependent novice/learners, working with skilled workers; to becoming inter-dependent bakery workers, able to carry out tasks with some guidance; and eventually practising as independent bakers, able to supervise other workers and teach junior staff.

The apprenticeship journey as a form of induction into a trade-based industry and a process for workplace-based training and education has been recognised for many decades. In this article, the attainment of a strong sense of occupational identification through processes of learning as becoming, is elucidated to provide a more holistic approach towards explaining how young people attain not only the skills, knowledge and dispositions of an occupation but also the many non-quantifiable and difficult-to-describe aspects of a craft-based trade. In choosing to acquire through engagement with the apprenticeship process and eventual adoption of bakers' occupational identity, the apprentices in this study attained self-worth and standing as recognised not only by the baking industry but by society at large. Therefore, the role and contribution of apprenticeship includes not only preparing, acculturating, providing affordances for learning and conferring new entrants with trade/craft skills but also

provides preparation and development for life beyond work. A method for tracking the identity way-markers of occupational identity transitions may therefore be useful for certifying trade/craft workers, leading to authentic recognition of specific capabilities and an improvement in qualification completion rates through apprenticeship.

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