**UNIVERSITY OF SOUTHERN QUEENSLAND**

# *SELF-DIRECTED LEARNING AND APPRENTICES:*

# *A CONSTRUCTIVIST GROUNDED STUDY*

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For the award of

Doctor of Education

2015

# Abstract

Developing the capacity of learners to be self-directed is beneficial for both individual workers and economies alike. This study investigates the development of capability for self-directed learning in a group of apprentices in the building and construction industry and suggests that such capability is best developed in the early years of entry into the workforce. For tradespersons this time is during their apprenticeship.

The purpose of this study was to develop a deep understanding of how apprentices develop the capacity to be self-directed learners. The aim was to develop a substantive theory that illuminated and provided insight into this phenomenon.

The methodology of constructivist grounded theory was used to conduct the study. A sample size of 13 participants in the building and construction industry was recruited. This included apprentices who were employed by a group training organisation (GTO) and a representation of their host employers and vocational teachers located within the southern New South Wales and the Australian Capital Territory geographic regions.

The substantive theory presented in this dissertation makes a contribution to knowledge of value to apprentices, employers, vocational teachers and others who seek to develop an understanding of the process of learning and development associated with apprenticeships and vocational and professional education more broadly.

The substantive theory was achieved through discovering, describing, analysing abstracting and explaining how apprentices moved through the phases (or categories) of *committing effort*, *experiencing work*, *confirming value*, and *heightening motivation* towards becoming self-directed learners. The substantive theory reveals that as the apprentices progressed through these phases they were constantly engaged in decision-making processes, evaluating and re-evaluating experiences throughout their apprenticeship. The evaluation outcomes could be positive or negative and were dependent upon the expectancies that the apprentices placed on themselves as well as their interpretation of the expectancies placed on them by others.

In this study the manner in which the various conceptual elements, processes and categories connect revolves around the apprentices' experiences of *sponsorship. Sponsorship* is the term used to describe the more experienced or confident other who has both a personal and professional interest in the apprentice's development and uses their influence to create a safe learning environment to enable the apprentice to develop expertise.

The importance of the management of the learning environment proved critical, as suitable learning contexts do not appear by accident. In this study it emerged that the

sponsor was the most important factor determining the quality of the learning environment. Effective sponsors were able to manage the learning context in a manner where the apprentice felt safe to ask questions, make mistakes, develop expertise and eventually accept responsibility, be autonomous and solve complex problems. Indeed, the apprentices became tradespeople who were not only competent but were true self-directed learners.

By managing this learning context, the sponsor created an environment that enabled the intrinsic motivation of the apprentice to drive their own growth and development towards becoming self-directed learners. When the sponsor creates a workplace where learning thrives, the apprentice begins to develop both competence and confidence. Increasingly, the apprentice begins to consolidate a durable sense of vocational identity. More and more others (both within and outside the immediate workplace) begin to recognise the apprentice as a legitimate member of the trade. Over time, with the development of expertise—as the apprentice begins to accept more and more responsibility for their own learning, and with encouragement and opportunity from the sponsor—they begin to reflect on their own learning. Increasingly and steadily they become self-directed learners.

# Certification of Dissertation

I certify that the idea, result, analysis and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award expect where otherwise acknowledged.

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**Endorsement**

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| Signature of Supervisor | Date |
| Dr. Mark Dawson | |

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| Signature of Supervisor | Date |
| Dr. Janice Jones | |

# Acknowledgements

There are many people that I need to thank.

Dr. Mark Dawson and Dr. Janice Jones as my supervisors from the University of Southern Queensland (USQ). Thank you for your professional and personal support throughout this study and for guiding me through my apprenticeship as a researcher, including the peculiarities of academia. This thanks is also extended to the research support office, library and members of the ethics committee at USQ. I would also like to acknowledge the editing services provided by Ms. Katie Poidomani from *Edge Editing*.

A big thank you to the apprentices, host employers, vocational teachers and the supporting organisations that willingly gave up their time to participate within this research and their combined interest in increasing the quality of apprenticeships and their industry stewardship.

I would also like to thank all of my friends, family and colleagues for their ongoing support, robust discussions and humour. This helped to keep me motivated and on task. At the risk of leaving someone out, I do not want to name anyone specifically. You know who you are!

Lastly, a deep and sincere thank you to my wife and best friend, Beck. I wouldn't have even got close to this point without your love, support and, as it seems, unlimited patience.

This thesis is dedicated to Riley Neilsen, in anticipation of the joy and success that life will bring.

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# Chapter 1 Introduction to the study

## 1.1 Introduction

The purpose of this chapter is to provide an introduction to this research. After broadly describing the study context, methodology and the generation of theory, an explanation is provided as to why I chose the methodology of constructivist grounded theory. The chapter continues by detailing the research purpose, research questions and comments on the significance of the study. The chapter concludes by considering my reflexivity, and finally, the structure of the thesis is outlined.

There is growing evidence that in emerging contemporary workplaces the capacity for self-directed learning is essential for sustainable employability of workers and continued economic stability of Australian industry (Tomlinson, 2013). This dissertation begins by establishing that workers in contemporary workplaces need to be proficient at self-directed learning and that such capacity is best developed in the early years of entry into the workforce. For apprentices, this is during the apprenticeship phase.

## 1.2 Study context

The study was situated geographically within southern New South Wales (NSW) and the Australian Capital Territory (ACT). All thirteen participants involved in this study were tradespersons or apprentices. The apprentices were completing or had completed their third year of their apprenticeship in the building and construction industry. The apprentices, totalling seven, were employed by a Group Training Organisation (GTO). GTOs are generally not-for-profit organisations that act as an intermediary employment agency to directly engage apprentices. During the semester the apprentices attended a regional Registered Training Organisation (RTO) for one day each week. It was in this setting where the off-the-job component of their apprenticeships was completed. The on-the-job component was facilitated by the in conjunction with one or more host employers. The remaining participants were comprised of three of the apprentices' host supervisors and three vocational teachers.

This study developed a substantive theory, which aims to provide insight into how apprentices develop capability for self-directed learning. The substantive theory suggests that the apprentices in this study develop the capacity to be self-directed learners through a psychosocial process, comprised of the following four phases: *committing effort*, *experiencing work*, *confirming value* and *heightening motivation*. These phases were derived from the concurrent data collection and analysis through discovering, describing, analysing, abstracting and explaining how the apprentices developed as self-directed learners.

This research revealed that the development of the capacity for self-directed learning was largely due to the nature of the relationships between the apprentice, the host employer and others in the workplace. In particular, the nature of the relationship with the host-employer was found to be central to the development of self-directed learning. In this study I have used the term 'sponsorship' to describe this relationship, which is discussed in detail in Chapter 5.

It is anticipated that the deepened understanding of the development of capacity for self-directed learning to emerge from this study will be useful to those vocational teachers and trainers, supervisors, employers and apprentices who seek to enhance the development of this important component of apprenticeship capacity.

## 1.3 Methodology and generation of theory

The methodology for this project was framed by the interpretive approach of constructivist grounded theory. As a methodology, constructivist grounded theory considers the conceptual analysis of patterns and relationships (Charmaz, 2006). The study was guided by what Charmaz (2006) refers to as sensitising concepts, which facilitate a starting point for the research from a theoretical perspective. Specifically, the sensitising concept of self-directed learning was utilised.

The sensitising concept of self-directed learning as a theoretical or epistemological perspective guided my initial data collection processes, and informed my interviewing of apprentices' host employers and vocational teachers who were active participants in terms of the established apprentice training.

### 1.3.1 Why adopt a constructivist grounded approach?

I adopted constructivist grounded theory for this research because I wanted to develop a deep understanding of the learning as experienced by apprentices. Grounded theory is a methodology that was developed in the late 1960s and has been accredited to Glaser and Strauss (1967). The objective of grounded theory, through an interpretive theoretical lens, is to enable the description of society and the identification of core concepts required for change (Cohen, Manion, & Morrison, 2007). Grounded theory allows the development of theory and the illumination of what has occurred and what is occurring (Morse, 2009). It "forms frameworks that explain why organisations, communities or nations experience and respond to events, challenges and problematic situations" (Corbin & Holt, 2011, p. 113). Given that the research aimed to highlight and explain the learning experiences of apprentices, the methodology of constructivist grounded theory was highly suitable. It was especially suitable as I wanted to develop a substantive theory as a "passionate participant"; a facilitator of multi-voice reconstruction where multiple realities may exist (Lincoln, Lynham, & Guba, 2013).

Classic or orthodox grounded theory was developed by Glaser and Strauss (1967) and it is a research methodology that can be applied within both qualitative and quantitative paradigms of inquiry where the aim is to develop a theory as opposed to testing an existing theory. The classic approach to grounded theory considers the researcher to be removed from the research process as a passive observer and not a participant in the phenomenon being studied. Additional characteristics of classic grounded theory include that no pre-research literature review is conducted, interviews are not recorded or transcribed, and the steps in data analysis (coding) are prescriptive.

Since the inception of classic grounded theory by Strauss and Glaser there has been an emergence of other approaches that have included the development of *dimensional (comparative) analysis*, *situational analysis,* and *constructivist grounded theory. Dimensional (comparative) analysis* purports being subtlety different to classic grounded theory in terms of data analysis that focuses on making comparisons between data (Bowers & Schatzman, 2009). *Situational analysis* embraces the post-structuralist viewpoint in contrast to rigid or structuralist interpretations of theory and the nature of knowledge (Morse, 2009). *Constructivist grounded* theory considers that knowledge is relative, socially constructed, considers multiple standpoints with a reflective stance. Constructivist grounded theory requires the researcher to consider multiple standpoints from a reflective position (Charmaz, 1990, 2009). It differs from the classic approach to grounded theory as it takes into account the perspectives, interactions and priorities of the researcher (Bryant & Charmaz, 2007a), "Grounded theorists working within the constructivist tradition move away from the language of social process to a conceptual analysis of patterned relationships" (Charmaz, 2006, p. 181).

My experience as a learner and educator has led me to believe, consistent with the findings of Vygotsky (1978), that learning is socially constructed. Constructivists study how, and sometimes why, participants construct meanings and actions in specific situations (Charmaz, 2006). This position underpinned my deliberations and informed my choice of constructivist grounded theory as the preferred research methodology for this doctoral thesis. Charmaz (2009) considered classic grounded theory (Glaser & Strauss, 1967) an umbrella which has given rise to contemporary approaches to grounded theory. Constructivist grounded theory appeals to me because it accounts for individual consciousness, which extends to social locations, cultural traditions, relationships and situational contingencies.

Corbin and Holt (2011) suggest that "the powerful thing about grounded theory is it is directly rooted in the problems and issues faced by a discipline" (p. 113). Constructivist grounded theory guides my underlying belief that knowledge and truth are interconnected and reality is socially constructed. This approach to educational research inhabits the middle ground between the methodologies of classic grounded theory and critical theory. In critical theory the researcher's voice or posture is one of an advocate and activist and is driven by the study of social structures, freedom, oppression and control (Lincoln, Lynham, & Guba, 2013). Classic grounded theory excludes the posture of the researcher (Glaser & Strauss, 1967), whereas constructivist approaches to

grounded theory acknowledges the researcher being a passionate participant where findings are co-created between the participants and the researcher (Lincoln et al., 2013).

It was important that my position and practice as researcher emerged from a moderate position. This ensured that the research was not perceived as threatening. The gatekeepers were those within this research who controlled access to the participants and included the apprentices' employer (GTO), host employers and the executive of the local vocational institute.

## 1.4 Research purpose

The purpose of this research was two-fold:

- To develop a deep understanding of the manner in which apprentices in contemporary Australian work environments develop the capacity for self-directed learning, and
- To develop a substantive theory to explain this psychosocial process. Where this psychosocial process is made up of a number of processes "wherein the psychological outlook of a person is affected by the response from society" (Stern & Kerry, 2009, p. 66).

### 1.4.1 Research questions

This thesis seeks to answer the following three questions:

- How does self-directed learning develop in apprentices?
- What are the relationships between contemporary vocational pedagogy, self-directed learning and the emerging professional practices of apprentices in Australia?
- What substantive theory can be used to demonstrate the process through which apprentices develop the capability for self-directed learning?

## 1.5 The significance of the study

The purpose and outcome of this study was the development of a substantive theory that deepens the understanding of the process through which apprentices develop self-directed learning. It is anticipated that this enhanced understanding may be useful to those who wish to advance the development of self-directed learning in apprentices in other contexts. The development of a substantive theory about self-directed learning contributes to the existing knowledge base of self-directed learning, workplace learning, and professional and vocational pedagogy. Ultimately, it is hoped that the development of this theory will contribute to the discourse around contemporary education and training within the emerging Australian tertiary sector. The resulting substantive theory

can be compared to existing theories and the theory development approach of constructivist grounded theory may provide insights that are not obvious to theory testing researchers. Additionally, the importance of this research is reinforced by the knowledge that the capacity for self-directed learning is an essential characteristic of future workers in the Australian economy.

### 1.5.1 The scope of the study

The purpose of this research was to develop a deep understanding of the manner in which apprentices develop the capacity for self-directed learning. Capacity is defined through out this thesis as the "power or ability (either natural or acquired) of a thing or person, as such one of its real (because casually effective) properties" (Honderich, 1998, p.119).

GTOs are a uniquely Australian model and represent the largest employer network of apprentices and trainees. GTOs act as an intermediary to directly engage apprentices, are generally not-for-profit organisations, and play a key role in skills development in small and medium enterprises (SMEs) (Group Training Australia, 2012). SMEs are defined as firms with less than 200 full-time equivalent employees (Australian Bureau of Statistics, 2012).

The typical employers within this study was engaged in building, extending and renovating residential homes to a maximum of two stories and the fit-out of open plan commercial premises. The enterprises varied in size with the smallest having three full time employees, while the largest has 12 fulltime employees. All of the enterprises in this study used GTOs as an intermediary to develop apprentices.

In Australia the network of 150 GTOs focuses on apprenticeships in trade occupations and has nearly 16% market share (Group Training Australia, 2012). Trade occupations in the Australian and New Zealand Standard Classification of Occupations (Australia and New Zealand Classifications of Occupations, 2006) are classified under the major group: technicians and trade workers, which is composed of traditional trades such as electricians, plumbers, fitter and turners, carpenters and mechanics.

Consistent with the development of a constructivist grounded theory, the scope of the study is limited, as it does not seek generalisability. Generalisability, refers to the application of the research results to situations beyond those examined in this study (Cohen et al., 2007). Grounded theory adopts an alternative method to generalising outcomes against the population than that which occurs within quantitative research. Instead, researchers describe their samples in much more detail to allow the reader to decide whether or not to generalise conclusions to similar substantive instances offered by other scholars. Decisions made by readers are therefore theoretical rather than statistical. Grounded theorists are less interested in the generalisation of specific findings and more on the generalisability of the developed substantive theory that can be applied,

at the judgment of the reader, across a diversity of practice settings (Cohen et al., 2007; Hood, 2007).

## 1.6 Reflexivity and situating myself

> Reflexivity is the process of reflecting critically on the self as a researcher…it is a conscious experience of the self as both inquirer and respondent, as teacher and learner, as the one coming to know the self within the process of research itself (Guba & Lincoln, 2005, p. 210).

My drive in undertaking this Doctor of Education (EdD) research project was to develop a deep understanding of the manner in which apprentices in contemporary Australian work environments develop the capacity for self-directed learning, and to share this with those who are interested in the quality provision of apprenticeships in the Vocational Education and Training (VET) sector within Australia.

As the researcher, I came into this research project as someone who has completed an apprenticeship as a fitter and turner within the military. For the next 10 years I worked within both military and law enforcement environments in the areas of general engineering, firearms and munitions. Although I have always been involved with the development of others, it was not until I moved to a local vocational institute to teach fitting and machining that I was employed and identified professionally as a teacher. After a few years I returned to the law enforcement environment and worked in educational leadership positions until the opportunity presented to commence this research. My career achievements and predisposition for high-level leadership positions was recognised in 2011 by being acknowledged as a Fulbright Scholar for Vocational Education and Training. Through my social interactions within the practice environment as a practitioner researcher in the research process, I see myself as an active contributor to the process through which data and theory development is constructed, as opposed to discovered (Drake & Heath, 2011).

I adopted constructivist grounded theory for this research because I wanted to develop a deep understanding of the learning as experienced by apprentices. This work is important to me, as I also wanted to understand my journey as a learner who was at first disengaged with secondary school, then completed an apprenticeship before becoming a vocational teacher. As those experiences supported my becoming an educational leader and doctoral student, I wanted to understand my own process of becoming.

While I acknowledge the importance of critical reflexivity to my involvement, decisions, interpretation and accountability as a researcher (Bryant & Charmaz, 2007b), this study was also about my interest in understanding the learning journeys of other individuals. Ethically, by positioning myself as investigator of others' experiences, this required that I strive to comprehend my own learning journey. In doing so, I came to the understanding that my learning journey has been intertwined and inseparable from my

life journey. This learning and life journey has been vocationally orientated and I identified as a lifelong self-directed learner. However it was not until I commenced graduate study in tertiary education that I began to fully understand the influences, both positive and negative, that had shaped the professional and personal aspects of my life. While this understanding has not allowed me to fully control the influences, being able to recognise and appreciate these influences and the assumptions of others, has enabled some consolation and, in time, allowed me to feel a sense of greater agency and control.

Brookfield's (1995) work on becoming critically reflective, specifically his seminal book *Becoming a Critically Reflective Teacher* later contributed to the development of my reflective approach.

Brookfield's (1995) comment resonated with me:

> Sooner or later; however, something happens that forces teachers to confront the possibility that they may be working with assumptions that don't really fit their situations. Recognising the discrepancy between what is and what should be is often the beginning of the critical journey (p. 29).

Brookfield encouraged readers to view their teaching through the lenses of their autobiographies as learners and teachers, as seen through their students' eyes, and their colleagues' experiences, and as it was re-interpreted in the light of the theoretical literature.

## 1.7 The structure of the thesis

This thesis is structured differently from both an orthodox grounded study (Glaser & Strauss, 1967) and a more traditional thesis (Drake & Heath, 2011; Dunleavy, 2003). In a classic grounded theory study it is normal that the literature occurs after the findings of the research are presented and in a grounded theory study the substantive theory revolves around the *core category* (Glaser & Strauss, 1967). The core category within orthodox grounded theory is central to the substantive theory, which relates to the categories. This aspect is also consistent with constructivist grounded theory, however the point of departure is that constructivist grounded theory is not limited to the identification of a single core category being central to the substantive theory, and may incorporate a number of *sensitising concepts*. Sensitising concepts are unique to constructivist grounded theory: they allow the researcher to begin his or her study from a particular research interest. Importantly, sensitising concepts lead the researcher to ask particular types of questions about the topic (Charmaz, 2006). In this study I have employed the sensitising concept of *self-directed learning.*

Chapter 1 of this thesis deals with the aims, purpose and significance of the study, introduction into the study problem, the research purpose, research questions, and

provides a background to GTOs and participants. Chapter 1 also includes a brief discussion of reflexivity and an overview of the thesis structure.

Chapter 2 provides an initial literature review of the sensitising concept of self-directed learning. Self-directed learning is reviewed in terms of scholarly origins and adult education; knowledge development, organisational learning and apprenticeships. The chapter concludes with a succinct definition of self-directed learning.

Chapter 3 considers the research design and strategy. This chapter details the selection of a research design, including philosophical and theoretical debates; background on constructivist grounded theory; ethical considerations; and data collection and analysis.

Chapter 4 presents the categories and subcategories that underpin the substantive theory of how apprentices in this study developed the capacity to be self-directed learners. These categories provide insight into the apprentices; *realising value*, *experiencing work*, *confirming value* and *heightened motivation* into the process of developing the capacity for self-directed learning. This chapter also identifies the inherent and ongoing evaluation and decision-making process of the apprentices throughout their apprenticeship.

After identifying the inherent decision-making process, categories and subcategories, Chapter 5 revisits and discusses the supplementary literature that was identified during data analysis. The purpose of revisiting this supplementary literature is to compare and contrast my findings to the scholarly contributions of others. This has been achieved through engaging with both the seminal and more current literature in relation to underpinning the theoretical foundations of *decision-making*, *motivation* and the *learning context*.

Chapter 6 focuses on what has been found as a result of this study and how these findings are relevant to the central research aims and the dominant themes. The study's limitations are acknowledged and the implications of the study are presented, along with a brief discussion, which identifies possible opportunities for further research.

## 1.8 Summary

This chapter has provided an introduction to the study and explained my choice of constructivist grounded theory. It has discussed the research purpose, identified the research questions and scope, considered my reflexivity and how I am situated within this study as an active participant. The following chapter presents an initial literature review of the sensitising concept of self-directed learning.

# Chapter 2 Sensitising concepts: The initial literature review

> Grounded theorists often begin their studies with certain research interests and a set of general concepts. These concepts give you ideas to pursue and sensitize you to ask particular kinds of questions about your topic (Charmaz, 2006, p. 16).

## 2.1 Introduction

The previous chapter provided an introduction to the research. This chapter presents an initial review of the literature surrounding the sensitising concept of self-directed learning.

This chapter begins with a discussion of transformative learning and critical reflection and their relationship with self-directed learning. The dimensions of self-directed learning are then discussed in-depth in terms of foundations, self-regulation, adult education, relationships, knowledge development and organisational learning. The chapter concludes with the consideration of self-direction in apprentices in the context of the contemporary Vocational Education and Training (VET) sector within Australia and ultimately defines self-directed learning as applied within this research.

This initial literature review commences with reference to the dominant discourse within adult learning, which Brookfield and Holst (2011) describe as the "holy trinity" (p. 23). The discussion that follows consists of *transformative learning*, *critical reflection* and the sensitising concept for this research study, which was *self-directed learning*.

## 2.2 Transformative learning

Beginning with an exploration of the relationships between the processes, Mezirow (1985) argued that critical reflection is the key to foster self-directed learning in learners. However, after considering the transformative nature of self-directed learning, Pilling-Cormick (1997) concluded that self-directed learning can lead to transformative learning experiences.

J. E. Taylor (2008, p. 26) identified the primary characteristics for fostering self-directed learning and transformative learning (see Table 2.1).

**Table 2.1: Primary characteristics for fostering self-directed learning and transformative learning**

| |
|---|
| Promote student autonomy/agency |
| Create safe and open environment for learners |
| Encourage critical reflection |
| Value learning for action |
| Facilitate learning that involves examination of issues, values and concerns |
| Valuate and include students' experience |
| Accentuate importance of feedback and assessment |
| Develop awareness of social contextual influences in learning |
| Encourage and support collaborative and group learning |

Transformative learning theory is based on constructivist assumptions (Cranton & Taylor, 2012). The constructivist assumptions of transformative learning theory, according to Mezirow (1991), is that "meaning exists within ourselves rather than external forms such as books and the personal meanings that we attribute to our experiences are required to be validated through human interaction and experience" (p. xiv).

Transformative learning is concerned with how adults makes sense of their life experiences within the world around them (Cranton, 2006; Stuckey, Taylor & Cranton, 2013).

For Mezirow (2009) transformative learning is:

> The process by which we transform problematic frames of reference (mindsets, habits of mind, meaning perspectives) – sets of assumptions and expectation – to make them more inclusive, discriminating, open, reflective and emotionally able to change (p. 92).

As Illeris (2014a) pointed out, this ability to transform is important as we live in a time of constant change and we must be able to constantly change to keep pace with our environments. Illeris suggested that contemporary thought about transformational learning should be focused on the individuals' ability to change their identity. Illeris

(2014a, p. 6) accentuates the emotional and social aspects of transformation where if "transformative learning is defined in relation to identity, it becomes possible to establish a direct connection to the current conditions and frames of society that create the growing need for the conditions of the transforming process".

Mezirow recognised that not all learning is transformative, as transformative learning is about changing our beliefs or attitudes or our entire perspective about a given situation. In this sense, learning that is not transformative adds knowledge to existing meaning without a change in perspective (Mezirow, 1998, 2000). Drawing from Habermas (1975), a change in our perspective is to change our life world (or world view). Habermas (1975), a later member of the Frankfurt School of critical theory, proposed that the everyday concept of life world comprises the self-evident forms of reasoning and conversation that we use to arrive at a common understanding of identity. Building from this tradition, Bauman (2013) contended that identity in a global context is socially constructed by multiple experiences and this "liquid modernity" (p. 15) represents a tome of constant change which can lead to the transformation in our identity. Illeris (2014b) cautioned that this inevitable change can lead to the transformation of identity; however, change may be self-inflicted or forced upon us which may not, or at least not immediately, lead to improved circumstances. An example of this may be moving on with life after the passing of a loved one; or your position of employment being un-expectantly categorised as redundant, forcing you to consider alternative employment opportunities.

Supporting his development of transformative learning theory and the notion that not all learning is transformative, Mezirow (2000) considers that there are three types of reflection that support learning, however only one of which can lead to transformative learning: 1) *content reflection*, is concerned about the actual experience itself; 2) *process reflection* is thinking about ways to deal with experience through employing problem-solving strategies; and 3) *premise reflection* or *critical reflection,* which is a precursor for transformative learning where long-held, socially constructed assumptions; beliefs, and values about the experience or problem are challenged.

## 2.3 Critical reflection

Schon (1983) referred to the need for professional practice to move from a historically dominant model of technical rationality to reflection in action, saying to the learner that:

> Through reflection he [or she] can surface and criticise the tacit understandings that have grown up and around the repetitive experiences of specialised practice and can make new sense of situations of uncertainty or uniqueness which he may allow himself to experience (p. 64).

Critical reflection is closely tied to transformative learning and self-directed learning and is complementary (Pilling-Cormick, 1997; J. E. Taylor, 2008). Merriam, Caffarella, and

Baumgartner (2007) proposed that self-directed learning is learning how to learn, to critically analyse contexts where learning takes place, and to continually reflect on your own learning. Additionally, they suggest that the practice of reflection and learner responsibility as related to self-directed learning supports the learner questioning the status quo and forming educated conclusions based on critical thought processes.

Brookfield (2012) advocated that this critical thought process, which shapes critical thinking, is about hunting for evidence, checking assumptions, seeing things from alternate viewpoints and taking informed action. Brookfield refers to the idea that we often make life decisions based on underlying assumptions: those that could be accepted without further consideration from others (historically, politically or socially) and without asking ourselves in whose interest? (Brookfield, 2012; Newman, 2006).

Brookfield contended that there are three types of assumptions that warrant critical reflection. These are: *paradigmatic assumptions* that structure the world into fundamental categories, *prescriptive assumptions* about what we think should happen in a specific situation, and *casual assumptions* about how the world works and how it may be changed (Brookfield, 2005, 2012). "We do critical thinking so we can take informed actions – actions that are grounded in evidence, can be explained to others, and stand a good chance of achieving the results we desire" (Brookfield, 2012, p. 24).

The next section builds on the discussion of transformative learning and critical reflection and considers self-directed learning in-depth, commencing with the origins of scholarly interest in self-directed learning.

## 2.4 Self-directed learning

Compared to research into aspects of learning that include memory, cognition and intelligence, the study of self-directed learning is a relatively new phenomenon (Merriam et al., 2007). The origins of study into self-directed learning are attributed to Houle (1972, 1988), and Tough (1967, 1979) who originally engaged with the notion of *self-teaching,* built on the work of Houle and Knowles (1973, 1975, 1980). Tough and Knowles, through their writing, have been inclined to stress self-directed learning in terms of a systematic approach to designing learning activities for adults. Knowles (1975) advocated this systematic process as specifically about "diagnosing their [adults] learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (p. 18).

Later researchers suggested that self-directed learning is a more complex experience than that represented by Knowles (1975). Kasworm (1983) contended that Knowles failed to consider the internal or external state of the learner, and Brookfield (1986) suggested that the systems approach and its linear model of self-directed learning ignored the social context where learning occurred. Brocket and Hiemstra (1991), when

introducing the now updated Personal Responsibility Orientation (PRO) model for self-directed learning, emphasised a procedural approach similar to that of Knowles (1975). Moreover, Brocket and Hiemstra (1991) recognised the importance of the social context of learning and identified two dimensions of self-directed learning. The first dimension represents the external instructional process where the learner assumes responsibility for planning and evaluating the learning process. The second dimension focuses on the internal preference for assuming responsibility for learning. An updated version of this model by Hiemstra and Brockett (2012) is discussed in the next section.

Cranton (2006) accepted that adult learning is usually described as self-directed, however she considered that the definitions for self-directed learning are varied and confusing. According to Cranton, this confusion commenced with Knowles (1975, 1980) when he suggested that adults have a preference for self-directed learning. Cranton held that often in practice the preference aspect of self-directed learning has been overlooked. Cranton (2006) and Hiemstra and Brockett (2012) echo my experience that self-direction has often been considered as something that adults intrinsically possess and therefore does not need to be developed in adults in order to become their 'preferred' approach to teaching and learning. Self-directed learning as a distinguishing characteristic of adult learning was "by no means intended to be an independent or isolating way of learning; however in some applications it became so" (Cranton, 2006, p. 3).

Acknowledging the varied and confusing definitions of self-directed learning, Candy (1991) synthesised the early literature in relation to self-directed learning and developed a helpful framework for learners and educators. The framework consisted of four facets: *learner control* in terms of people making decisions about their learning; *autonomy* as a personal characteristic; *self-management* by the individual planning their educational experience; and the *autodidaxy* of engaging in formal independent learning projects. Candy (1991) distinguished between autodidaxy and self-directed learning in that autodidaxy occurs outside the learning institution where the learner's environment enables autonomy and where they are able to exercise freedom of choice and action.

Merriam et al. (2007, p. 107) stated three main goals for self-directed learning:

- To enhance the ability for adult learners to be self-directed in their learning
- Foster transformational learning as central to self-directed learning
- Promote emancipatory learning and social action as integral to self-directed learning.

Following on from Merriam et al. (2007); the first goal of enhancing the ability of learners to be self-directed is grounded in humanistic philosophy and is drawn from the foundational research in the area of self-direction where self-directed learning is seen to be both a set of personal attributes and specific skills. The second goal of fostering transformational learning as central to self-directed learning considers that self-directed learning is enabled by the individual becoming critically aware of taking for granted

assumptions about learning, history, culture, and the wants and needs of the learner (Brookfield, 1986, 1995; Mezirow, 1985). Building on the dependent linkage between self-direction and critical reflection, the third goal extends upon the first. To position self-directed learning more broadly than the individual it promotes emancipatory learning and social action towards a collective outcome (Merriam et al., 2007).

Reigeluth (2009), when considering learning design and emerging educational needs in the information age and the associated implications of knowledge jobs recognised a need to cultivate learners so that they had both the love of, and the skills for learning.

This section has detailed the origins of scholarly interest in self-directed learning and through doing so highlighted tensions and confusions involving the definition and application of self-directed learning. The next part of this chapter considers the similarities between the theory of self-regulation and self-direction.

## 2.5 Self-regulation and self-direction

Hattie and Timperly (2007) linked self-direction with the notion of self-regulation as the latter "implies autonomy, self-control, self-direction and self-discipline" (p. 93). However, the early childhood literature appears not to engage directly with the ideology of self-directed learning as seen within the discipline of adult education, there are similarities with the notion of self-regulation (Hiemstra, 1996; Scott, 2015). Self-regulation is the development of learner autonomy, which encourages the learner taking responsibility for his or her own learning, to being able to control his or her learning and perceive that the success or failure of that learning is impacted by the learner's own efforts and strategies (Spratt, Humphreys, & Chan, 2002). For Zimmerman (2010) the development of self-regulation is not represented as determined by mental ability. Instead it is considered as a self-directive process by which learners transform their mental abilities into practical and academic skills:

> Self-regulation of learning involves more than detailed knowledge of skill: it involves the self-awareness, self-motivation, and behavioral skills to implement the knowledge appropriately (Zimmerman, 2010, p. 66).

Acquiring the capacity for effective self-regulation is one of the major challenges of human development. Self-regulation reflects an emerging balance between emotional arousal and cognitive regulation, which is mutually influenced by the development of executive cognitive function such as working memory, inhibitory control and mental flexibility (Blair & Diamond, 2008). Children who lack an effective and flexible array of self-regulatory skills are at risk of experiencing personal and social difficulties. For children learning to learn is important to function successfully within their environment. Learning to learn becomes a critical tool and technique for learning throughout a lifetime. Children must be able to learn to control their attention, behaviours and emotions, and subsequently for adults it is imperative that these capabilities be used

adaptively when faced with contextual and personal demands (Colman, Hardy, Albert, Raffaelli, & Crockett, 2006). Drawing from Zimmerman's (1989) seminal model of academic self-regulation, the dimensions of behaviour that influence learning include motivation, methods of learning, use of time, control of the learner's physical environment, and performance. The link with self-directed learning in reference to the adult education literature is apparent.

Supporting Kopp (1982) and Demetriou (2000), Colman et al. (2006) agreed that the development of self-regulation begins in infancy and is marked by a gradual shift from primarily external to internal sources and control. Further, their collective research indicates clear associations between a mother's maternal protection, rather than a reliance upon more physically punitive parenting strategies in early childhood (ages four to five years), for children to become more likely to be described as competent regulators of their attention, behaviours, emotions and motivation during middle childhood (ages eight to nine years).

Colman et al. (2006) drew upon earlier research to suggest that although children who are poor self-regulators in early childhood will continue to be so in middle childhood compared with their peers, they appear to be open to caregiving influence which suggests the potential for an avenue for intervention. Specifically, this intervention may include programs that support warm and responsive parenting (caregiving and pastoral care) practices, encourage less reliance on physically punitive approaches to discipline, and may assist in the later development of the ability to self-regulate their attention, behaviour, emotions and motivation later in life.

According to Scott (2015), this ability to self-regulate contributes to self-directedness in learning. An important component of academic success is the child's ability to motivate themselves and take responsibility for their own learning. Less successful students who have little awareness of factors affecting their learning, will be less likely to take charge of their learning, will have difficulty controlling their motivation and may present as being bored both within and outside school (V. Chan, 2010; Dembo & Eaton, 2000). Importantly and still relevant, according to Zimmerman (1989), "learning is not something that happens to students, it is something that happens by students" (p. 21).

Vygotsky (1978) illustrated the development of learning in the individual learner as self-regulation. He used the metaphor of the expert lending their own consciousness so that the novice's may be able to perform tasks too difficult for them to perform on their own. This dynamic of external regulation from the consciousness of the expert decreases as the novice or learner's activity increases to the point where self-regulation occurs. Meta-cognition and self-regulation occur when the learner is able to go beyond the recall of memory and the replication of tasks with purposeful understanding (Hewitt, 2008). This is what Vygotsky (1978) refers to as the "zone of proximal development" (p. 86) as tasks that are too difficult to be learnt alone can be attained with the guidance of someone with more confidence and experience. This zone of proximal development

ranges from a lower limit of what the child can do autonomously to an upper limit of what they can do with guidance or collaboration. The development of cognitive skills as a precursor of self-regulation is a partnership between the child's physical, social and emotional systems. The regulation of these systems is important for learning readiness, learning success and learning motivation (Zigler & Bishop-Josef, 2006).

Colman et al. (2006), as previously discussed, considered the early predicators of self-regulation in middle childhood. These predications highlighted the effects of early parenting practices during early childhood upon later self-regulation and learning readiness. Piaget (1932) and Vygotsky (1978) both emphasised the importance of play for cognitive development and self-regulation. Piaget (1932) developed his theory of cognitive development that considered "assimilation" and "accommodation" (p. 5) as complementary processes. He described assimilation as how the child interprets the environment in terms of their present way of thinking. When a child encounters something within their environment that they do not understand, the child is challenged to expand their prior experiences through accommodation. Piaget (1932) contested that play allows the child to interact with their environment and construct their own knowledge about the world.

Similarly, in emphasising the importance of play, Vygotsky (1978) considered play to be the primary source of cognitive development in children. Play at a higher level for a child is noticeable as trial and error learning. This promotes the interaction and regulation with others as a catalyst for self-regulation. Higher level play may also take the form of make-believe play that involves the abstract use of an object that has little resemblance to the real world object (for example, a wooden block being used as a telephone or fire truck), assuming and sustaining specific roles (playing at being a teacher, nurse or police officer) and following the rules and conventions of these pretend scenarios (police have the power of arrest and nurses help the sick) (Bodrova, 2008).

> In play the child is always behaving beyond his age, above his usual everyday behavior; in play he is, as it were, a head above himself. Play contains in a concentrated form, as in the focus of a magnifying glass, all developmental tendencies; it is as if the child tries to jump above his usual level. The relationship of play to development should be compared to the relationship between instruction and development (Vygotsky, 1978, p. 74).

Adams (2012) considered that playing strategy games such as chess contributes to the development of problem solving and logical thinking skills, suggesting that students enjoy the challenge that playing chess presents as well as the skills and strategies they obtain from playing the game. This supports the findings of Gobet and Campitelli (2006) and Gobet, Voogt and Retschitzki (2004) who observed that technically specific skills would not transfer from one area of study to another without these technical skills being complemented by the development of generic transferrable skills.

The literature establishes a link between self-regulation and self-direction where self-regulation may be considered a pre-disposition to self-direction. It also identifies a connection between play and the development of problem solving and logical thinking skills. Building from the thought of the transfer of generic skills from one context to another, the next section considers self-direction in terms of the emancipatory features of adult education.

### 2.5.1 Self-directed learning and adult education

*Self-directed learning* has been a fundamental aspect of the practice and identity of adult educators, and there is a broad literature base on adult education. Adult education encompasses the ideology that learning is facilitated as opposed to didactically taught, which has been linked in education theory and practice to the notion that adults direct their own learning, in contrast to learning that is directed by teachers (Kalantzis & Cope, 2012; Merriam et al., 2007). Kalantzis and Cope (2012) observed that "top-down systems of knowledge authority and application are in many places rapidly being replaced by the more grounded and dialogical systems of knowledge-producing communities" (p. 85). This suggests that an apprentice becoming self-directed is indicative of his or her becoming a member of knowledge-producing communities within the workplace.

Foley (2004) observed that this movement towards self-direction for many educators came to be understood as an inherent characteristic of cognition and personality, where the educator facilitated the emergence of these characteristics in adult learners. The meaning of 'adult' in the context of adult learning has been subject to ongoing debate and commentary (Kalantzis & Cope, 2012; Merriam & Brockett, 1997). However, pragmatically, adult education may be understood as an organised effort to assist learners whose social age, social roles and self-perception enable them to be held responsible for their actions to develop or enhance their skills, knowledge and personalities (Merriam & Brockett, 1997; Mezirow, 2000). Mezirow (2000) identified that the broad purpose for adult education is "to help adults realise their potential for becoming more liberated, socially responsible and autonomous learners – that make more informed choices by becoming critically reflective" (p. 30). More recently Newman (2014) commented that "life is an accidental and exciting opportunity to make meaning, and the aim of good adult education is to help both learners and teachers take full advantage of that opportunity" (p. 353).

Becoming critically reflective is consistent with becoming a self-directed learner, as the key to self-directedness is being critical of taken-for-granted assumptions (Brookfield, 1986; Mezirow, 1985). Questioning assumptions goes to the purpose and practice of adult education that arguably places self-direction as a distinctive form of adult cognition and an approach to identify a methodical inclination exercised by adults (Brookfield, 1986; Merriam et al., 2007). Paterson (1979) identified adults as "those people (in most societies, the large majority) to whom we ascribe the status of adults

may and do evince the wildest possible variety of intellectual gifts, physical powers, character traits, beliefs, tastes and habits" (p. 13).

Brookfield (2003) contended that adulthood is not a discrete and self-contained stage of life, but observes that there are types of learning which are much more heightened in adults compared to children. This suggests that while every learner, regardless of maturity has similar intrinsic characteristics, some of the characteristics, such as self-direction and depth of experiences, are at elevated levels in adults. This suggests that the delineation that occurs between andragogy and pedagogy in teaching and learning practice is impractical as both approaches are appropriate at different times for different purposes including required outcomes and learner and organisational diversity. Knowles (1980) eventually supported this position and considered these models "are probably most useful when seen not as dichotomous but rather as two ends of a spectrum, with a realistic assumption in a given situation falling in between the two ends" (p. 43).

Andragogy, and the associated principles of adult learning, places a significant tendency on self-direction. Self-direction has been argued as the distinguishing feature of adult educational practice with an ideology that self-directed learners make free, autonomous choices in the individual's interest. My experience is that some educators, educational administrators, and learners have the image of self-direction as a self-contained, internally driven process where the learner can achieve their goals in isolation, and he or she is able to make coherent choices void of engagement with social, cultural and political isolation. According to Merriam et al. (2007) there is evidence to suggest that organisations have used research in self-direction inappropriately, as an excuse to cut spending on adult education, and confusing self-direction with self-actualisation. Relating self-direction to professional practice Brookfield (2005) pragmatically suggested that:

> If we can prevent interpretations of self-directed learning from sliding into an problematized focus on self-actualization, then we have a real chance to use this idea as a foundational element in building critical practice of adult education (p. 85).

### 2.5.2 Self-directed learning and relationships

Brocket and Hiemstra (1991) have been prolific contributors to scholarship in self-directed learning and are specifically concerned with self-directed learning and relationships; however, they too initially negated the social context of learning. Their ideology of self-directed learning was viewed as a compromise between instructional method processes (self-directed learning) and individual learning characteristics (learner self-direction) and the interrelated nature of these two dimensions (Brocket & Hiemstra, 1991). Brocket and Hiemstra (1991) introduced their Personal Responsibility Orientation (PRO) model of self-directed learning, which focused on the interrelated nature of self-directed learning and learner self-direction, between the teaching and learning process and the learners' individual characteristics. The PRO model highlighted

personal responsibility for learning as a central concept where personal responsibility does not mean control over life circumstances and environment. In contrast, the notion of personal responsibility, as espoused by some researchers, is such that when the learner assumes ownership for their thoughts and actions, they choose how they will respond to situations, and in doing so this results in the learner taking a proactive approach to their learning.

Hiemstra and Brockett (2012) have expanded and updated their initial PRO model of self-directed learning as they identify limitations that included potentially confusing language (self-direction in learning, learner self-direction and self-directed learning) and relative exclusion of the social context of learning. Additionally, they were concerned that their ideology of personal responsibility was being associated, for political purposes with trends towards blaming the victim for not meeting learning outcomes.

Hiemstra and Brocket's (2012) revised model of Person, Process and Context (PPC) builds on the former and expands on the context aspects of self-directed learning. The PPC model suggests that the individual characteristics of the learner, the teaching process and the socio-political environment contexts carry similar weight in understanding and implementing self-directed learning. Hiemstra and Brockett (2012) advise that although there have been some efforts to study the person and process elements in regard to curricula and instructional strategies for self-directed learning but additional research in this area is needed.

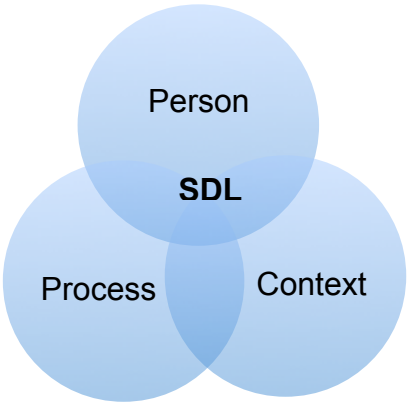



**Figure 2.1: PPC model of self-directed learning (Hiemstra & Brockett, 2012, p. 158)**

Expanding on the elements of the PPC model of self-directed learning, the element of *person*, acknowledges the characteristics of the individual, which includes creativity, critical reflection, enthusiasm, life experience, life satisfaction, motivation, previous education, resilience and self-concept. The *process* element involves the teaching and learning transition that includes facilitation, learning skills, planning, organising, evaluation, teaching styles, and technological skills. The third element of *context*

encompasses the environmental and socio-political climate such as culture, power, learning environment, finances, gender, learning climate, organisational policies, and guidelines, political milieu and sexual orientation (Hiemstra & Brockett, 2012).

All three elements of the PPC model for self-directed learning are treated with equal importance where they are comparable in their influence upon self-directed learning. The PPC model represents the optimal situation for self-directed learning to be most effective when the elements of person, process and context are in equilibrium. Self-directed learning is optimal when the "learner is highly self-directed, the teaching-learning process is set up in a way that encourages the learners to take control of their own learning, and the socio-political context and the learning environment support the climate for self-directed learning" (Hiemstra & Brockett, 2012, p. 159).

This section has summarised the recent work of Hiemstra and Brockett (2012), which contended that for a learner to optimally develop self-direction there needs to be a balance between the apprentice, the learning strategies within apprenticeships and supportive learning and work environments. The following section looks at how knowledge and the types of knowledge that can be developed within work environments through professional practice.

### 2.5.3 Self-directed learning and knowledge development

Eraut (1994) detailed the kinds of knowledge that are required for professional practice, acknowledging that, "education should aim to enhance the knowledge creation and utilisation capability of individual professionals and professional communities" (p. 41). These types of knowledge are described as "technical" and "practical" knowledge (Eraut, 1994, p. 16). Eraut proposed the distinction between these two types of knowledge; technical knowledge is explicit and is concerned with methodisation in terms of the development and use of a ready made theory; and practical knowledge is implicit and articulated as knowledge that is learnt through experience and the application of theory within practice.

Biggs and Tang (2007) described declarative and functioning knowledge. Declarative, or propositional knowledge refers to "knowing about things" (p. 81). This type of knowledge is developed through conceptual research and not from personal experience. Declarative knowledge provides the foundation for functioning knowledge, as this type of comprehension is empirical in nature and is concerned with the application of declarative knowledge to solve problems consistent with professional domains. Leinhardt, Young, and Merriman (1995) made a similar distinction to Biggs and Tang (2007), however they describe declarative knowledge as "university knowledge" that deals with labelling, differentiating, elaborating and justifying, and functioning knowledge as "professional knowledge", which deals with executing, applying and prioritising.

Billett (2011a), drawing together contributions from a number of prolific writers (Anderson, 1993; Mezirow, 1981; Ryle, 1949) proposed a classification system to inform the practice of education. These forms of knowledge are emphasised as interdependent and include: domain-specific conceptual knowledge, domain-specific procedural knowledge, and dispositional knowledge. Domain-specific *conceptual knowledge* is about 'knowing that', which includes the formulation of knowing concepts, facts and propositions. Domain-specific *procedural knowledge* is about 'knowing how', in terms of routine procedures and techniques. Rounding off the classification system, dispositional knowledge refers to 'knowledge for', that is reflective of values that are interconnected to social, cultural and personal attributes related to vocational practice that includes critical thinking or reflection.

> Professionals need critical insights and to be reflective in how they apply what they know as requirements for work change or are shaped by particular situational requirements that cause decisions to be made about how to progress amongst a range of possible options (Billett, 2011a, p. 24).

As discussed, the literature identified how individuals may develop distinctive types of knowledge through self-directed professional practice. The next section elevates this discussion upon the importance of promoting self-directed learning within organisations, accepting that it is people that learn within organisations and not the inanimate organisation itself.

### 2.5.4 Self-directed learning and organisational learning

There is wide acknowledgement that promoting self-directed learning in organisations is a necessity because skills and knowledge have become perishable commodities and all employees must embrace learning as a career and lifelong long learning process (Ellinger, 2004; Tomlinson, 2013).

There is little doubt that the workplace is an environment of ongoing change and increasing focus is being placed on the role played by the workplace learning process. Piore and Stable (1984) described the late 20$^{th}$ century as a watershed period within the workplace, identifying two contrasting models of industrial organisation: production systems and managerial approaches. The production systems model has the characteristic of stable markets and mass production but this has given way to volatile markets that require increasingly flexible ways in which work is organised, as highlighted by the managerial approach. Boud, Cressy and Docherty (2006) clarify the contrast between these two approaches of industrialism as "…vast differences on worker skills, autonomy, discretion and a shift from [what Piore and Stable call] low to high trust employment strategies" (p. 13).

These developments see 'command and control' replaced by criticality and consent. Criticality and consent are the catalyst to organisational success where employees are

capable of responding to complex situations with minimal managerial direction. Dogmatic, authoritarian or Taylorist (Taylor, 1915) forms of management are challenged as being inappropriate for modern socio-economic reforms (Boud et al., 2006; Ezzamel, Lilley, & Willmott, 1994; Tomlinson, 2013). In terms of practice this would be manifested by a move away from an emphasis on hierarchy and control structures to an emphasis on organisational learning that facilitates and empowers individuals towards contemporary professional practice.

Boud et al. (2006) advanced a historical synthesis of the changes to organisational learning and determined three key approaches of this transition from "training" to "learning and reflection" (p. 12). These approaches or stages are depicted as *"*training*",* "organisational learning", and "productive reflection" (p. 14). Each of these approaches has distinct characteristics and of particular note is the connection between approaches to problem solving and the location of learning. The training approach (pre-1990s) has an approach to problem solving that is fragmented, mechanistic or directed with learning largely external to the workplace. Learning defined within the workplace, as an organisational learning approach as practised in the 1990s, is where problem solving is holistic, recursive and where there is a participative approach to problem solving. Finally, productive reflection as manifested in the 2000s has a reflective contingent approach to problem solving and learning is contextualised in the workplace (Boud et al., 2006, p. 14).

As this study concerns the development of self-directed learning in apprentices, an understanding of the context in which this occurs is necessary. The following sections discuss apprenticeships from a historical perspective, and continue to consider the phenomenon of the apprenticeship and self-direction within the Vocational Education and Training (VET) sector with Australia.

## 2.6 The Apprenticeship

The practice of the apprenticeship was developed in Europe during the Middle Ages. Traditionally young men or boys were indentured to a master craftsman for a fixed time, normally between five and seven years, to work for the master craftsman in exchange for learning the skills of the trade or craft (E. Smith & Keating, 2003). Historically, once a young person had become apprenticed to a master craftsman, parental authority was indentured to the master. The apprentice became part of the master's household and entered into an arrangement of family-based craft education (Billett, 2011b; Sennett, 2009). This filial relationship between the master and the apprentice is further highlighted by Crawford (2009): "The master has no need for a psychology of persuasion that will make the apprentice compliant to whatever purposes the master might dream up; those purposes are given and determinate" (p. 159).

The metaphor of the apprentice journey, as first and foremost a model of learning, according to Fuller and Unwin (2011), is universally understood, which means that it is

possible to discuss the notion of the apprenticeship across political, economic and social divides. Fuller and Unwin (2011) additionally suggested that the concept of apprenticeship transcends occupational and educational boundaries; this is that journalists, surgeons, fitters and turners and carpenters often refer to the way they developed expertise through serving an *apprenticeship* or *doing their time* supported by more experienced others. Collins, Brown, and Newman (1989) agreed that an "apprenticeship is the way we learn most naturally" (p. 41). Fundamentally, an apprenticeship is a relationship between a novice and an expert. An apprenticeship is an "educational process in which the exercise of judgement and the ability to act in the world emerge out of the complex interactions to be found in a community of practice" and "where competence is essentially a result of social rather than individual activities" (Foley, 2004, p. 21).

The seminal work on communities of practice by Lave and Wenger (1991), and Wenger (1998) is applicable to apprenticeships, as the researchers' main proposition is that learning and practice occurs in situated contexts. They suggest that learning occurs at the convergence of *identity* (learning as becoming), *meaning* (learning as experience), *community* (learning as belonging) and *practice* (learning by doing) (Wenger, 1998). According to Wenger (1998), it is the community's combined purpose that represents the tacit and explicit knowledge of the community.

Thus, an apprenticeship is primarily about learning from more experienced others within a community of practice, which can be exemplified as the workplace context. The continued discussion considers the workplace and the conceptualisation of the apprenticeship within the context of industry.

### 2.6.1 Apprenticeships and self-directed learning

The understanding that self-direction in learning within the Australian workforce is important in the development of competitiveness amongst enterprises was developed during the 1990s. The recognition and development of self-directed learning within the workforce has been associated with skill and knowledge development, and its potential to allow a competitive edge in the rapidly changing global socio-economic context (Edwards, 1995; Robinson & Arthy, 1999).

In support for workplaces recognising self-directed learning, P. Smith (2002) commented:

> There is considerable commercial value in encouraging employees to become effective self-directed learners such that they can develop and pursue their learning goals and outcomes that contribute to competiveness without the need for all learning to occur only when there is direct training by an instructor (p. 111).

Earlier work by Brooker and Butler (1997), which focused on apprenticeships, showed that self-directed learning in the workplace can be effective if structures to support on-the-job learning were implemented and maintained. Their research indicated that at the time apprentices were often left to learn on their own. It was also observed that when processes were in place to support learning in the workplace, there was still a considerable level of assumption that apprentices were innately self-directed (see also Cranton, 2006). Later P. Smith (2001) observed that the issue in industry was not that enterprises had an unwillingness to move towards approaches to self-directed learning and supporting learners in the workplace, but it was more of a problem of knowing how to do so.

Attrition and completion rates of apprentices and trainees within Australia have been an ongoing concern for employers and government. Recent figures from the NCVER (2012, p. 5) indicate that for apprentices and trainees within trade areas who started their apprenticeship or traineeship in 2009 there was a completion rate of 47%; while the estimated contract completion rate for apprentices and trainees within trade areas, who commenced their contract between 2011 and 2013, is 51.1.7%. This low completion rate of fewer than 50% has received scholarly attention and has found that apprentices leave their contracts more often for job-related issues than for reasons relating to the provision of training by external vocational providers (Commonwealth of Australia, 2011; Karmel & Misco, 2009; E. Smith, Walker, & Brennan-Kemmis, 2011). Quantitative research conducted by Karmel and Roberts (2012), found higher apprentice completion rates where employers have at least 25 apprentices, apprentices live in areas where there is a concentration of trade employment; also that apprentices, with descending completion, were primarily employed by government, then GTOs and finally private employers. Significantly, connecting attrition with the need to support learners in the workplace and self-directed learning, P. Smith (2001) advised that it was not uncommon for apprentices to be employed within organisations with underdeveloped training systems and understandings of the importance of training, and with limited understanding of contemporary approaches to workforce development.

Since the establishment of the uniform vocational sector within Australia, as a result of the Kangan Report, *TAFE in Australia: report on the needs in technical and further education* (Kangan, 1974), there have been several philosophical approaches to learning with either input, output or hybrid definitions of competency (Guthrie, 2009; Ryan, 2011). Following the Kangan Report there was a major shift in public policy. This shift was that technical colleges were re-positioned from existing to meet the human resource needs of industry, to one that emphasised the importance of lifelong learning.

When the Kangan Report was tabled in Federal Parliament (April 1974) Minister Beasley, the (then) Minister for Education, summarised his tabling speech as follows:

> The report envisages a major shift of emphasis. It abandons the narrow and rigid concept that technical colleges exist simply to meet the manpower needs of industry, and adopts a broader concept that they exist to meet the needs of people as

> individuals...The Report takes a long step in the direction of lifelong education and of opportunities for re-entry to education. It recommends unrestricted access for adults to vocationally oriented education (Beasley, 1980, p. 2).

This change in direction adopted a broader concept of lifelong learning, that the infant vocational education and training (VET) sector had an input focus existing to meet the holistic development needs of individuals (Beasley, 1980). This acknowledged the relationship and importance of holistic development of the individual to meet the needs of the emerging Australian economy (E. Smith & Keating, 2003).

The move to an outcomes-based approach for VET was characterised by the implementation of competency based training (CBT). The political debate associated with the move to CBT stemmed from a climate of perception that vocational institutions had become unresponsive to the needs of industry and the emerging economy (Ryan, 1999). The reforms centred on giving industry more say and was seen as the foundation to today's industry led system. Previously, vocational institutes determined the types of programs that would be conducted to meet industry needs and effectively were responsible for upgrading skills within the workforce (Misko & Robertson, 2000). The development of CBT saw a move away from the ideology of Kangan's provider-driven approach of holistic development of the individual, to one that placed technical skill outcomes ahead of the cognitive process of learning.

The hybrid approach to competency resulted from a project that considered greater flexibility and adaptability with the next generation of training packages by "building on the current competency approach by incorporating the development of personal capabilities and attributes (e.g. employability skills) and placing greater emphasis on cognitive rather than functional (technical) skills" (National Quality Council, 2009a, p. 4). The objectives of this agenda included positioning industry and the needs of the individuals at the centre of the national training system (Skills Australia, 2009). As a result of these developments, competencies within Australian VET are currently defined as the "consistent application of knowledge and skill to the standard of work performance required in the workplace. It embodies the ability to transfer and apply skills and knowledge to new situations and environments" (National Quality Council, 2009b, p. 6).

Wheelahan and Moodie (2011), in their self-identified provocative paper, take the next step in the conversation about alternative modes of envisaging skills within VET. Wheelahan and Moodie (2011) as a premise, drawing on the work of economist Buchanan (2006), agree that "…VET must prepare students for a broad occupation within loosely defined vocational streams rather than workplace tasks and roles associated with particular jobs" (p. 2). Additionally, Wheelahan and Moodie (2011) contend that "…Australia has developed the notion of competence underpinning CBT to its full potential and that a new concept is needed to transform vocational education further" (p. 2). As a starting point for thinking about change within VET, the authors propose that a "capabilities" (p. 2) approach is an appropriate alternative framework. A

capabilities approach, as highlighted in this paper, focuses on the broader notion of capabilities as developed by the economist Sen (1993) and philosopher and critical theorist Nussbaum (2000), where a central focus is placed on what people are effectively able to do and be throughout their lives. A capabilities approach differs from one of CBT as capabilities represent a broader concept of occupational standards. These standards emphasise the building of underlying capacity to develop learners with high levels of discretionary (self-directed) learning who are autonomous and can exercise judgement as opposed to the characteristic of precise specification of outcomes that defines CBT within Australian VET (Wheelahan & Moodie, 2011).

As proposed by Wheelahan and Moodie (2011) the capabilities approach emphasised the development of high levels of discretionary learning and is consistent with the notion of self-directed learning. Prior to defining self-directed learning as applied to this research, to provide contrast, the chapter progresses by identifying the contemporary policy paradigm within the Australian VET sector to enhance the development of non-technical workplace skills and knowledge.

## 2.7 Core skills for work

The term *core skills* has emerged within the recent policy environment within Australian VET (Yasuka, 2014). The *Core Skills for Work Development Framework* (CSfW) describes "a set of non-technical skill, knowledge and understandings that underpin successful participation at work" (Department of Industry & Department of Education, 2013, p. 1). According to the Department of Education (2011) these non-technical (generic or interpersonal) skills, in addition to an appropriate technical qualification, are how individuals become employable and maintain employability (see Table 2.2). There is further evidence to suggest that workplaces are constantly changing and employers are looking for employees (apprentices and tradespersons) who are adaptable and have skills and knowledge beyond technical competence (Australian Industry Group & Deloitte, 2009; Maxwell, 2010; Tomlinson, 2013; Yasuka, 2014).

**Table 2.2: Core skills for work – skills area and skills cluster (Department of Industry & Department of Education, 2013, p. 1)**

| **Cluster 1 - *Navigate the world of work*** | **Cluster 2 – *Interact with others*** | **Cluster 3 – *Get the work done*** |
|---|---|---|
| a. Manage career and work life<br>b. Work with roles, rights and protocols | a. Communicate for work<br>b. Connect and work with others<br>c. Recognise and utilise diverse perspectives | a. Plan and organise<br>b. Make decisions<br>c. Identify and solve problems<br>d. Create and innovate<br>e. Work in a digital world |

The origins of these non-technical core skills for work within Australian VET started within the *key competencies* policy directions from the Mayer Committee Report (Australian Education Council, 1992).

*Key competencies* were defined within the Mayer report as:

> Competencies essential for the effective participation in emerging patterns of work and work organisation. They focus on the capacity to apply knowledge and skills in an integrated way in work situations. Key competencies are generic in that they apply to work generally rather than being specific in particular occupations or industries. These characteristics mean that key competencies are not only essential for participation in work, but are also essential for effective participation in further education and in adult life more generally (Australian Education Council, 1992, p. 7).

E. Smith and Keating (2003) conveyed that this approach to key competencies initially received a considerable degree of support from industry and government bodies as the incorporation of the assessment of key competencies within VET programs had been wide spread. However, this support diminished as their incorporation into workplace training practices became problematic. This problematic nature was because managers and trainers found it difficult to comprehend the practice implications of the key competencies direction. This was evidenced by a lack of clarity around assessment (Maxwell, 2010) and the transferability of key competencies from one workplace to another (E. Smith & Keating, 2003). Additionally, the implementation of assessment against the key competencies coincided with policy development and implementation of competency-based training (CBT), which may have enhanced any confusion.

Perhaps because of reducing support from industry bodies, in 2002, the Business Council of Australia (BCA) and the Australian Chamber of Commerce and Industry (ACCI) undertook an extensive review of the skills that employers wanted from employees in order for them to work successfully in enterprises (Guthrie, 2009). As an outcome of this initiative, and the development and subsequent refinement of its key findings, the key competencies become known as *employability skills* and were initially contained within the *Employability Skills Framework* (ESF).

Employability skills are defined as:

> Skills required not only to gain employment, but also to progress with an enterprise as to achieve one's potential and contribute successfully to enterprise strategic directions (Australian Chamber of Commerce and Industry & Business Council of Australia, 2002, p. 2).

The ESF, according to E. Smith and Keating (2003) was similar to their predecessor in that they identified key skills for employment; however, personal attributes were also included. The key skills are reflective of the skill areas within the CFfW. Importantly, the personal attributes encompassed characteristics such as: loyalty, common sense,

enthusiasm, motivation, sense of humour, adaptability, positive self-esteem, and balance. Both the personal attributes and key skills that were suggested contribute to overall employability (Australian Chamber of Commerce and Industry & Business Council of Australia, 2002).

When they were reflected in all units of competency prior to 2005, each of the seven key competencies were allocated a minimum requirement of performance that was explicitly depicted in three levels within units of competency contained within training packages. From 2005, at the direction of the National Quality Council (NQC), employability skills were embedded into units of competency within subsequent training package revisions. This chance involves the assessment of employability skills embedded within technical units of competency. However, Clayton et al. (Clayton, Blom, Meyers, & Bateman, 2003) noted that:

> Where generic skills are represented as discrete units of competency or performance criteria, practitioners have little difficulty in teaching and assessing them. Where they are embedded in units of competency, they are more of a concern because learner achievement must be inferred (p. 162).

Within the ESF the assessment of employability within the VET sector concentrates on the key skills within the framework and ignores the personal attributes. Personal attributes are ignored due to their subjective nature resulting in problematic assessment. The assessment of personal attributes is problematic because of the difficulties in identifying workplace performance in terms, as an example, of what constitutes a sense of humor, commonsense or loyalty. The importance of employability skills has been acknowledged against broader educational objectives. With Australian industry drawing its attention to generic skills, higher education institutions also began to pay overt interest (Guthrie, 2009). This attention included the documentation and assessment of broad attributes aligned to employability skills that are essential for graduates to possess upon entering the workplace from university. In the schools sector and universities, the development of generic skills does not underpin present approaches to teaching and learning (Allen Consulting Group, 2004; Guthrie, 2009).

These current approaches, as reflected within the CFfW, combine both language literacy and numeracy skills (LLN) and core employability skills. They are currently known as ‘Foundation Skills’ within VET, ‘General Capabilities’ within the school sector, and ‘Graduate Attributes’ within higher education (Australian Industry Group, 2013b; Department of Industry & Department of Education, 2013).

From 2012 the CSfW began to replace the ESF as a policy paradigm. According to Wibrow (2011) and the Department of Industry and Department of Education (2013), this new policy paradigm was introduced as concerns were ongoing about how well these employability skills, under the previous framework were being developed, assessed and universally understood. Wibrow (2011), by pre-empting the implementation of the current Skills Strategy, conveyed that “it is hoped that this

framework will be successful in setting consistent standards, at the same time assisting teachers to improve their knowledge and understanding of these skills, to the ultimate benefit of learners" (p. 11).

Regardless of the terms used to describe these non-technical skills, the apprentice's successful participation within the workplace may be dependent on the apprentice developing these skills as they develop specific technical expertise. The literature does not question the importance of these non-technical skills and their interconnectivity with technical skills towards sustained workplace performance. The tension appears to be how non-technical skills are incorporated within policy frameworks, how these policy frameworks are implemented into teaching and learning practice and how the teaching and learning practice is evaluated and reported.

Within the Australian VET sector, competency based assessment is the "process concerned with the collecting of evidence and [the Assessor] making some informed judgments about the learner's progress towards some defined learning goal(s)" (Simons & Yaringa, 2014, p. 60). These judgments are based on the learner's achievement of competence against a specific standard, as contained within training packages, and are made at a specific time and place (Simons & Yaringa, 2014; E. Smith & Keating, 2003). Self-directed learning differs from the notion of competence as it is about the individual's high-level capacity to learn continuously throughout their lifetime. It therefore transcends the minimum vocational standards that are represented by the assessment of competency. This is certainly not to suggest that competent tradespeople do not have the skills to learn or respond to adversity. However, these attributes of elevated levels of capacity for learning are heightened within learners who are self-directed as they are more likely to experience learning that is transformative as they have the ability to transform their identity through learning.

## 2.8 Defining self-directed learning

In developing this substantive theory about how apprentices develop the capacity for self-directed learning I investigated the psychosocial phenomenon of learning by apprentices. The literature suggests that participants in this study brought with them to this research some levels of self-regulation and self-direction. As the holistic process through which apprentices learn (social, psychomotor, affective and cognitive) and develop into self-directed learners was the focus of this research and not necessarily how current VET policy within Australia assists or impedes learning. Given the competency-based context in which apprentices work and learn has a competing focus the distinction between *competency* and *self-directed learning* is particularly relevant to this study.

Guided by the literature, in this thesis I have adopted self-directed learning as being situated at a higher level than the technical and non-technical notion of competence. This means that as apprentices become tradespersons who are self-directed they not only meet the minimum occupational standards (competence) but also develop high-levels of

discretion in their learning, greater autonomy and responsibility, and enhanced capacity for reflection (especially critical reflection). Thus, demonstrating a broader conceptualisation of expertise where they are predisposed to meeting their human potential.

Brookfield (1986) asserted that:

> Self-directed learning in adulthood, [therefore], is not merely learning how to apply techniques of resource location or instructional design. It is, rather, a matter of learning how to change our perspectives, shift our paradigms, and replace one way of interpreting the world with another (p. 19).

Table 2.3 (Summary of learning journey) has been developed in order to summarise the characteristics of a self-directed learner and distinguishes from one who is competent. The table is drawn from the literature and provides me (as the researcher) an image of what to expect as I seek to understand the manner in which apprentices learn and develop capacity for self-directed learning.

The following table (Table 2.3) provides a conceptual summary of the learning journey of an apprentice from entry into the apprenticeship, to achievement of competence (completion of trade qualification) and to becoming a self-directed learner.

The various criteria are listed in the far left column, while the three key developmental milestones are listed in the top row. The various cells contain descriptors relevant to the criteria and milestone. The cells where descriptors have not been suggested are because there was insufficient literature available to draw reasonable conclusions or distinctions between the milestones. Using the criteria of responsibility for learning as an example, the literature reveals that self-directed learners accept full responsibility for their learning. However, from the literature contained within this chapter it is inconclusive as to the extent that a beginning apprentice and competent tradesperson accept responsibility for their learning at these respective milestones. On completion of this research I hope to deepen my understanding of the developmental process and provisionally populate at least some of the vacant cells within this table.

**Table 2.3: Summary of learning journey**

| Criteria | The beginning apprentice | The competent tradesperson | The Self-directed learner |
|---|---|---|---|
| Critical reflection<br><br>(Brookfield, 2012; Illeris, 2014a) | Tends to accept the status quo and cannot identify underlying assumptions for themselves. | | Readily questions the status quo, identifies underlying assumptions and can see alternate perspectives.<br><br>Capable of transformative learning i.e. changing personal and professional identity. |
| Responsibility for learning<br><br>(Hiemstra & Brockett, 2012) | | | Seeks to accept full responsibility and accountability for own learning. |
| Determining learning goals<br><br>(Tomlinson, 2013) | | Minimal capacity to determine learning goals past occupational standards. | High capacity to determine learning goals exceeding occupational standards.<br><br>Able to determine suitable strategies to meet learning goals. |
| Self-regulation<br><br>(Zimmerman, 2010) | Assumed ability to self-regulate by balancing emotions and cognition (developed during childhood). | Sufficient self-regulation within immediate workplace. | Elevated levels of self-regulation within changing workplaces e.g. understanding how emotions impact others. |
| Problem solving<br><br>(Boud et al., 2006) | | Able to solve routine problems contextualised to the workplace. | Routinely solves complex problems within expansive workplaces. |
| Conception of expertise<br><br>(Wheelahan & Moodie, 2011) | | Sees expertise as meeting minimal occupational standards with low discretionary learning resources.<br><br>(Competency approach) | Considered that expertise is broader than occupational standards with high discretionary learning resources.<br><br>Elevated characteristics of the 'self' e.g. autonomy, responsibility and judgment.<br><br>(Capabilities approach) |

Using the first criteria as an example, self-directed learning is integral to critical reflection (Brookfield, 2012) and learning is transformative when a deep shift in perspective occurs (Mezirow, 2000, 2009). As we define this change in terms of our identity (Illeris, 2014a, 2014b), evidence relating to the apprentices' development of identity was also evidence of high levels of self-directedness. Additionally, as I developed my deep understanding of this psychological process, I also looked for further insights of the participant's experiences as apprentices, tradespersons, host employers and vocational teachers.

## 2.9 Summary

This chapter has presented an initial literature review about self-directed learning and its integral and complex relationships between learning theory, learning practice and learning policy.

The purpose of this initial review was to clearly define self-directed learning and to give me, as the researcher, a set of sensitising concepts, as general concepts to inform and guide the development of the research strategy and design.

The following chapter, Chapter 3, details the research design and strategy used during this study.

# Chapter 3 Research design and strategy

The best way to do Grounded Theory is to just do it (Glaser & Holton, 2004, p. 1).

## 3.1 Introduction

The purpose of this chapter is to explain and justify the research design and strategy, which I developed and applied within this study. The chapter commences with identifying the research process, selection of methodology, research design and philosophical and theoretical debates. My reflexivity as a researcher is then considered, followed by an explanation of symbolic interactionism in the conduct of this study. The chapter concludes by focusing on the application of constructivist grounded theory, the generalisability of findings, ethical considerations and concurrent data collection and analysis.

## 3.2 The research focus

This research was designed to explore how apprentices develop the capacity for self-directed learning within contemporary Australian work environments; specifically, within a Group Training Organisation (GTO) that operates within the Australian Capital Territory (ACT) and southern New South Wales (NSW) geographic regions. The GTO employed apprentices who were completing or had recently completed the third stage of a traditional trade apprenticeship (carpentry and joinery, bricklaying and cabinet making) within the building and construction industry. The participants involved in this study included apprentices and a representation of their host employers and vocational teachers. All were active participants in terms of apprentice learning. The learning experiences of the apprentices included formal and informal learning, which could occur both on-the-job and off-the-job with the help of others, or in isolation. Some of the learning was simple and some very complex and at times challenging. How these experiences enabled the apprentices to develop capability for self-directed learning was the focus of this research.

### 3.2.1 Selecting a research design

Cohen et al. (2007) suggest that there is no single blueprint for planning educational research as the approach to research is best governed by the notion of "fit for purpose" (p. 78). The purpose of a research design process is to determine the appropriate methodology to further inform the design and planning of the research project (Cohen et al., 2007). Methodology, in its broadest sense, can be defined as "the whole system of principles, theories and values that underpin a particular approach to research" (Somekh & Lewin, 2011, p. 368). Dew (2007) clarifies the distinction between *research*

*methodology* and *research methods*; stating that *research methodology* is "the principles underlying particular research approaches, as distinct from *research methods*, which are ways of collecting data" (p. 3). Determining the appropriate approach to research allows the researcher to endorse and draw on the rules and conventions of the chosen methodology. It is important to identify and subscribe to these rules as changing the rules midstream, once the research project has commenced, may be a precursor to problems during research projects (Cohen et al., 2007).

When considering the design of research, classifying the type of research is useful to determine methodological approaches. Somekh et al. (2011) identify three main classifications for research. These classifications are described as *pure research*, *applied research* and *action research*. *Pure research* is domain driven which is intended to lead to theoretical development, which may or may not have practical implications. The dissemination of results for pure research is confined to the academic domain. *Applied research* is intended to lead the researcher to a solution for a specific problem, which normally involves working with clients and stakeholders to identify and explore the problem. *Action research* goes beyond the identification and reporting of the problem and tries to explain what is happening in the given situation. Classically, *action research* starts with the ideology that if you want to understand something you should conceptually think about how the phenomenon of interest may be changed within a practice setting (Somekh et al., 2011). According to Somekh et al. (2011) this study would be classified as applied research as I aimed to develop a theory about self-directed learning and apprentices, which I hope will have practical applications.

These classifications for research by Somekh et al. (2011) can be used to evaluate the merits of *quantitativ*e and *qualitative* ways of knowing when considering research design. *Qualitative* research methods are used with the intention of making generalisations about social phenomena, creating predictions concerning these occurrences, and providing casual explanations. *Quantitative* approaches to research normally begin with a theory and using this theory, the researcher poses several hypotheses. Data in quantitative research involves the collection of numerical indices or tangible segments of information, which is analysed statistically, to draw generalisations against the initial theory and hypotheses. In contrast, information collected within qualitative approaches to research seeks multiple perspectives from the participants about how they interpret social settings and the world around them. Qualitative research methodologies and methods are used to understand and contextualise issues in their particular economic and social milieu (Glense, 2006; Liamputtong, 2009).

Glense (2006) acknowledges the commonly inaccurate held belief that the research question or problem should determine whether or not a researcher should use quantitative or qualitative approaches. Glense understands that it makes logical sense, however she disagrees with this sentiment and considers that it is not how research should be done. Selected research methodology, according to Glense (2006), should be based on an approach:

> Which you feel most comfortable, say something about your views on what qualifies as valuable knowledge and your perspective on the nature of reality; and you are attracted to and shape research problems that match your personal view of seeing and understanding the world (p. 5).

Glense (2006) identifies predispositions of the researcher towards either quantitative or qualitative approaches to inquiry. These predispositions include considerations concerning assumptions, the purpose of the research and the role of the researcher. These predispositions of quantitative and qualitative approaches are illuminated in Table 3.1.

**Table 3.1: Predispositions of quantitative and qualitative approaches to research (Glense, 2006, p. 5)**

| Quantitative Approach | Qualitative Approach |
|---|---|
| *Assumptions*<br>• Social facts have an objective reality<br>• Variables can be identified and relationships measured | *Assumptions*<br>• Reality is socially constructed<br>• Variables are complex, interwoven, and difficult to measure |
| *Research Purposes*<br>• Generalisability<br>• Casual explanations<br>• Prediction | *Research Purposes*<br>• Contextualisation<br>• Understanding<br>• Interpretation |
| *Research Approach*<br>• Begins with hypotheses and theory<br>• Uses formal instruments<br>• Experimental<br>• Deductive<br>• Component analysis<br>• Seeks to norm<br>• Reduces data to numerical indices<br>• Uses abstract language in write-up | *Research Approach*<br>• May result in a hypotheses and theory<br>• Researcher as instrument<br>• Naturalistic<br>• Inductive<br>• Searches for patterns<br>• Seeks pluralism, complexity<br>• Makes minor use of numerical indices<br>• Descriptive write up |
| *Researcher Role*<br>• Detachment<br>• Objective portrayal | *Researcher Role*<br>• Personal involvement<br>• Empathetic understanding |

The ontological belief or the way the world is seen that accompanies quantitative research approaches is that reality is static and exists external to people and is a metric that can be determined to some degree of accuracy. The epistemology of the nature of knowledge, within qualitative approaches, is that through objective observation and measurement you can come to know the world around you. For qualitative research approaches, ontology portrays reality as socially constructed, complex and ever changing, where what is real becomes relative to the specific environment. Qualitative research subscribes to the epistemology that knowledge that holds you comes to know these realities through the interactions and subjectivist explorations with the participants and their perceptions (Carspecken, 1996; Cohen et al., 2007; Glense, 2006).

The methodology that researchers select, either quantitative or qualitative, and what they expect to get from the research process is strongly informed by their ontological and epistemological position (Dew, 2007). My ontological and epistemological position is expanded within the following section.

## 3.3 Philosophical and theoretical debates

Have you ever stopped, taken a backward step, turned off the mobile phone, shutdown the computer, and asked yourself – "How exactly did I get to where I am today?" In my autobiography the dialogue would probably continue; "How did I go from treating my adolescent education with contempt and not completing high school to becoming an army apprentice, tradesperson, teacher, educational leader and Fulbright scholar who is presently considering the philosophical branches of ontology and epistemology and their tendencies within a doctoral thesis?" I have often, over the past few years, had visions of my former secondary school teachers rolling around on the staff room floor in tears of laughter in bemusement at the very thought. The answer to this life long question is indeed complex with both intrinsic and extrinsic considerations, however these considerations centre on the encouragement by my significant others, such as family, friends, mentors, teachers and students, that I consider the nature of reality and challenge the nature of knowledge.

*Ontology*, as a branch of philosophy, questions the "nature of being and the reality, or otherwise, of existence" (Somekh & Lewin, 2011, p. 326). With a pragmatic approach, Gough (2000) suggests that these questions can remain in the background of educational research as ontological questions can only be distinguished from epistemological questions as an academic exercise and are not constructively useful for determining approaches to inquiry. I subscribe to Gough's position that "reality is unknowable except through its relationship with us" (Gough, 2000, p. 4). Within the tradition of *critical pedagogy*, Freire (1972) considers ontology as a "vocation to be fully human" (p. 72), in that it is necessary to critically consider the reality of existence of yourself and others in the quest for mutual humanisation where being fully human is a result of the eradication of oppression.

*Epistemology*, as another branch of philosophy, is concerned with the viewpoint "relating to the nature of knowledge and truth" (Somekh & Lewin, 2011). I would like my colleagues to see me as a highly skilled and passionate educator who articulates that educational professional practice is principally about knowledge, critical reflection, social interaction and authentic truth. I see this ideology transferring to my practice of epistemology as an educational researcher. Although I am not assuming a critical perspective within this research, Carspecken (1996), by advocating his approach to *critical qualitative research*, contends that power, values and truth are interconnected. In defining this interrelationship, Carspecken draws on the notion of *truth claims* and suggests that in all claims of truth, "consent is given by a group of people, potentially universal in membership, that validates the claim" (p. 21). I believe, from my professional experiences working within organisations that have predominately dogmatic, authoritarian or 'command and control' cultures, that this division of unequal power misrepresents truth, contaminates knowledge and negates the importance and benefits of professional autonomy. My experience makes me suspect that this distortion occurs, as authority is culturally constructed and seeking agreement is often coercive due to fears of unwanted revelations or reprisal. This goes to the heart of epistemology and the nature of knowledge and truth (Carspecken, 1996).

Siegal (1988) is concerned with the philosophy of critical reflection and identifies the assessment of assumptions and reasons leading to knowledge as fundamental to the contentious concept of rationality. Knowledge is considered valid if consistent and critical reflection consists of principled thinking that is idyllically impartial, consistent and non-arbitrary. The organisational assumptions of critical reflection by Mezirow (1998a), which provide insight into my interest regarding the impact of unchallenged assumptions, are primarily concerned with identifying assumptions that are embedded in the history and culture of an organisation and how these diminish or enhance practitioner thoughts and actions. Mezirow (1998) identifies the patterns that characteristically inhibit adaptations of knowledge, truth, and critical reflective learning including the practices of:

> Not surfacing and testing difference concerning organisational problems; avoiding seeing the whole picture so one does not know how the problems are connected; protecting yourself by avoiding interpersonal confrontation and public discussion of sensitive issues; protecting others in the same way; [and] controlling the situation and the task by making up your own mind and keeping it private… (p. 194).

In the event of knowledge and truth being valued by individuals and collectively by organisations, as often claimed, traditional mindsets with cultural affiliations would be identified, evaluated and replaced with open and collaborative models of communication.

Epistemological tendencies, as defined by Somekh and Lewin (2011), can be either *objective* or *subjective*. Objectivity refers to the removal of the persona of the researcher from the research project where "truth can be determined distinct from particular

contexts or participants" (p. 326). As I believe that truth within educational research is "not something that can be 'found' separately from particular contexts or participants" (p. 326), consistent with the insight presented into my lived experience, I subscribe to a subjectivist viewpoint.

Aligning oneself to the subjectivist perspective as an epistemological tendency requires an *anti-positivist* scheme for the analysis of assumptions. In contrast the *positivist* assumption is an approach to research and knowledge that can be discovered through observation and measurement where results can be repeated in controlled environments. Educational researchers working within anti-positivist assumptions understand that human behaviour and social interrelation are unpredictable and cannot be universally controlled and measured, and where researchers are necessarily involved with their participants and not distant or isolated from the inquiry. The purpose of educational research, in this tendency, is to describe and explain human behaviour that has an emphasis on how people differ from inanimate natural phenomena (Cohen et al., 2007).

Anti-positivist epistemological assumptions are often considered synonymously as *interpretivist* paradigms of educational research (Cohen et al., 2007; Liamputtong, 2009; Somekh & Lewin, 2011). Interpretivist paradigms or methodologies, seek to uncover meaning and to identify and understand the deeper implications that are revealed from the data about people and behaviour. Interpretivist paradigms represent a broad range of approaches and understandings to educational research, which includes *critical* and *post-structuralist* viewpoints (Cohen et al., 2007).

The understanding of these different viewpoints can be assisted by using the analogy of multiple lenses. The post-structuralist lens is contrary to that of a structuralist viewpoint. Post-structuralist theorists do not believe in structures and consider boundaries as porous. To the post-structuralist there are always hidden disasters, tragedies and corruptions of the systems, rather than structures of social and cultural thinking (Miller, Whalley, & Stronach, 2011). This viewpoint considers the complex relationships between the individual and society, and how humans become to understand themselves and these relationships within specific environments (Liamputtong, 2009). These complex relationships are a construction, a social science perspective, which assumes that people construct the realities in which they participate (Bryant & Charmaz, 2007b). Subsequently, a constructivist research perspective assumes a relativist ontology (there are many realities) and a subjectivist epistemology (participant and researcher co-create understandings) (Denzin & Lincoln, 2005).

In relation to constructivist inquiry Bryant and Charmaz (2007b) state:

> Constructivist inquiry starts with the experience and asks how members construct it. To the best of their ability, constructivists enter the phenomenon, gain multiple views of it, and locate it in its web of connections and constraints. Constructivists

> acknowledge that their interpretation of the studies phenomenon is itself a construction (p. 607).

An important dimension of that process is reflexivity in the researcher.

## 3.4 Reflexivity

> Critical subjectivity involves a self-reflexive attention on the ground on which one is standing (Reason, 1994, p. 327).

What sort of person am I? I am an emerging educational researcher who believes that relationships between the individual and society are both socially constructed and important, particularly within an educational context. I do not agree that this construction of individual and social interaction can be examined without the consideration of the interconnectedness of truth, knowledge and power, as treating these aspects in isolation to each other will not have emancipatory benefits for the quality of teaching and learning. Human behaviour, anecdotally observed from students within my classes is not consistent between cohorts and certainly cannot be measured and duplicated. The measurement of this behaviour is subjective where truth cannot be established independent of the lived experience and this seeking truth subsequently requires interpretation and interrogation to uncover and understand the deeper implications. It seems reasonable for me as a researcher that truth be considered as provisional until I encounter challenges that adjust my understandings and therefore what I conceive as the truth. This periodic transformation of my viewpoint is enabled by the characteristic of critical reflection of the assumptions leading to knowledge either individually or organisationally as a primary concept of reality and truth. The researcher I wish to become is coherent with the person I am and can be recognised by the researcher asking the following three questions, at varying levels and contexts, either individually or collectively: a) *If we had to do that again, how would we do it differently?* and b) *What changes need to be made to structure, hierarchy or culture to enable emancipatory interests through contemporary and sustainable teaching and learning practice,* and c) *how can these changes be implemented?*

Professional doctorates, such as a Doctor of Education, recognise a worthwhile contribution to the development of a particular field of professional practice (E. Phillips & Pugh, 2010). This contribution to professional practice sees the researcher as an insider: it is dependent on having experience and insight into the environment in which the research is being undertaken. Additionally, insider researchers are practitioner researchers who have an intimate knowledge of their community and members in the process by which the creation of knowledge takes place. Drake and Heath (2011) commented:

> For the insider the newness of this knowledge comes not from a single research domain but from combining understandings from professional practice, higher education practice and the researcher's individual reflective project (p. 2).

I see myself as a practitioner-researcher who is an insider within the vocational education and training community and acknowledge that the development of knowledge, in this case a substantive theory about self-directed learning by apprentices, will come from a combined understanding, at doctorate level, of professional and higher education practice and my own reflective learning.

As an insider-researcher, I also acknowledge that I bring my past experiences into this research project. These experiences are historically and contextually bound and carry conscious and unconscious motives, desires and biases (Fontana & Frey, 2005). These conscious motives, desires and biases include my positive experiences as a past apprentice that provided a solid foundation for my development. I recognise that these experiences have shaped my views and understand that I need to be aware of these views as I collect data and develop theory. Charmaz (2006) advocates the use of reflective memos to support this as a reflective tool to make researchers aware of their own biases. In following Charmaz's recommended approach, this engaged me in the process of interpreting symbolic interactionism.

## 3.5 Symbolic interactionism

Symbolic interactionism is a theoretical perspective derived from pragmatism, a philosophical tradition that views reality as characterised by indeterminacy and fluidity and is open to multiple interpretations (Bryant & Charmaz, 2007b).

Symbolic interactionism views human beings as social beings and is concerned with the "subjective meanings individuals attribute to their activities and their environments" (Flick, 2006, p. 66). Symbolic interactionism, according to Meltzer, Petras, and Reynolds (1975), considers that individuals and society are indivisible with each being created through social interaction: understood in terms of the other. Significantly, the researchers contend that behaviour is not determined by forces within human beings, such as instincts and the external environment, but rather through a reflective, social interpretation of the central and peripheral motivations that exist.

As identified by Blumer (1969), a pioneer of symbolic interactionism, there are three premises that describe the foundations of symbolic interactionism:

> Human beings act towards things on the basis of the meanings the things have for them; the meanings of things are derived from, or arise out of social interaction that one has with the others [and] these meanings are handled in and modified through an interpretative process used by the person dealing with the things he or she encounters (p. 2).

These three premises suggest that research should begin with the idea that individuals see the same situation, objects and experiences in different ways (Cohen et al., 2007; Liamputtong, 2009) and the "reconstruction of such subjective viewpoints becomes the

instrument for analysing social worlds" (Flick, 2006, p. 67). Symbolic interaction therefore is cyclic where human beings act in relation to each other by taking each other into account, acting, perceiving, interpreting and moving again towards being proactive. This is an interactive as opposed to a reactive behavioural approach (Cohen et al., 2007).

Woods (1983) summarised the key emphasis of symbolic interactionism applied to educational research, as follows:

- Individuals are constructors of their own actions
- The various components of the self and how they interact; the indications made to self, meanings attributed, interpretive mechanisms, definitions of the situation; in short, the world of subjective meanings, and the symbols by which they are produced and represented
- The process of negotiation, by which meanings are continually being constructed
- The social context in which they occur and whence they derive
- By taking the 'role of the other' – a dynamic concept involving the construction of how others wish to or might act in a certain circumstance, and how the individuals themselves might act – individuals align their actions to those of others (p. 15).

Cohen et al. (2007) suggested that the perspective of symbolic interaction, as a philosophical perspective, is attractive to educational researchers as it fits naturally with the kind of activities that occur within the teaching and learning environment.

According to Goulding (1999) when methodologically engaged in research using symbolic interactionism, the researcher must enter the worlds of those under study in order to observe the participants' environment and the interactions and interpretations. Further, Goulding suggested that the researcher also needs to interpret actions within this environment and collect rich descriptions towards developing an explanation or theory.

The philosophical perspectives and principles of symbolic interactionism, influenced the developers of grounded theory (Glaser & Strauss, 1967) in their quest "to develop a more defined and systematic process for collecting and analysing qualitative data" (Goulding, 1999, p. 6). Grounded theory reflects the source of theory development, which is grounded in the behaviour, words and actions on those being studied (Bryant & Charmaz, 2007a). Charmaz (2009) does not believe that adopting the symbolic interactionist perspective is mandatory for the grounded theorist. Although there is acknowledgement that grounded theory and symbolic interactionism work well together as a package (Bryant & Charmaz, 2007a; Charmaz, 2006; Clarke, 2005), Charmaz contended that grounded theorists can invoke any theoretical perspective as a starting point for grounded theory research such as feminist theory, post-structuralism, critical theory, or symbolic interactionism.

## 3.6 Constructivist and social constructivist perspectives

Billett (2011) holds that constructivism may be described in both its personal and social forms where "Constructivism holds that individuals actively construct meaning through their judgments and decision making as they construe what their experiences and construct knowledge from it" (p. 10). Young and Collin (2004) offered the following definitions to distinguish between the terms constructivism and social constructivism where constructivism "focuses on meaning making and the constructing of the social and psychological worlds through individual cognitive processes" and social constructivism "emphasises that the social and psychological worlds are made real (constructed) through social processes and interaction" (p. 375).

According to Schreiber and Stern (2001):

> When interpreting the stories of research informants and other data, a grounded theorist's goal is to construct a model to explain the action and interaction surrounding a phenomenon of interest. Thus, a grounded theory is the researcher's reconstruction of the participant's constructed definition and resolution of the situation and should be immediately recognisable to the participants in the study. (p. 179)

The constructionist views the world as one that is constantly co-constructed by its members and represents an important epistemological influence in this study. The epistemological stance of this study encompasses elements of both constructivism and social constructionism. Consistent with constructivist grounded theory, this study effectively combines constructivism and social constructivism under the term 'constructionisms' (Patton & McMahon, 2006).

I will now identify the motivations for why I selected grounded theory for this research.

## 3.7 Selecting grounded theory

Grounded theory is a commonly used and popular qualitative research method that is only rivalled by ethnography. Grounded theory is a relatively new method that was developed towards the late 1960s and has been credited to Glaser and Strauss (1967). The objective of grounded theory, through an interactionist theoretical lens, is to enable the description of society through the identification of a core category, categories and subcategories required for change. Glaser and Strauss (1967) defined 'category' as the "conceptual elements of a theory" (p. 36).

Grounded theory allows the illumination of what has occurred and what is occurring (Morse, 2009). The key aspect of historical developments is that grounded theory is unique in that it can either be employed within quantitative (positivist) or qualitative (anti-positivist or interpretivist) paradigms. Strauss and Glaser completed their respective doctoral studies in theoretical sociology and descriptive statistics, which at

the time was a unique collaboration towards an interest in studying social psychological processes (Stern, 2009). Distinct from other research approaches where the end product is a set of findings or a few key themes, grounded theory engages in the development of theoretical concepts (Corbin & Holt, 2011).

The emerging researcher, such as myself, leaning towards the methodology of grounded theory requires the motivation to create theory after analysing data to explain the psychosocial process being researched. In my instance this is consistent with intention as I *want* to develop a deep understanding and a theory about 'self-directed learning by apprentices' from the perspective of the apprentices, their supervisors and vocational teachers. Grounded theory "forms frameworks that explains why organisations, communities or nations experience and respond to events challenges and problematic situations" (Corbin & Holt, 2011, p. 113).

An essential feature of grounded theory research is the continuous cycle of collecting and analysing data. The data is analysed as soon as it is collected. Another feature of grounded theory research is the researcher's writing of reflective memos. Charmaz (2006) suggested these "catch your thoughts, capture the comparisons and the connections you make and crystalise questions and directions for you to peruse" (p. 72).

Within the broader community of grounded theorists there is debate about where to locate the literature review. Within classic grounded theory, Glaser and Strauss (1967) were concerned with the undue influence or perspectives that a researcher may bring to research where grounded theory was the methodology. They suggested that in order to mitigate pre-conceived ideas the researcher should delay the review of literature until the twilight stages of the research. Their belief was that by doing so, researchers would be more open to finding what was *in* the data rather than forcing the data to fit pre-existing ideologies and concepts. Charmaz (2006) rejects this view because she does not believe that a researcher can be passive or separate from the research process. Consistent with Charmaz's constructivist approach to grounded theory, I commenced this research project with an initial review of the literature of the sensitising concepts, informed by my professional experience and background and my interest in the research topic (see Chapter 1).

Since the inception of grounded theory by Strauss and Glaser there has been an emergence of other approaches that have included: the development of dimensional (comparative) analysis, which purports being subtly different in terms of data analysis (Bowers & Schatzman, 2009); situational analysis that embraces the post-structuralist viewpoint (Morse, 2009); and constructivist grounded theory that considers a relative epistemology that sees knowledge as socially constructed, considering multiple standpoints with a reflective stance (Charmaz, 1990, 2009).

Constructivist grounded theory is considered in detail in the following section.

### 3.7.1 Constructivist grounded theory

Charmaz (2009) considers the classic approach to grounded theory as objectivist as it resides in the positivist tradition which "assumes the discovery of data in an external world by a neutral but expert observer whose conceptualizations arise from the data" (p. 138). Data in objectivist grounded theory is separated from the researcher. In contrast, constructivist grounded theory reflects pragmatist roots and does not separate the participants from the researcher as data (reality) is co-constructed (Charmaz, 2003, 2009). The following table (Table 3.2) identifies the epistemological foundations of classic and constructivist grounded theory from the respective positivist and pragmatist traditions.

**Table 3.2: Epistemological underpinnings of grounded theory (Charmaz, 2009, p. 139)**

| Positivist (Classic) | Pragmatist (Constructivist) |
|---|---|
| • Assumes the scientific method<br>• Presupposes and external reality<br>• Assumes an unbiased observer<br>• Assumes discovery of abstract generalities<br>• Aims to explain empirical phenomena<br>• Views facts and values as separable<br>• Views truth as conditional | • Takes a problem-solving approach<br>• Views reality and fluid, somewhat indeterminate<br>• Assumes a situated and embodied knowledge producer.<br>• Assumes search for multiple perspectives.<br>• Aims to study people's actions to solve emergent problems.<br>• Sees facts and values as co-constructive.<br>• Views truth as conditional. |

As a research methodology constructivist grounded theory resonates with me as a researcher and as an individual. This approach considers the original foundations of grounded theory as an umbrella covering contemporary approaches. Constructivist grounded theory appeals to me, as developed by Charmaz (2009), because it is more moderate than other grounded or critical approaches that promotes individual consciousness and recognises infinite explanations. Constructivist grounded theory accounts for individual consciousness; however this extends to social locations, cultural traditions, relationships and situational contingencies. Constructivist grounded theory holds that both the research participants and researchers construct their actions and these actions are unified within the inquiry which is indicative of the teaching and learning dynamic (Charmaz, 2009).

The research methodology of grounded theory, particularly with a focus on constructivist ideologies represents and resonates with my chosen and philosophical and theoretical debates in contemporary educational research. Since grounded theory is

concerned with generating theory, the generation of theory constitutes a defined end point or capstone to the original research proposal. This is not to say that research in the subject cannot be exposed to further inquiry, rather it provides succinct explanations of how knowledge is acquired and used to inform practice. The construction of theory is criticised by post-modernists (Adams St.Pierre, 2011), as they believe that nothing is 'real' and everything is subject to multiple viewpoints. In response, as post-modernism has multiple viewpoints and conceivably undefined conclusions for inquiry, it is difficult to imagine how this approach supports the development of knowledge to enhance professional practice (Charmaz, 2009). Hence Corbin and Holt (2011) express the view that "the powerful thing about grounded theory is it is directly rooted in the problems and issues faced by a discipline" (p. 113).

Unless disciplinary problems and issues are challenged during educational research it makes inquiry a fruitless exercise. Therefore constructivist grounded theory has guided my underlying general perspectives and belief systems that knowledge and truth are interconnected and reality is socially constructed.

The following section identifies the challenges associated with using grounded theory as a research methodology.

#### *3.7.1.1 Challenges of using grounded theory*

> Grounded theory will not appeal to the researcher in search of absolute certainties, neatly defined categories and objectively measured explanations. Its appeal is more to those whose view of behaviour allows for process, change and ambiguities (Goulding, 1999, p. 19).

Grounded theory research has been accused of building analysis on haphazard and narrow data (Lofland & Lofland, 1995). Charmaz (2006) suggests that the tendency to shortcut data collection permeates all kinds of research methods and is not isolated to grounded theory. Further Charmaz agrees with Schneider (1997), who argues that to rush theorising has both political and career dimensions beyond the research problem being investigated and is detrimental to both theory and research.

Hood (2007) advised that researchers may claim that their research is a grounded study, but make no attempt to use theoretical sampling and move back and forth between data collection and data analysis to reach theoretical saturation. Consequently, if this is the case, the data will not be sufficient to support the constructed theory. As I am claiming that this is a grounded theory study it was imperative I understood the uniqueness of grounded theory including theoretical sampling and the dynamic relationship between data collection and data analysis.

Goulding (1999) discussed the general acknowledgement by grounded theorists that there is a danger in placing too much emphasis on identifying codes as the exclusive feature of the process without theoretically coding. Accepting this advice, I concentrated

on explaining how the codes related to each other during ongoing comparison on the basis of their similarities and differences (Glaser, 1992; Stern, 1994; Strauss, 1991).

Developing the grounded theory was a time-consuming process, which included periods of considerable ambiguity. Fortunately the research question was broad enough to allow the discovery of relevant data as analysis occurred (Somekh & Lewin, 2011). Cohen et al. (2007) cautioned that problems can occur during coding if the researcher begins to wrestle with his of her preconceptions (sensitising concepts) and force data into preconceived codes and categories. This was not experienced as a result of my ongoing reading and reflection throughout this study.

The following section justifies the generalisability of the research findings, particularly the development of the substantive theory.

## 3.8 Generalisability

Grounded theory empowers the reader as the consumer of the research to determine the generalisability of the research in terms of the application of results to situations beyond those examined in this study: in this case, beyond apprentices employed by a GTO operating within the southern New South Wales (NSW) and Australian Capital Territory (ACT) geographic area (Charmaz, 2006). In grounded theory, as an alternative to generalising outcomes against the population (as occurs within quantitative research), researchers describe their samples in much more detail to allow the reader to decide whether or not to generalise conclusions to similar substantive instances offered by other scholars. The decisions made by readers therefore are theoretical rather than statistical.

As a grounded theorist, I am less interested in the generalisation of specific findings and more on the generalisability of the developed substantive theory that can be applied, at the judgment of the reader, across a diversity of practice settings (Cohen et al., 2007). Importantly, the substantive theory that was developed during this study depends on my view and interpretation. Subsequently, constructivist grounded theory cannot be disconnected or authentically be considered external to myself (Cohen et al., 2007; Hood, 2007).

## 3.9 Substantive and formal theory

Drawing from Charmaz (2006) and Kerlinger (1986), theory can be defined as a set of interrelated constructs, concepts, definitions and propositions that can be deductable from others to allow an explanation to be developed for the phenomenon being studied. The goal of theorising is to develop universal laws of human behaviour that provide an understanding of lived experience instead of abstract generalisations (Denzin, 1989).

A substantive theory is a theoretical interpretation or explanation of a problem in a particular area, such as family relationships, formal organisations or education (Glaser & Strauss, 1967). The outcome of this study is the development of a substantive theory about the development of self-directed learning in apprentices.

A formal theory therefore is a theoretical rendering of a research problem or question that cuts across several substantive areas and allows its application over a wide range of areas. This is opposed to the descriptive localised generalisations offered by substantive theory within particular areas (Bryant & Charmaz, 2007b).

> By substantive theory we mean theory developed for a substantive or empirical area of sociological inquiry, such as patient care, geriatric like styles etc. … By formal theory we mean theory developed from a formal or conceptual area of sociological area such as status passage, stigma, deviant behaviour, etc. (Glaser & Strauss, 1971, p. 77).

According to Engeström (2001) a theory of learning must answer at least four central questions: 1. Who are the subjects of learning? 2. Why do they learn? 3. What do they learn? and 4. How do they learn, what are the key actions or process of learning? The substantive theory that I have developed has the apprentices as the subjects of the learning; the apprentices were motivated to learn as they wished to become competent tradespersons; the apprentices learnt how to become competent and self-directed tradespersons who can make independent decisions; and they learnt through a psychosocial process where they learn from anyone with whom they develop positive workplace relationships.

## 3.10 Ethical considerations

Ethics approval for this research project was granted from the University of Southern Queensland's (USQ) Human Research Ethics Committee (see Appendix A) and permission to conduct research was also given from the GTO that employed the apprentices (Appendix B) and the Registered Training Organisation (RTO) that retained the vocational teachers (Appendix C). The apprentices were interviewed at the premises of the GTO, away from the workplace of their host employer at the time. The host employers and vocational teachers were interviewed within their workplaces at a mutually agreeable time and location where distractions and external influences could be minimised. All interviews were recorded using a digital voice recorder. Following transcription of the interview by the researcher, each participant was provided with a copy of the transcript for validation. Additionally, the participants were encouraged to clarify or extend on topics at this time with some participants accepting the invitation.

Informed consent was obtained verbally and in writing. Following verbal consent and the initial letter of invitation, the *Participant Letter of Consent* (Appendix E) was provided. This letter formally advised the participants of their right to withdraw from the

study at any time without any fear of the consequences and their participation was voluntary. Additionally, the participants' voluntary consent was reiterated prior to each and every interview.

In the promotion of open and honest communication, the relationship between the participants and the researcher resembled a professional discussion between colleagues. To avoid miscommunication, correspondence between the researcher and participants was communicated both verbally and in writing from the initiation of the project. The quality and content of these interviews depended to a great extent on the rapport that I built with the research participants. I do not believe that I would have had the same high level of engagement with the participants if I had introduced myself as a 'doctoral student' as opposed to a 'tradesperson' in what the participants identified as a traditional trade (fitting and machining). I was mindful that the content and quality of the interviews was going to be dependent, to a large extent, on the rapport I could develop between the participants and myself. It was imperative that the participants felt free to share their experiences, thoughts and feelings and talk openly. As well as introducing myself as a tradesperson, I wore clothing that was workplace recognisable, including well-worn steel capped safety boots. Another strategy that I used specifically with the host employers and vocational teachers was that the initial questions were about their experiences as an apprentice, and as appropriate I would share some of my experiences. This interaction provided a base line to progress with the interview. I also found that knowing the apprentices' individual backgrounds helped me contextualise the questions, particularly concerning the understanding of terminology and language to attain rich responses.

Debriefing of participants was conducted upon the conclusion of each interview. This debrief provided: (a) a summary of the data collected; (b) opportunity to seek feedback on the interview experience; and, (c) an additional opportunity for further questions that may arise. Additionally, at the conclusion of this study a letter of thanks was extended to both the participants and their respective organisations along with an opportunity to be provided with a copy of the final doctoral thesis.

The preservation of anonymity and confidentiality during this research project was of primary importance. I asked each participant to nominate a chosen pseudonym. The pseudonym was to be the only representation used to reflect the information and views gathered from the participants to ensure that no data could be linked back to individuals, so as to maintain confidentially. In all cases the participants sought guidance choosing a pseudonym, which was unexpected. Subsequently, a coding system for pseudonyms was used throughout this research to identify the participants. The code 'A01' refers to the participant being the first apprentice to be interviewed. Similarly 'E02' was the second employer to be interviewed and 'T03' was the third vocational teacher to be interviewed.

I am the only individual who has a record of who participated in this study and all records are stored securely on my password-protected computer. My password-protected computer also stored electronic records, which included transcripts and recordings.

## 3.11 Data collection and analysis

The initial approach of this project was underpinned by the sensitising concept of self-directed learning. The sensitising concepts guided the initial data collection, through semi-structured interviews and initial sampling of apprentices, supervisors and vocational teachers. Initial sampling involved the selection of participants to enable the preliminary collection and analysis of rich data (Charmaz, 2006).

The analysis of data as it was collected allowed for the efficient generation of categories and identification of other avenues of inquiry, "thereby providing stepping stones upon which to build knowledge and frameworks to guide practice" (Corbin & Holt, 2011, p. 116). Consistent with the emerging nature of grounded theory, the extremities of the scope, in terms of sampling and data gathering approaches, were not able to be highlighted other than to indicate that this would occur within theoretical sampling, which aims to develop new questions to seek specific data (Charmaz & Henwood, 2008). It was also not possible to define a point to conclude this research project at the studies inception; however, methodically the research project was completed when theoretical saturation appeared when the categories were full, which made it possible to determine a substantive theory about the understanding and development of self-directed learning by apprentices (Charmaz, 2006; Corbin & Strauss, 2008; Glaser & Strauss, 1967).

Within grounded theory the collection of data, data analysis and theoretical development occurs simultaneously. Charmaz and Henwood (2008) proposed the following four steps as general strategies for conducting constructivist grounded theory research that guided this research:

1. The researcher undertakes data collection and data analysis simultaneously. Doing data analysis early will help the researchers with their subsequent data collection. This will then allow the researcher to define their tentative categories.
2. During the coding phase the researcher performs constant comparative methods. The researcher will need to make decisions at each level of analysis, including data with data, data with codes, codes with category, category with category, category with concept.
3. The researcher constructs emergent concepts from the data. The emerging concepts will arise from the researcher's interactions with this data and his or her interpretations of them.
4. Inductive-abductive logic is adopted. The researcher begins this by examining 'inductive cases, and checking the emerging analysis by entertaining all possible theoretical explanations and confirming or

> disconfirming them until most plausible theoretical interpretation of the observed data is constructed (p. 242).

Drawing from Charmaz (1990, 1991, 2006, 2009) the pragmatic approaches and data collection and analysis for this research project included *initial sampling*, *interviewing*, *analysis (coding)*, *theoretical sampling* and *theoretical saturation*.

### 3.11.1 Initial sampling

The participants in this research included apprentices, supervisors and vocational teachers who were active participants in terms of apprentice learning where both on-the-job and off-the-job approaches to delivery and assessment were incorporated. The sample size was 13 participants. As a guide for grounded theory research, a sample size between 15 and 30 participants is considered appropriate (Creswell, 2009; Morse & Chung, 2003). Creswell (2009) views grounded theory as primarily based on a limited number of interviews, however he does not challenge using a small sample. I wanted to interview more participants, however this was not necessary as the categories and subcategories had reached theoretical saturation. Additionally, as the quality of my data is rich and analysis has been rigorous, I believe that this limited sample is sufficient, particularly as the host employers and vocational teachers who were included in the sampling have also completed a trade apprenticeship (Charmaz, 2006). The apprentices in this study were in the third year of a typically four-year apprenticeship. The host employers (on the job supervisors) and the vocational teachers were all highly experienced in the industry; all had a minimum of ten years recent and relevant experience.

The participants were selected through the method of purposive sampling on the basis of their judgment, typicality, profession or particular characteristics (Cohen et al., 2007). The GTO and vocational institute selected participants for this study, as these bodies were active participants in the learning journey of apprentices within the building and construction industry. Cohen et al. (2007) advocated that purposive sampling is used to access "knowledgeable people … those who have in-depth knowledge about particular issues, maybe by virtue of their professional role, power, access to networks or expertise" (p. 115). It is noteworthy that in this context all of the participants within this study, including myself, were doing or have completed an apprenticeship as a traditional pathway to becoming a tradesperson. This is noteworthy because this enabled the collection of rich data, as the participants were able to reflect on their experiences and those of others. These experiences included those as an apprentice, tradesperson and from interacting with apprentices and tradespeople within the workplace and their broader professional networks. As the researcher, my trade background assisted in building rapport with the participants and I was able to draw on my experiences to inform discussions during the interviews. The common backgrounds of the participants and the researcher further addresses any concerns over the sample size and the quality of

this research. Effectively, including the researcher 14 people were currently completing or had previously completed apprenticeships at the time of interviewing.

### 3.11.2 Interviewing

Drawing from Cohen et al. (2007), interviewing was chosen as the primary data collection method, consistent with constructivism, as it acknowledges that I was seeking to understand the participants' understandings about how apprentices become self-directed learners. During the initial interview participants' meanings, feelings and actions were explored. The interviews were conducted over a twelve-month period and the questions were informed by the sensitising concept of self-directed learning (see Appendix D for an example of the interview questions). The semi-structured interviews commenced with the apprentices, progressed to host supervisors and concluded with vocational teachers. I took this approach and interviewed the apprentices first to make the most of the opportunities provided through theoretical sampling. I refined the guiding questions initially posed to the apprentices for subsequent interviews, which assisted to refine and elaborate the categories. The teachers were interviewed last for no other reason than their availability and my intuition that their participation at this time would greatly assist with theoretical saturation of the categories to inform the development of the substantive theory.

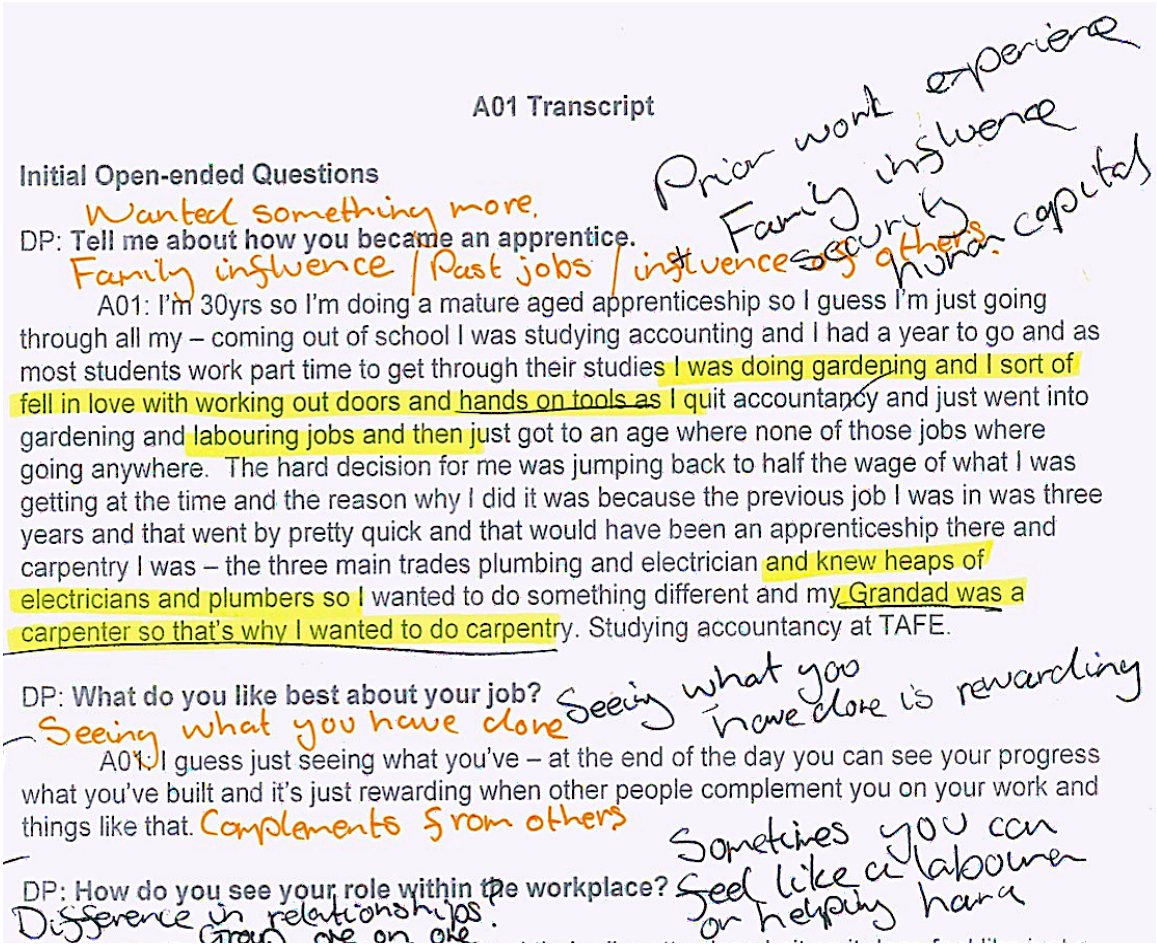
Influenced by Goulding (1999) as I embarked on this study I was mindful of the tensions that exist when using interviewing within grounded theory where researchers should avoid being too structured when collecting information. Consequently, I did not approach the interview with a proscribed set of questions, as I was conscious that it was important to attain first-hand information from the participants' viewpoint. Counterbalancing this was the requirement to be mindful of the participants, particularly the apprentices, for whom unstructured interviews could have caused participants to become confused. Additionally, without the guidance of semi-structured interviews there was a risk that my expectations may have been reflected during the data collection. Goulding (1999) advises that interviewing is an art and that is about "finding a balance which allows the informant to feel comfortable enough to expand on their experiences, without telling them what to say" (p. 8). I approached this by using what I refer to as a semi-structured interview format, which used a series of open-ended questions as a guide for a professional discussion where my approach to facilitation could be situationally modified.

This semi-structured format is consistent with what Charmaz (2006) refers to as "intensive interviewing" (p. 25). Charmaz (2006) outlines that "both grounded theory methods and intensive interviewing are open ended but directed, shaped yet emergent, and paced yet flexible approaches" (p. 28). Acknowledging my position as an insider-researcher and vocational teacher at interview was a strategy to seek initial engagement and maintain engagement of the participants throughout the study. I conceived that the participants may have interpreted the term intensive interviewing as confronting or

challenging, which may have impacted on their voluntary involvement, the quality of the interview process towards data collection and the longevity of the study. I described the interviewing process to the participants as a routine professional discussion that they would have experienced within the workplace with peers.

### 3.11.3 Analysis (coding)

Within grounded theory, analysis and data collection is ongoing where the researcher creates qualitative initial and focused codes by defining what is seen within the data. These codes form the basis for the identification of subcategories. These codes are emergent and can take the researcher into unforeseen areas and research questions (Charmaz, 2009). Within this research unforeseen areas emerged, and included a focus on decision making and the varied impact of host supervisors on the apprentices' learning.


A01 Transcript

Initial Open-ended Questions

Wanted something more.

DP: Tell me about how you became an apprentice.

Family influence / Past jobs / influences of others

A01: I'm 30yrs so I'm doing a mature aged apprenticeship so I guess I'm just going through all my – coming out of school I was studying accounting and I had a year to go and as most students work part time to get through their studies I was doing gardening and I sort of fell in love with working out doors and hands on tools as I quit accountancy and just went into gardening and labouring jobs and then just got to an age where none of those jobs where going anywhere. The hard decision for me was jumping back to half the wage of what I was getting at the time and the reason why I did it was because the previous job I was in was three years and that went by pretty quick and that would have been an apprenticeship there and carpentry I was – the three main trades plumbing and electrician and knew heaps of electricians and plumbers so I wanted to do something different and my Grandad was a carpenter so that's why I wanted to do carpentry. Studying accountancy at TAFE.

Prior work experience
Family influence
security
human capital

DP: What do you like best about your job?

Seeing what you have done

Seeing what you have done is rewarding

A01: I guess just seeing what you've – at the end of the day you can see your progress what you've built and it's just rewarding when other people complement you on your work and things like that.

Compliments from others

DP: How do you see your role within the workplace?

Sometimes you can feel like a labourer or helping hand

Difference in relationships.

**Figure 3.1: Example of coding**

Figure 3.1 above is the transcript of my first interview of the study with an apprentice in August 2013. The initials 'DP' indicate myself as the researcher (Damien Pearce) and the code 'A01' is the pseudonym for the first apprentice to be interviewed. Figure 3.1 also demonstrates how I developed codes from the interview transcripts. The yellow highlight indicates my initial analysis of the transcript where key points from the text were identified. The remainder of the handwritten text indicates two separate occasions where the transcript was re-analysed as the research progressed and categories emerged.

Table 3.3 details the schedule of the semi-structured interviews of the participants. It also depicts the pseudonyms allocated to the apprentices, host employers and vocational teachers.

**Table 3.3: Schedule of interviews**

| **Month of interview** | **Participant** | **Pseudonym** | |
|---|---|---|---|
| Aug 2013 | Apprentice 1 | A01 | |
| Aug 2013 | Apprentice 2 | A02 | • Data collection and analysis was ongoing |
| Aug 2014 | Apprentice 3 | A03 | |
| Aug 2013 | Apprentice 4 | A04 | |
| Aug 2013 | Apprentice 5 | A05 | • Questions were refined from interview to interview to identify new and explore emerging categories |
| Aug 2013 | Host employer 1 | E01 | |
| Sep 2013 | Apprentice 6 | A06 | |
| Oct 2013 | Host employer 2 | E02 | • Researchers reflections using memos was ongoing |
| Nov 2013 | Apprentice 7 | A07 | |
| Nov 2013 | Host employer 3 | E03 | |
| Dec 2013 | Vocational teacher 1 | T01 | • Questions were further refined (theoretical sampled) to saturate categories |
| Dec 2013 | Vocational teacher 1 | T02 | |
| Dec 2013 | Vocational teacher 1 | T03 | |

Additional approaches to analysis included the extensive use of reflective memos, whose purpose was to keep me involved and motivated with the analysis of the information, to make ongoing comparisons between data and data, data and codes, codes and data, codes and categories, and concept and concept (Charmaz, 2006; Charmaz & Henwood, 2008). These reflective memos also provided me with the opportunity to reflect on my prior experience as an apprentice, tradesperson and teacher as the data emerged. I found this particularly useful within the early stages of this study when I needed to find my bearings and when I was wrestling with personal preconceptions.

**Reflective Memo – 31 August 2013**

This memo is being written two days after doing my first interview. If I am honest with myself, I was nervous going in to the interview about not letting my preconceptions influence the participant and the interview process so I can authentically collect the 'rich data' that seems so important within grounded theory. The transcript of the interview has not been finalised but there are notable topics. I was surprised that the participants didn't engage with identifying their own pseudonym (this is why we ended up with A01). It also become very clear to me that the apprenticeship experience for this participant was nothing like my army apprenticeship so I need to be mindful of making generalisations. It will be interesting to see if the experiences of the other apprentices will be similar to each other. I know that I have just started interviewing, however there is 'something' emerging about the rewards the participants are looking for from their apprenticeship and the influence of others. I am not really sure where to go next and need to call Mark [supervisor]. Looking forward to the opportunity to read through the transcript.

**Figure 3.2: Example of reflective memo**

Figure 3.2 is as an example of a reflective memo, which were used during this research. This particular memo was written after completing my first interview. In the memo I comment about my nervousness about not letting my preconceptions influence the participants during the interviews and the implications this may have on the richness and rigour of the data. Additional reflection was made about emerging categories and the need to seek advice from my supervisor. I also found that writing reflective memos on an ongoing basis assisted with the efficient management of time as not only did they contribute during the analysis of information, they were also a record of my progress. Keeping these records, which were dated and filed by pseudonym, made it relatively simple to find my place to progress with research, particularly during data collection and analysis.

### 3.11.4 Theoretical sampling

Theoretical sampling is unique to grounded theory and seeks to develop new questions and data collection strategies after categories become coherent. This coherence is the emergence of ongoing themes or concepts. Engaging in theoretical sampling seeks

people, events or information to illuminate and define boundaries of the categories. During theoretical sampling ongoing review and comparison of events, data, codes and categories occurred (Charmaz, 2006). Glaser and Strauss (1967) summarise:

> Theoretical sampling is the process of data collection for generating theory whereby the analyst jointly collects codes analyses [his or her] data and decides what data to collect and where to find them, in order to develop [his or her] theory as it emerges (p. 45).

Theoretical sampling occurred within this research as the emerging categories and subcategories were related back to the interview transcripts. As they developed I realised that in successive interviews it would be necessary to seek pertinent data to refine the categories; for example, after seeking the views of the apprentices about how they stay motivated, the host employers and vocational teachers were asked to think more deeply about how they motivated apprentices within their respective workplaces and the vocational institutes. Theoretical sampling in this approach led me to further consider data from individuals, situations, context and locations (Goulding, 1999).

### 3.11.5 Theoretical saturation

Bryant and Charmaz (2007b) refer to theoretical saturation as the point at which "gathering more data about a theoretical category reveals no new properties nor yields any further theoretical insights about the emerging grounded theory" (Bryant & Charmaz, 2007b, p. 611).

Theoretical saturation led to the development and identification of categories and subcategories. The categories include *committing effort*, *experiencing work*, *confirming value* and *heightening motivation*. The subcategories within committing effort have been recognised as the *influence of family and friends*, *experience with work* and *high self-confidence*. The category of experiencing work comprises the subcategories of *gaining employment*, *discovering place* and *developing expertise*. Similarly the category of realising value has the subcategory of *learning from others,* and the category of heightening motivation contains the subcategory of *learning with others*.

## 3.12 Summary

This chapter detailed the research design and strategy employed within this study.

The focus of this research, using the methodology of constructivist grounded theory, was to develop a deep understanding about how apprentices who were employed by a GTO develop the capacity to become self-directed learners.

The participants of this research included a sample of apprentices from the GTO and a representation of the apprentices' host employers and vocational teachers. Data were collected from the participants through semi-structured interviews. Data collection and analysis also involved the extensive use of reflective memos by the researcher.

Consistent with constructivist grounded theory, data were collected and analysed (or coded) simultaneously and effective theoretical sampling led to theoretical saturation and illumination of the categories. These categories include: *committing effort*, *experiencing work*, *confirming value* and *heightening motivation.*

The next chapter explores the development of these categories and their subcategories towards explaining and identifying a substantive theory about how apprentices became self-directed learners.

# Chapter 4 Exploring the categories: Putting it all together

> Although humans are not irrational, they often need help to make more accurate judgments and better decisions, and in some cases policies and institutions can provide that help (Kahneman, 2011, p. 411).

## 4.1 Introduction

This chapter considers the categories and subcategories emerging from the research, the apprentices' evaluation and decision-making process and the core category of sponsorship. It commences with an introduction and brief overview of the four categories of *committing effort*, *experiencing work*, *confirming value* and *heightening motivation* and their subcategories.

By developing a substantive theory about how apprentices develop the capacity to become self-directed learners, I wanted to better understand the learning process of apprentices as they developed as self-directed learners. This research places emphasis on *how* apprentices learn during their apprenticeship. Throughout this chapter I have made use of *reflective memos* as they allowed me to make a connection between my personal journey as a researcher engaged in developing a substantive theory. In some cases these reflections also allowed the unique voices that emerged from the data to be heard and for connections to be made between the process, theory and data.

This research has identified that from the time the apprentices first began to consider the opportunities that a trade career may present, they were engaged in a conscious and subconscious process of evaluating experiences and making decisions based on these evaluations. Subconscious is used within this study to mean a "behavior that is not based on a deep analytical thought process" (Aubin, Atoyan, Robert, & Atoyan, 2012, p. 5267). An example of subconscious decision making is parking your vehicle as close as possible to the entry of the supermarket so you can save energy and time by having a short distance to carry groceries.

The diagram following (Figure 4.1) demonstrates the relationship between categories, subcategories and properties. Within this research there are up to three subcategories within each of the four categories that have been recognised.

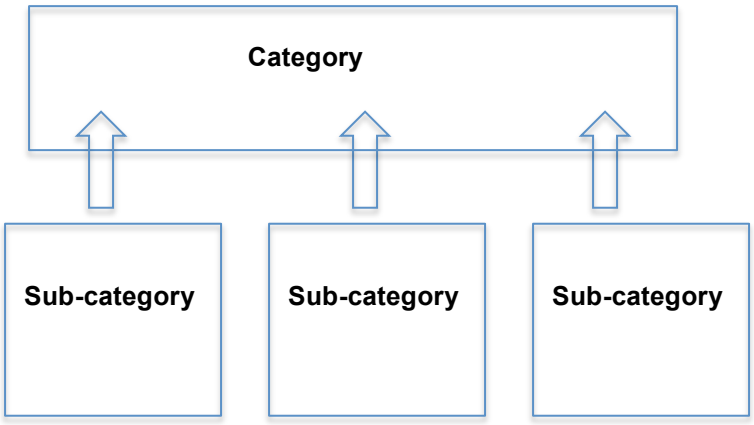



**Figure 4.1: Relationship between categories and subcategories**

Consistent with the development of a substantive theory using constructivist grounded theory, four categories (phases) emerged. These categories (*committing effort*, *experiencing work, confirming value* and *heightening motivation)* have porous and interconnected boundaries. As well as being porous and interconnected, the boundaries between these categories are dynamic in the sense that progression is not linear or absolute. It is conceivable that apprentices may be at different phases at different times during their apprenticeship, dependent on the individual and the host employer's engagement with learning within the workplace. Furthermore, in some circumstances the apprentice may regress and repeat some of the phases, maybe more than once.

## 4.2 Overview of the categories

The categories of *committing effort*, *experiencing work*, *confirming value* and *heightening motivation* constitute the phases through which apprentices become self-directed learners. (Figure 4.2 provides a pictorial representation). Conceptually (as shown through the centre of the diagram) within and between each of these phases there are ongoing evaluation and decision-making processes through which the apprentices determine their ongoing commitment to their apprenticeship. The illustrations above and below the phases through the centre of the diagram depict the ongoing evaluation and decision-making process that the apprentices undertook throughout their apprenticeship. The apprentices continuously evaluated their experiences consciously and subconsciously. These evaluations were affected by the level of support in the workplace along with a determination of whether their expectations were being met.

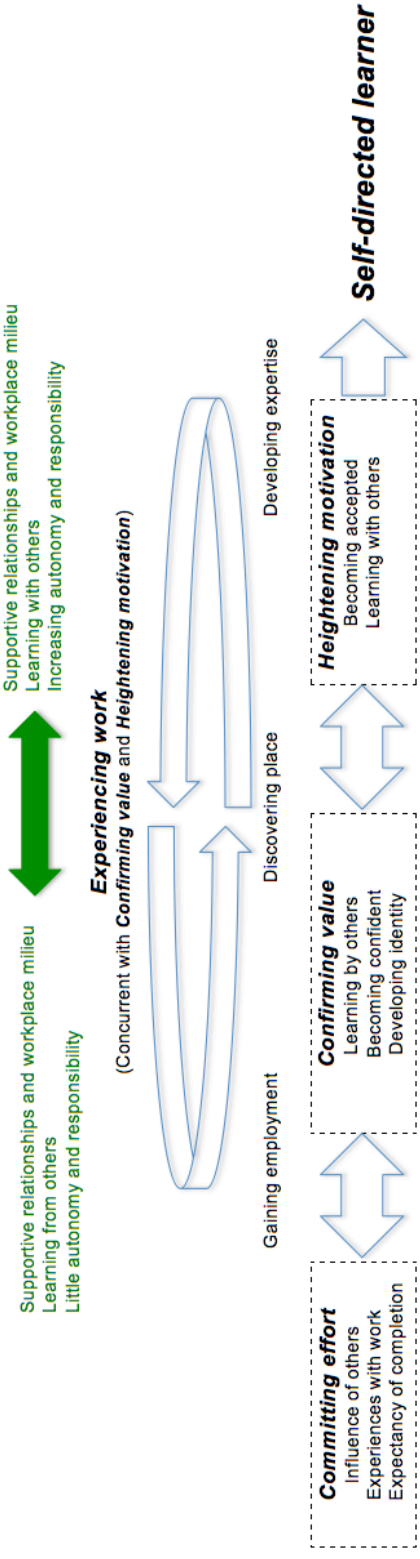



**Figure** 4.2: **Evaluation and decision making of the journey towards self-directed learning by apprentices**

The next section considers the four categories that are positioned across the centre of Figure 4.2 (shown middle left of Figure 4.2).

### 4.2.1 Committing effort

The category of *committing effort* commences before the apprentices begin their apprenticeship. This is worth noting as, although the research question concerns the development of self-directed learning in apprentices, it is clear that what precedes the apprenticeship is relevant to the development of self-directed learning during the apprenticeship.

*Committing effort* is concerned with the apprentice expending energy to seek and undertake an apprenticeship to become a tradesperson. Committing effort is a consequence of the apprentice valuing the opportunities that becoming a tradesperson may provide. In this sense value is about the value the apprentice places on the experience of becoming a tradesperson and the value of the anticipated outcome of being a tradesperson. This value of becoming and being is drawn from Kahneman (2011) who suggested that to *experience value* is "the degree of pleasure or pain, satisfaction or anguish in the actual experience of an outcome" and *decision value* is "the contribution of an anticipated outcome to the overall attractiveness or aversiveness of an option in a choice" (p. 446).

C*ommitting effort* consists of three subcategories including the *influence of family and friends*, *experiences with work* an *expectancy of completion.* This phase is about the prospective apprentice seeking value as a consequence of them beginning an apprenticeship. This category and the subcategories highlight the importance of the *influence of family and friends* in conjunction with direct or indirect past *experiences with work* in ascertaining this value. Positive comments from family and friends along with the positive experiences in the workplace assisted the finding of value. In finding this value, there is also a requirement for the prospective apprentice to have an *expectancy of completion.*

### 4.2.2 Experiencing work

*Experiencing work*, as a category, follows the category of committing effort and commences when the apprentice initially secures employment and starts their training plan. It includes both on-the-job and off-the-job aspects. This category is shown in Figure 4.2 above and parallel to the categories of *confirming value* and *heightening motivation* to represent its concurrent nature.

From the time the apprentices commence their apprenticeship they consciously and subconsciously begin to evaluate positive and negative experiences and reflect the decisions they make.

Experiencing work has the subcategories of *gaining employment*, *discovering place* and *developing expertise*. *Gaining employment* requires the prospective apprentice to prove their *trade readiness* to the initial group-training employer (GTO) and subsequent host employer or employers. Once the apprentice starts within the workplace, *discovering place* is about the apprentice understanding what is going on around him or her and coming to understand mutual expectations. As an example, these mutual expectations may include the apprentice understanding their employment conditions or relationships with employers and the employers' obligation to facilitate learning within the workplace. *Discovering place* is a predisposition to *developing expertise*. *Developing expertise* represents the progression between a novice and an expert and is ongoing for the apprentice.

### 4.2.3 Confirming value

The category of *confirming value* explains the process whereby apprentices begin to see a benefit from committing effort in becoming a tradesperson and their progress towards the anticipated outcome of being a tradesperson and having a vocational career.

Confirming value is represented in Figure 4.2 and is the phase where apprentices continue to develop higher capabilities for self-directed learning and in doing so they begin to understand the importance of being able to develop and sustain relationships. Being able to develop and sustain relationships proved essential to their continued development as self-directed learners.

Additionally, it is during this phase that the apprentices first begin to initially identify themselves as tradespersons. The formation of this tentative identity appears to be related to their perception of their development of workplace self-confidence and expertise at this time. This was found to be an enabler for learning and the subsequent development of expertise within the workplace. During the *confirming value* phase the commitments and compromises that the apprentices may have made when deciding to seek and peruse an apprenticeship begin to be rewarding. An example of these commitments and compromises may include the reduction in salary and the necessity to seek overtime work and the associated implications on the family's routine. *Confirming value* has the subcategories of *learning from others*, *becoming confident*, and *developing identity*.

### 4.2.4 Heightening motivation

*Heightening motivation,* as a category, characterises the increased motivation that the apprentices exhibit when they are within the twilight stages of their apprenticeship and can see the light at the end of the tunnel. Figure 4.2 represents this category on the right of the centre line.

Within this phase, apprentices move towards the acquisition of full identity as tradespersons; by then most have developed competence within their respective trades and as a result also received acknowledgement from others in the workplace. This acknowledgement may come from juniors, peers, journeymen and supervisors. The apprentice is now becoming acknowledged as a member of their vocation, as a tradesperson. It was notable in the data that this sense of developing acceptance appears to result from the combination of the apprentices' own assessment of their identity and as a consequence of the way others identify with them, as now they have developed a level of expertise and the commensurate self-directed learning. During the study, it emerged that the apprentices' learning during this category became less dependent on the notional one-way transmission from others and they began to learn in collaboration with others. This phase represents the apprentice moving from being primarily the consumer of knowledge to an active participant in knowledge creation.

Heightening motivation contains the subcategories of *learning with others* and *becoming accepted*. The next two sections explore the evaluation and decision-making process of the apprentices and introduce the core or underpinning category of sponsorship.

## 4.3 Evaluation and decision making

As apprentices progress through the phases or categories, as shown in Figure 4.2, they constantly evaluate and re-evaluate their experiences. The evaluation of these experiences is both conscious and subconscious where judgments are made, being either positive or negative. In the instance where the positive experiences outweigh the negative experiences the apprentice is more likely to stay engaged with their apprenticeship. Moreover, if these experiences are compellingly negative the apprentice may decide to discontinue their engagement with their apprenticeship. It was revealed that this evaluation and decision-making process became more complex as the apprentices progressed through these phases. These decisions became complex because the apprentices were becoming able to identify the aspects of problems, seek and assimilate advice from others, think reflectively and deliberate on possible advantages and disadvantages of multiple viable options.

## 4.4 Sponsorship

It was also evidenced that, along with the ongoing evaluation and decision-making process, the apprentices during these phases were supported by more experienced others within the workplace. The sponsor or sponsors were individuals that, along with having more experience, demonstrated to the apprentice that they had both a professional and personal interest in their development. This interest was not always confined to the workplace as the sponsors possessed general concern about the apprentice's wellbeing. This research revealed that as the apprentices developed self-direction the more complex the evaluation and decision-making process became and the function of the sponsor changed. This change was from the apprentice needing the sponsor to be more guiding

and transmissive in the early stages of the apprenticeship, to being collaborative towards the tentative conclusion of the apprentice's learning journey. The nature and importance of the sponsorship is discussed in more detail in Chapter 5.

## 4.5 The categories

The following section investigates, in greater depth, the categories and subcategories. This investigation identifies literature that I reviewed concurrently with the data collection and analysis. This literature provided insights into the categories and subcategories as they initially emerged from the data. This investigation also presents extracts from the participants' interview transcripts and my reflective (research) memos.

### 4.5.1 Committing effort

> Education is itself a process of discovering what values are worthwhile and are able to be pursued (Dewey, 1929, p. 74).

The concept of *committing effort* occurs prior to the prospective apprentice seeking and commencing an apprenticeship. This research identified that apprentices commit effort as they determine the value of becoming a tradesperson through the experience of an apprenticeship and the outcome of being a tradesperson.

An early approach to explain this category was Vroom's expectancy theory of personal success (Vroom, 1964). Vroom's theory focused specifically on what people want and the prospect of these goals being achieved. Vroom argued that the tendency to act in a certain way depends on the strength of the individual's motivation and their subsequent engagement towards achieving their goal and the value that is placed on this achievement. There are three variable categories within this expectancy theory. They are *force*, *valence* and *expectancy*. *Force* describes the amount of effort that an individual is prepared to exert to reach the goal of being a tradesperson. *Valence* is the level of attractiveness or unattractiveness of the goal, such as value placed on becoming a tradesperson. *Expectancy* is the individuals' perceived perception of likelihood that the goal will be achieved. Vroom's theory culminates in a simple equation where force (effort) = valance (value) x expectancy (possibility), where increased levels of force leads to the apprentices' educational success (Gyurko, 2010; Lee, 2007; Vroom, 1964).

In the context of learners, such as apprentices, making the decision to continue with further study Gyurko (2010), whose research into the motivation of trainee nurses is transferrable to this context, suggested that Vroom's expectancy theory:

> Provides a conceptual understanding of why people succeed or don't succeed when pursuing different educational opportunities. If, when a student is pursuing educational opportunities, he or she can overcome negative peer pressure, schoolwork and worry, and the difficulty in learning new study habits, as well as other real or perceived

> barriers, the student can expect to be able to put forth increased effort (sometimes called motivation) towards scholastic goals (p. 506).

As humans we readily identify with the notion of success, value and capital. Schuller (2004) provides a useful conceptual framework about value (see Figure 4.3). Within the triangular framework that conceptualises the wider benefits of learning, *human capital* and *social capital* form the base and *identity capital* is located at the apex. Within this analogy, according to Schuller (2004), *human capital* refers to qualifications, knowledge and skills possessed by individuals to enable them to function in economic and social life; *social capital* is about civic preparation, and the relationships that exist between individuals or groups of individuals like family and friends; and *identity capital* reveals enjoyment, plans and self-concept. This framework recognises that the three dimensions of capital and developmental outcomes are a combination of two or all three of these governing concepts. Moreover, this paradigm illustrates that where human capital and social capital meet, attitudes, values and the motivation to continue to learn conceptually intersect.

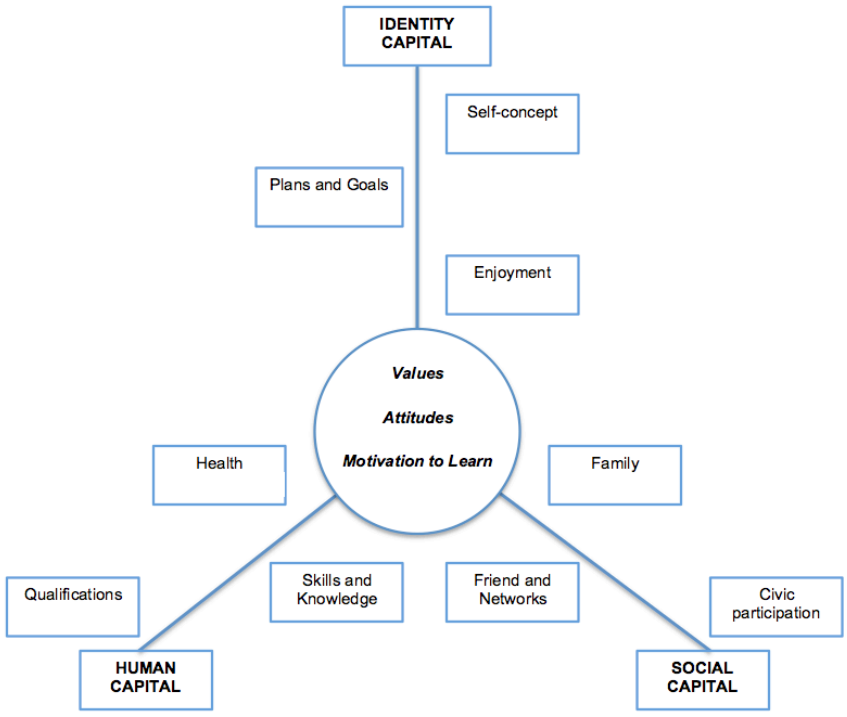



**Figure 4.3: Conceptualisation of the wider benefits of learning (based on Schuller, 2004, p. 13)**

This intersection signifies the wider benefits of learning or education. Education is no longer simply seen to be important for the economy. Education is now considered as a key economic driver upon which national fortunes and prosperity rests. As Tomlinson

(2013) discussed, education has been reconfigured as a commodity towards enhancing national competiveness with descriptive consequences as shown in Figure 4.4. Tomlinson (2013), in a similar vein to Schuller (2004), continues with this discourse by distinguishing between *human capital* and *physical capital* and in doing so highlights some tensions. He explains that *human capital* is cognitively based and centres on skill requirements that are increasingly shaping labour outputs. In contrast, *physical capital* has a production base on the tools of production, manual labour and physical toil.

**Reflective Memo – 12 February 2014**

This morning on the ABC's *News Breakfast* program they were focusing on the announcement made by Toyota that the company was planning to cease manufacturing in Australia. This is of course on the heels of the same announcement by Ford and General Motors.

On the program they interviewed, what the journalist described as, a long-time employee of Toyota, over 25 years. During the interview it became very apparent that he had a sense of entitlement stating "as I am losing my job, I want to know how they [referring to Victorian and Federal Governments] are going to retrain me" and he continued by saying that "all I know how to do is build cars on a production line". This got me thinking about the importance of apprentices becoming self-directed, the differences between the old and emerging global economies, the perceived sense of entitlement 'being a company man', and the need for us all to be able to develop our human capital. Perhaps Tomlinson (2013) is in fact right when he suggests that an "individuals' lack of employability can be accounted for by their unwillingness or inability to invest in their human capital" (p. 87)?

**Figure 4.4: Reflective memo (12 February 2014) – Commodification of labour**

Traditional trades by their nature, particularly within the building and construction industry, are arguably more aligned to physical capital—manual labour and physical toil as described by the Toyota employee in Figure 4.4. Valid concerns have been expressed that traditional educational values, relating to the holistic development of the individual have been sidelined with the conceptual shift from physical capital to human capital imperatives (Tomlinson, 2013). An example of this human capital position is the competency-based approach to teaching and learning within the modern-day Australian Vocational Education and Training (VET) sector where the research participants were situated, which focuses on an outcomes approach to meet the skill needs of industry and those of the economy rather than the holistic development of the individual.

The category of committing effort has the subcategories that include the influence of family and friends, experiences with work, and high expectancy of completion.

### 4.5.2 Influence of family and friends

This research suggests that the decision of the apprentices to seek an apprenticeship with the trades was influenced by their family and friends and the value that family and friends place on vocational education and training opportunities as a worthwhile occupational choice. The role of family and friends in tertiary study choices in the southern United Kingdom has been explored by Brooks (2003). Brooks highlighted the central importance of friends and peers for young people making decisions about further study opportunities, and along with families, have a clear role in informing young people's understandings of education opportunities. Brooks found that young people's parents and step-parents played a pivotal role in influencing and informing their tertiary study choices. She found that this influence was not informed by the caregivers socio-economic or class status but "on the basis of finer-grained differences such as the extent which they had contact with graduates within the workplace" (p. 290).

Identifying alternative findings to those of Brooks (2003), regarding the influence of parents, their occupation, and social-economic status, Curtis (2008) found from analysis of a longitudinal survey of Australian youth that young Australians were more likely to commence an apprenticeship if their parents were tradespersons and possessed technical or trade qualifications. In addition to their parent's occupation, young people were also more likely to commence an apprenticeship if they were lower achieving students who left school before completing Year 12 and come from low to medium social economic backgrounds.

Collinson (2012), in a study into the sources of teachers' values and attitudes in the United States, found that her participants did not choose to necessarily emulate the occupational choices of their parents but credited their parents with instilling values and attitudes towards learning and work. Collinson (2012) also established that spouses and significant others were also influential in re-thinking values and attitudes, along with family and close associates. She also identified that other situations led to the re-thinking of values, including: experience of another career, life routines and experiences, colleagues, teachers and role models.

As indicated in Chapter 3, throughout this research a coding system to identify the participants has been used; as an example the code 'A01' refers to the first apprentice to be interviewed. Likewise 'E02' was the second employer to be interviewed, and 'T03' was the third vocational teacher to be interviewed. In the following interview extracts from this study the participants describe the influences of their family and friends upon their seeking an apprenticeship and a trade occupation:

> *I knew heaps of electricians and plumbers so I wanted to do something different. My grandfather was a carpenter so that's why I wanted to do carpentry* (A01).
>
> *I always had support with my brother being a bricklayer and he got me into it by doing a few weekend jobs* (A03).
>
> *A few of my mates dropped out of school and became apprentices so it seemed like a good idea and going to university just seemed like going to school again. I hated school* (A05).
>
> *The work ethic and culture of the family has had impact. His mother is self-employed and his father is a truck driver working 100 hours a week* (E02).
>
> *I did some labouring for my uncle's company and worked my way up from there* (E03).
>
> *I come from a German family so my dad was like you either go to university or become a tradesman. Both of my parents were tradespeople, they could see the value in higher education [after secondary school] and were supportive and always backing me up* (T01).

The last extract, which refers to a German father's expectations of his offspring upon the completion of secondary school, highlights the perceived value of vocational education and training within international communities, a finding that echoes those of Billett (2011b). Billett (2011b) considers this situation in detail, noting that in German-speaking countries such as Germany, Austria and Switzerland the respective vocational education sectors are well supported by societal sentiment that the development of skilled workers, such as tradespersons and technicians is a meaningful and essential pursuit. Billett articulates that this societal sentiment is supported by the private sector and through the electorate, government and public sectors. However he also indicates that in other countries such as the United States and South Korea, (and based on my professional experience, I also suggest Australia), vocational education towards direct employment outcomes is seen as the antithesis of general education: university education is perceived as having a higher social standing.

Reflecting about the historical worth of occupations since the time of Hellenic Greece, Billett (2011b) suggested that:

> Although the privileged view of the elites denied the worth of these [vocational] occupations, presumably this was not the case within the families of artists and artisans

> who practiced and perpetuated them, using well-established practices within families and practitioner communities. Moreover, there were clear delineations between artisans and artists and other workers who were deemed to be outside such practices, and presumably a lower societal esteem and standing. For these artisans and artists and their communities, the occupations they practiced were highly prized and offered the esteem of engaging in good work and developing expert workers (p. 95).

The analysis of the previously discussed extracts collected from the participants' did not specifically identify the influence of significant others towards committing to an apprenticeship. Drawing from Collinson (2012), besides parents, caregivers and friends, the apprentices' significant others would, in all likelihood, have been influential in the apprentice committing to an apprenticeship and trade career. It can also be concluded that the influence from parents, caregivers, family, friends and significant others is informed by the individual value that they place on vocational education, as shown in Figure 4.5 (Research memo (31 Aug 13) – Parental values).

**Research Memo – 31 August 2014**

At the time of writing this research memo I am progressing well with the interviews of the apprentices. One of the emerging themes is the influence of family and friends when a young person is considering an apprenticeship and a subsequent trade career. Driving home from the interviews today I was thinking about the influences in my life when I was seeking an apprenticeship. My high school metal work teacher, a fitter and turner who did his time at a pulp and paper mill, significantly influenced me. Through him I became fascinated with all things mechanical, particularly precision components such as roller bearings and gear trains. To me aiming to become a fitter and turner seemed like a good option. I certainly valued the craft. My parents were semi-skilled shift workers at a local food-processing factory. I recall that they worked hard and were fully supportive of me seeking an apprenticeship. I knew that I didn't want to follow them and I had a sense that they didn't want that either. I realised the value that my father placed on the apprenticeship for at one stage I was considering not pursuing it. After being accepted into the army as an apprentice fitter and turner, I can still remember the initial disappointment on my father's face when I initially indicated to him that I was going to decline the offer and stay in Tasmania.

I wonder what the other influences and considerations are for those seeking an apprenticeship today?

**Figure 4.5: Reflective memo (31 August 2014) – Parental values**

As indicated in the memo above, my personal decision to seek and accept an apprenticeship was influenced by my family and friends, with the most significant influence being my parents. The data in this study have also identified that the influence of family and friends significantly contributed to the apprentices' decision to commit to an apprenticeship and a subsequent trade career. That decision was also influenced by the apprentices' observations and experiences within the workplace, either their own or others, as discussed in the next section.

### 4.5.3 Experiences with work

In addition to the influence by family and friends the decision to seek an apprenticeship and a trade career was also influenced by the apprentice's past work experiences. These work experiences were said to include prior work experience, either voluntary, part-time, full-time employment and work experience initiatives at secondary school.

This is supported by the stories shared from the participants:

> *I was studying accounting part-time and was doing gardening and I sort of fell in love with working outdoors with hands-on tools. I quit accountancy and just went into gardening and labouring jobs and then got to an age where these jobs weren't going anywhere* (A01).

> *When I was at school I did some work experience. I did one in scaffolding, plumbing and then carpentry and I always from a young age thought I would be a carpenter* (A02).

> *I have lots of previous trade experience labouring and wasn't really going anywhere. I decided that I couldn't be a labourer and the next step was driving plant machinery but realistically this was just a glorified labourer and decided to seek an apprenticeship* (A04).

> *When I first started my apprenticeship I didn't appreciate it. I did roofing for a year and went back to my apprenticeship* (A06).

> *I went to the United Kingdom and worked in a joinery factory where I was just a trade assistant. I moved to the United States and was working for a carpenter. When I came to Australia, I didn't have a trade ticket so I couldn't get employment in carpentry. So my reason for doing an apprenticeship was because I needed to get that ticket behind me* (A07).

> *I looked into a job in building because I love building and I helped two friends build a house* (T02).

The comment immediately above from a vocational teacher as to why he chose to seek an apprenticeship highlights the interconnected nature of the phases within this substantive theory. In this instance the influence of family, friends and prior experiences are intertwined when deciding to commit to an apprenticeship. The extract also reveals that the apprentices who were in previous employment, specifically in lower skill roles, considered seeking an apprenticeship provided an opportunity for career development. Apprentices described these lower skilled roles as not "going anywhere" (A01 and A04) because they provided limited experiences and opportunity.

Past experience with work contributes to the apprentices finding the value of an apprenticeship. According to Cooper, Orrell, and Bowden (2010) work experience opportunities, which they refer to as drivers:

- Build awareness of potential careers and career development.
- Provide opportunities for civic engagement and service learning.
- Develop dispositions with regard to global citizenship.
- Increases workplace literacy to enable and enhance knowledge generation and transformation.
- Increases personal development through enhancement of capacity for communication, negotiation, empathy and self-awareness (p. 59).

### 4.5.4 High expectancy of completion

This data have revealed the manner in which the influence of others and prior work experience impacts on their determination of the value of the apprenticeship. It was also found that apprentices were also influenced by their beliefs that completion of a trade qualification was not only valuable, but also achievable—within their reach—with an expectancy of completion.

Apprentices' responses indicated that self-efficacy and high expectancy of completion impacted the apprentices' belief that a trade qualification was valuable, achievable and was the right fit for their personal and professional aims and ambitions. Bandura (1997) described self-efficacy as the individual's perceived ability at a task. Firstly, Bandura held that self-efficacy is personal and exists regardless of the influence of family, friends and past experiences with work on the apprentices, thus self-efficacy is an individual perception. Secondly, as self-efficacy is task or competency specific an apprentice can consider him or herself as not being very good at architectural drafting but accomplished at building roof trusses (Bandura, 1997). As one apprentice suggested during this study:

> *I thought that I was smarter than progressing to becoming a plant machinery driver and wanted to get out and actually do something (A04).*

Other respondents suggested that they were practical learners and could not or did not like learning from books. They considered themselves skilled at replicating an object or task that they had seen (typical of 'on-the-job' learning) rather than reading a drawing, and better at being shown, through demonstration, how to complete tasks as opposed to being given verbal instructions.

During a study of dispute negotiation and resolution in the Hong Kong construction industry which was premised on Bandura's theory of self-efficacy, Yiu, Cheung, Asce, and Siu (2012) suggest that:

> People who have confidence in their capabilities with respect to a specific task anticipate a successful performance, focus their thoughts on how they can succeed, and persist in the face of difficulty while people will avoid tasks for which they have low levels of self efficacy (p. 131).

According to Bandura (1997) self-efficacy is influenced by the following four main factors: *enactive attainment or mastery of practice, modeling and vicarious learning, social persuasion,* and *physiological arousal* (p. 56–60). *Enactive attainment or mastery of practice* suggests that the more we practice, the more skillful we become and our skills increase in that particular activity. High mastery of skills and high levels of self-efficacy are said to be linked. As we see others in an activity, the influence of *modeling and vicarious learning* enables us to comprehend by comparing ourselves with others. When we see ourselves comparable in skills, knowledge and experience we are more likely to attempt the task upon observing successful completion. When we observe unsuccessful completion or failure of the task, we tend to avoid the task (Bandura, 2012). *Social persuasion* is consistent with this study's subcategory of the influence of family, friends and employers, it acknowledges that the more influence a person has in the apprentice's life, the more likely their advice and opinion will be effective.

The final influence is *physiological arousal* in terms of the messages that we receive from our body when we engage in rewarding or unpleasant activities. These messages or signals may be obvious, like perspiration, increased heart rate or pain. More subtle and equally effective physiological influences involve the release of endorphins or adrenalin. Physiological arousal may occur when seeing something shocking or desirable, the taste of wonderful or disgusting food or the awareness of pleasing or displeasing someone is important to us (Bandura, 1997, 2012; Sullivan, 2009a, 2009b). Specifically within this study, an example of physiological expression by the apprentices conceivably included being complimented or reprimanded by their supervisor, feeling a sense of achievement of disappointment about the day's work and the apprentice's positive or negative perception of themselves against their peers.

## 4.6 Experiencing work

> Learning is both an individual and interpersonal matter that cannot simply be regulated like a mechanical process. It needs the involvement of both the learners and those who are responsible for the workplace as a learning environment (Illeris, 2011, p. 47).

In the previous section the category of committing effort was explored. Committing effort begins to occur prior to the apprentice seeking and commencing an apprenticeship and continues throughout the apprenticeship. The next part of the developing theory describes the category of *experiencing work. Experiencing work* commences when the apprentice initially secures employment as an apprentice and begins their training plan.

This traditional apprenticeship model is a combination of paid employment, which includes training within the workplace and vocational institutions (Registered Training

Organisations (RTOs)). An apprenticeship involves a form of indentured labour with varying conditions and learning of a craft, skill or ability to carry out specific occupational outcomes (Knight, 2012).

The apprenticeship-training plan, in the context of this research, constitutes a delivery and assessment strategy that incorporates both on-the-job and off-the-job approaches. The *training plan or contract* represents the formal learning component of the apprentices' learning journey. The training plan is a schedule that identifies what vocational outcomes (units of competency) the apprentices are expected to achieve at the conclusion of each stage of their apprenticeship. Apprenticeship training plans are negotiated between the employer and the RTO, which the employer nominates. The training plan also depicts a scaffolded approach to the development of apprentices towards meeting the emerging needs of the company (E. Smith & Keating, 2003).

The participants of this study identified four stages of their apprenticeship. Stage one is at the point of apprenticeship commencement and initial entry to the workplace; the completion of stage two represents the mid-point; stage three is the finishing stage of the off-the-job training component; and stage four is the final stage before completion and becoming qualified as a tradesperson.

During this study participants would often interchange *stage* with *year* of the apprenticeship e.g. stage *one* with *first* year. This subtlety reflects the paradigm of competency-based training (CBT) where CBT places emphasis on what the apprentice can competently accomplish at the end of each stage. CBT is performance or outcome orientated as opposed to the historic understanding of time served (Knight, 2012). This difference between the discourse of the apprenticeship goes for as long as required to meet the competency requirements and, the arguable wider understanding, that an apprenticeship takes four years to complete (Guthrie, 2009; Knight, 2012).

The GTO, from which this study's apprentices were drawn, employs apprentices when individual employers may not be willing to take the risk of employing apprentices themselves. Companies like the GTO therefore act as an intermediary to directly engage apprentices by assuming full responsibility for employment where the apprentices are attached to different host employers on a commercial basis for their on-the-job training (Group Training Australia, 2012; E. Smith & Keating, 2003). As evidenced by the participants within this study, sometimes apprentices who are employed by a GTO may spend their whole apprenticeship with one host employer, or experience a number of host employers (E. Smith & Keating, 2003). The apprentices were all within or had completed stage three of their apprenticeship.

The category of experiencing work is a recurrent or dominant element of this substantive theory. Experiencing work and the incorporated subcategories of confirming value and heightening motivation is cyclical in the sense that once they have occurred they need to be maintained by both the GTO and the apprentices' host employers. Furthermore, some

apprentices will experience work in a range of contexts and with a range of employers. As an example, when employment is gained in the first instance with the GTO, the apprentice's employment or engagement within the workplace needs to be maintained for the duration of the apprenticeship.

*Experiencing work,* as a phase of the apprentice becoming self-directed, commences when the apprentice secures employment as they successfully demonstrate their commitment and motivation to becoming a tradesperson to an employer and subsequent host employers. This phase is ongoing and it represents the apprentices beginning to consciously and subconsciously evaluate and make decisions. This evaluation and decision making is based on the apprentice's expectancies of the experience of the apprenticeship and their progress towards becoming, and being acknowledged as, a tradesperson, and their interpretation of the expectancies placed on them by others. The apprentices also seek the sponsorship of others who have both a personal and professional interest in their development. This phase also contains the apprentices finding (and maintaining) their place within the workplace and the acquisition of expertise within the continuum from being a new apprentice to a self-directed tradesperson, with an understanding of the expectations, values and attitudes that are required.

Experiencing work has the subcategories *gaining employment, finding place* and *developing expertise.* These subcategories are considered in the following sections.

### 4.6.1 Gaining employment

After making the decision to seek an apprenticeship, upon *gaining employment* the apprentices were required to demonstrate their *trade readiness* to prospective employers to enter stage one of their apprenticeship. I am defining *trade readiness* as the 'willingness to learn' to 'have a go'. The definition is consistent with Billett (2001) who maintained that this readiness is the "preparedness of the individual to respond to a particular task" (p. xvi) in this instance having the disposition to learn. This notion of *trade readiness* is divergent from notions of *employability,* as the employer and the host supervisors appeared to place little emphasis on prior technical skills and knowledge other than the apprentice demonstrating a general interest in the vocational area (Tomlinson, 2013).

During the interview when the participants were consulted about the prior knowledge they thought employers were looking for in apprentices, the following responses showed their understanding of employer needs and values:

> *I've only had two [host] employers and both have said that they look for someone who is willing to have a go* (A01).

> *Someone who is willing to have a go, not get distracted by using their phones and someone who is willing to stay back if needed* (A02).
>
> *Someone that has a good attitude and willing to learn and who doesn't talk back and is punctual… I didn't need any prior technical knowledge* (A03).
>
> *The good hosts just want the willingness to learn…you don't necessarily need any prior knowledge as everyone is capable of learning* (A04).
>
> *Apprentices that are keen and enthusiastic* (A05).
>
> *Team work and being hard working* (A06).
>
> *Have a go and be at work everyday … it doesn't matter what skills you got* (A07).
>
> *Someone to follow simple instructions and eager to work … I can't teach them how to work but I can teach them the job* (E01).
>
> *Apprentices need to want to be on site, have good hand-eye coordination, be happy and are able to think outside the square* (E02).
>
> *Motivation is the key … you don't need to be across every aspect of every trade … we will teach them those sorts of things* (E03).

The apprentices believed they brought their trade readiness to the workplace when they commenced their apprenticeship. While some of the apprentices may have developed their sense of trade readiness during the previous phase of *committing effort* to an apprenticeship or through previous formal or informal learning opportunities, this attitudinal component of the process was important to demonstrate to others, the apprentices' dispositions towards engaging with an apprenticeship. As one host employer suggested, these dispositions included the apprentices' having a willingness to learn and demonstrating their reliability by turning up to work on time.

During the interviews there were also indications that the apprentices brought additional expertise and experience to the workplace that were not necessarily acknowledged by the employer and host employers. This expertise included skills and knowledge gained through prior work experience and foundation skills developed through formal education, such as language, literacy and numeracy.

The Australian Industry Group (2013a) reported on a survey of their member employers to suggest that apprenticeships need to attract a wide range of applicants, including those who excelled at school, who possess foundation skills and skills within science, technology, engineering and mathematics (STEM). The Australian Industry Group (2013a) suggested that foundation and STEM skills are the "essential building blocks required for young people to undertake a trade apprenticeship and become successful tradespeople" (p. 9). Yet, host employers did not actively acknowledge the additional skills and expertise that the apprentices brought with them to the workplace. However, the host employers in this study did not specifically indicate that foundation and STEM skills were not valued. It may be that the host employers assumed that the apprentices would develop these skills to the required levels during their apprenticeship.

Callan (2003), when looking at student and teacher attitudes in the Australian VET sector, and particularly in relation to non-technical or generic skills, commented that companies wanted young people to be better prepared for work in terms of core generic skills such as literacy, numeracy, problem-solving skills, information technology skills and systems thinking. Callan (2003) noted that "Australian companies expect the vocational education and training system to provide the generic core foundations for a national skill pool" (p. 13).

As shown in my personal journey (Figure 4.6 Reflective memo (10 December 13) – Seeking an apprenticeship) when I was initially seeking to become an apprentice in the early 1990s there seemed to be a sense from employers that apprentices were expected to come to the workplace with these pre-existing generic skills. However, this expectation of possessing these generic skills to gain employment seemed coupled with the requirement to have a level of technical (trade) aptitude that was developed within secondary schooling.

**Reflective Memo – 10 December 2013**

I have found the coding of this subcategory particularly interesting. When I first started applying for apprenticeships towards the end of my Year 10, I recall vividly the application I submitted to the cement works. The first phase, after submitting my application, was testing. I remember being dropped off at the cement works' canteen and together with at least two hundred other young people we waited until we were called. When I entered the canteen there were enough single desks for everyone lined up in rows. On each desk there was a pencil and an eraser and a series of test papers. I had never done a formal exam before but this is how I imagined it would be. The tests were mechanical reasoning, trade theory, literacy and mathematics. The few apprenticeships that they had on offer were highly prized.

The Australian Industry Group as a peak industry body sees a need to promote and celebrate the excellence in apprenticeship and increase levels of STEM and foundation skills. The narrative about the cement works apprentice-testing highlights to me that apprenticeships maybe aren't as competitive in comparison to when I was 15 years old. It also seems that employers also had the expectation, in this instance anyway, that apprentices needed to have a base level of skills to develop, perhaps to the level of expectations.

**Figure 4.6: Reflective memo (10 December 2013) – Seeking an apprenticeship**

The vocational teachers in this study agreed that when apprentices commence at the vocational institute it is desirable for them to come with a sense of trade readiness, being thoroughly prepared to engage with their learning. However this trade readiness, distinct from my experiences as a young person, did not extend to any level of pre-existing trade skills and knowledge. Attributed to their broader exposure to apprentices and host employers, the views of the teachers generally supported and expanded on the perspectives of the apprentices and host supervisors in terms of the predispositions required for the apprentices to initially engage with an apprenticeship.

The vocational teachers expanded on this position and suggested that it was not only the apprentices who needed a predisposition for learning. They also suggested that employers (and host employers) also needed to be prepared to actively facilitate the apprentices' learning within the workplace. The data revealed that some employers possessed a commitment to the development of apprentices and through this commitment, a sense of industry stewardship. These employers were contrasted to other employers who seemed to be less committed to apprenticeships and who are motivated by reduced labour costs. As an example from the vocational teachers:

> *Some bosses don't like guys rocking up on the day and not knowing what a claw hammer is … once on site if the guys don't have skills they are*

> *looking for they won't get them back again unless they are taking on an apprentice full-time then they don't mind training apprentices* (T01).
>
> *Some employers seem to have a very high turnover of apprentices over short periods. They seem to pick up anybody give them a job for a while and not put much investment into the apprentices and the apprentices just leave* (T02).
>
> *There are two types of employers. One is concerned about getting jobs done … I'll call them commercial trades, but whether or not they should be under the same trades [where learning is more of a priority] is another question for another day* (T03).

In relation to gaining employment and expectations of apprentices and employers, I revisited the data; meticulous comparison of the transcripts and emerging codes of the apprentices and employers revealed that the apprentices who had multiple host employers supported the sentiments of the teachers. In one example an apprentice said:

> *A lot of other places I have been to you're just treated like labour hire. You are not there to learn new skills, you are there to be their labourer until they've finished that shit job* (A04).

Additionally, there was acknowledgement from the host employers that there is an awareness within the industry that apprentices have been *"abused as labourers"* (E02) and that apprentices *"should be treated as employees and not just people to use for one day and get rid of them as sweepers"* (E03).

The subcategory of gaining employment, not only provides insight into what employers are looking for upon engaging apprentices. It also highlights the different manner in which some employers conceptualise apprenticeships. From the perspective of the development of self-directed learning, this research found that employers who best contribute to development of self-direction in apprentices are those who created workplaces that have an embedded culture of supporting apprentices and see apprentices having a duel role as both a learner and an employee.

This section has discussed the period when the apprentices initially gain employment, however due to the group training model (outlined earlier) the requirement to meet the specific needs and expectations of the host employers occurs every time an apprentice finishes with one host employer and commences with another. The host employers provided insight into these added expectations when asked about the sort of performance and levels of decision making that they wanted from apprentices at the different stages of the apprenticeship. These responses indicate that the levels of decision making expected are commensurate with the observed performance and appear not to be directly

related to the apprentice's achievement and progression through the stages. As one host employer commented, *"it is not about making different decisions at different levels it's the case that [the apprentices] make decisions based on their skills set"* (E03) and *"[the apprentices] don't really make decisions as they need to do jobs in the steps I want them done"* (E01).

## 4.7 Discovering place

> Conventionally, an apprenticeship is understood as a linear journey from novice to expert in which 'old timers' mold their successors (Fuller & Unwin, 2004, p.3).
>
> A key feature of being a newcomer is that of not knowing what is going on around you or what precisely is expected of you. (Eraut, 2008, p. 2)

*Discovering place* is a subcategory of experiencing work and explores how the apprentices see and conceptualise their place or role within the workplace.

The following extracts are responses from apprentices to questions about how they saw their role within the workplace:

> *It now feels just like a close group of friends working ... before that I was working with a carpenter on his own doing residential [carpentry]. That was different in the sense that with the people I am with now doing commercial [carpentry] you can feel just like a helping hand, just like a labourer doing all the sweeping and stuff. When I was working with the other one [residential carpenter] I was more involved with the building and stuff* (A01).
>
> *I get taught a range of things from the people I work with but sometimes if there is a crap job to do that's the apprentice's job, you know that is the way it is. Everyone had to do it when they were at the bottom of the food chain as the apprentice, but absorbing everyone's experience and knowledge is where I see myself in the workplace* (A02).
>
> *I pretty much do my own thing now and work independently* (A03).
>
> *Well you're a trade assistant, you're there to help [the other tradespersons] and for them to respect you at the same time ... If you are with a good host they're going to want to mentor you. That is what I believe what a really good host should do and they also realise they need your help on the job* (A04).
>
> *For me at the moment I'm not treated like an apprentice. Like I know a fair bit of stuff at the moment so my boss treats me pretty good. We've got*

> *another apprentice in his first year and when I started with him I had all the crap jobs (like doing all the cutting on a saw)* (A05).
>
> *To clear up, sweep and that is about it … I was labouring for six months while I was an apprentice … I have a lot of employers, you spend one day with someone and then a week with someone, and then three days with someone. There has been no consistency* (A06).
>
> *Apprentices are expected to sweep floors when they are not busy and clean up after tradesman as they go. Your role is to pay attention to what is going on around you and watch the tradesmen doing their jobs. Also just there to learn as well … First year apprentices do a lot of small jobs, not so much on the tools, more so watching, cleaning up after people and then gradually as you're going through your apprenticeship it starts to get more hands on, more to do with the tools and stuff like that. It's just that you have to take your time to build up your skills to use the tools and use your knowledge* (A07).

These responses from the apprentices about how they conceived their role within the workplace indicate that they primarily saw their role as one of learning. These experiences indicated that even though the apprentices' saw their role as one of learning, there were often situations where learning received little priority. These situations included times when apprentices within a work environment were performing tasks, such as industrial housekeeping, which the apprentices could not directly attribute to a learning opportunity. These insights from the apprentices suggested that even though the immediate task may have had little implications for their learning, they were able to recognise opportunities to learn. The apprentices' demonstrated that they understood what learning they needed and sought out opportunities to learn. These opportunities included watching tradespeople doing their job, absorbing the skills and knowledge of others in the workplace and assisting other tradespeople with their tasks. One quote from an apprentice particularly resonated with me: "*even though you may be sweeping floors, you need to be looking for the next opportunity to learn something*" (A01).

Subsequently, there was rich evidence within this study to ascertain that the apprentices within this study were developing self-direction, as they were able to identify their learning needs and opportunities to learn throughout their apprenticeship (Candy, 1991; Merriam et al., 2007). The insights from the extracts also indicated that the apprentices were also resilient as they accepted the bad with the good. This resilience seemed to be enabled from how the role of the apprentice was conceptualised within the workplace.

A synopsis of the views of the vocational teachers reflected two alternative positions of how apprentices were conceptualised within the workplace—a more traditional or a cultural dimension of learning within apprenticeships. One view was expressed by a vocational teacher that when someone becomes a tradesperson there is an attitude

towards the apprentices of *"well I had to go through the ranks then so do they"* (T01) with the newest person on site having to submit themselves to the pecking order. Accordingly, the teachers noted that this view of the relationship between the apprentice and the master seems to be deep-rooted in the ideology of the historical apprenticeships as detailed in the introduction and shown in Figure 4.7. There was an additional relational aspect where the vocational teachers agreed that often apprentices, and particularly younger ones, did not feel like they could communicate with their employer to seek clarification about tasks, challenge assumptions or act in self-advocacy for fear of reprisal.

The vocational teachers also collectively expressed a perspective that for an apprentice to become a good well-rounded tradesperson they require exposure to all aspects of construction and employers need to provide apprentices with extensive opportunities within the workplace. These different expectations between some employers and apprentices create tensions within the workplace as shown in Figure 4.7 (Reflective memo (17 July 2013) – Conceptualising the apprenticeship).

**Reflective Memo – 17 July 2013**

When I was preparing the confirmation proposal for this research I was fortunate to have some personal correspondence from Professor Lorna Unwin from the University of London who I had met a few years earlier. Her advice to me in regard to looking at self-direction and apprenticeships was to be conscientious about how different employer's conceptualise the role of the apprentice and potential tensions with the 'novice-expert' binary. I have found this advice useful and have often thought about the implications of the adherence to the traditional master-apprentice concept and how it may enable or inhibit the development of self-direction. In terms of developing self-direction, how does the apprentice know when it is 'safe' to challenge taken for granted assumptions?

**Figure 4.7: Reflective memo (17 July 2013) – Conceptualising the apprenticeship**

When the host employers were asked about the role of the apprentice within the workplace, without exception, all mentioned that the role of the apprentice was to learn. However, this statement appeared to be a cliché. What the host employers considered to be learning varied as shown in the data and appeared to be based on their pre-conceptions about learning, presumably informed by their own experiences. As an example, one host employer indicated that he did not want his first year apprentices working autonomously. He just wanted his apprentice to follow simple directions and if there was nothing for the apprentice to do then he should learn by observing and asking questions about what the host employer was doing at that time. The same employer contended that sometimes it was inconvenient and ineffective in terms of job scheduling and completion when apprentices asked questions on the job site. He also expressed a level of frustration that when a more appropriate time presents for the apprentices to ask questions, like before and after work and daily breaks, questions were not forthcoming.

The tensions I discovered in reviewing my reflections during the study were also reiterated in the other data.

Another employer indicated that his tradespersons were happy to teach apprentices if apprentices proved that they were keen and made the effort to develop relationships. In this particular enterprise it was evident that the opportunity for apprentices to explicitly learn, one-on-one with a tradesperson, was seen as a reward.

Discovering place is about position and power and not geography. Discovering place is the process whereby the apprentices begin to conceptualise their place within the workplace as newcomer and both a learner and an employee. For the apprentice discovering place within the workplace is critical to the development of expertise and becoming a self-directed learner.

## 4.8 Developing expertise

> An expert generally knows what to do based on mature and practiced understanding … An expert's skill [becomes] so much a part of him that he need be no more aware of it than he is of his own body … the expert business manager, surgeon, nurse, lawyer or teacher is totally engaged in skillful performance. When things are proceeding normally, experts don't solve problems and don't make decisions; they do what normally works (Dreyfus & Dreyfus, 1986, p. 30).

As part of the category of *experiencing work*, the subcategory of *developing expertise* considers how the apprentices learn during their apprenticeship to prepare them for professional practice as a self-directed learner. This study revealed that the apprentices' development of expertise and self-direction was a lived experience. This lived experience for the apprentices involved the apprentice developing expertise through both the cognitive and kinesthetic knowledge embedded within the craft or skill.

Currently, within the Australian Qualifications Framework (AQF) the acquisition of this skill and knowledge is demonstrated through *competency*. The definition of *competency* within AQF is the "consistent application of knowledge and skill to the standard of work performance required in the workplace. It embodies the ability to transfer and apply skills and knowledge to new situations and environments" (National Quality Council, 2009b, p. 6).

The focus on expertise encompasses the current notion of competence. There are two premises towards this position. The first being that, according to Wheelahan and Moodie (2011), the contemporary definitions and applications of competence have realised its full potential as the foundation of the current Australian VET system. The second premise is that the apprentices within this study generally acknowledged that even though they will be considered as competent tradespersons upon completion of their

apprenticeship, they believe that their learning within the trade will continue past this point.

As shown by their responses to questions about plans after their apprenticeship:

> *I don't think that I'll be ready when I finish my qualification to go out on my own* (A01).

> *Me and a mate from tech [vocational institute] have an ad on Gumtree [online classifieds site] to try and get some small jobs … So I get to work with a different person and we get to learn off each other because you never stop learning … I will slowly start my builders license and wait until I learn more before I start my own business* (A05).

> *Well, I am getting in good with as many bosses as I can … I try to do as many cash jobs as I can and not charge as much as I can so I can learn more* (A06).

The Dreyfus model of skill acquisition (Dreyfus & Dreyfus, 1986) has historically been influential within professional education (Eraut, 1994) and is a five stage model that characterises progression from novice, advanced beginner, competent, proficient to expert (see Table 4.1). During one of the semi-structured interviews, a host employer deliberated over the difference between newly qualified (competent) tradesperson and an expert tradesperson. This discussion was referenced from the host employer's assumptions and concepts about developing expertise and was framed in terms of the apprentices knowing their limitations and developing confidence. Further it was proposed by one of the vocational teachers that, "experts on the job site sit back and think about what needs to be done. Those who are less experienced jump straight in without thinking" (T02).

**Table 4.1: Dreyfus model of skill acquisition (Dreyfus, 2004; Dreyfus & Dreyfus, 1986)**

| |
|---|
| Level 1 – Novice<br>• Rigid adherence to taught rules or plans<br>• Little situational perception<br>• No discretionary judgement |
| Level 2 – Advanced Beginner<br>• Guidelines for action based on attributes or aspects (aspects are global characteristics of situations recognisable only after some prior experience)<br>• Situational perception limited<br>• All attributes and aspects are treated separately and given equal importance |
| Level 3 – Competent<br>• Coping with crowdedness<br>• Now sees actions at least partially in terms of longer-tern goals<br>• Conscious deliberate planning<br>• Standardised and routinised procedures |
| Level 4 – Proficient<br>• See situations historically rather then in terms of aspects<br>• See what is most important in a situation<br>• Perceives deviations from the normal pattern<br>• Uses maxims for guidance, whose meaning varies according to the situation |

The Dreyfus model of skill acquisition provided insights into the psychosocial journey of the apprentices as they became self-directed learners and the Dreyfus model's first four levels reflect the stages of vocational outcomes within the apprentices' training plan. However, level four of *proficient* is closer to what we understand in the Australian VET sector as *competent.* This study revealed that level five of *expert* is unlikely to be achieved unless the apprentices have developed self-direction, which includes high levels of learning capacity. Consistent with my definition of a self-directed learner from Chapter 2, the Dreyfus characteristics of an expert is elevated from those required from a proficient (or competent) worker (Dreyfus, 2004).

The interviews of all participants revealed incredibly rich data in relation to how apprentices learn and develop expertise. Almost exclusively, the apprentices, host

employers and vocational teachers saw themselves as exclusively kinesthetic or practical learners. As an example: *"The way I was taught is the way I like to learn ... he would show me how to do it first then stay with me to do the next one and then offer me advice ... I can learn easily if it is a lot of hands on practical stuff"* (A03); *"You watch others do it and then you try and do it yourself"* (E03); and *"The more practical that I can make it the better ... there is much to be learnt with materials, with touching them, picking them up and smelling them and fiddling with them rather than just reading about them"* (T02).

The last citation from the data illuminates different ways of learning. Gardner's (2006) theory of *multiple intelligences* is based on the belief that intelligence has been too narrowly limited to the realm of logical and linguistic abilities. Gardner argued that "there is persuasive evidence for the existence of several relatively autonomous human and intellectual competencies that can be fashioned and combined in a multiplicity of adaptive ways by individuals and cultures" (Gardner, 1993, p. 8). According to Gardner (2006) these adaptive intelligences include *musical* (music smart), *bodily-kinesthetic* (body smart), *logical-mathematical* (logic smart), *linguistic* (word smart), *spatial* (picture smart), *interpersonal* (people smart), *intrapersonal* (self smart) and *naturalist* (nature smart). Although psychologists regard Gardiner's views as untested they have informed educational practices for two decades (Scott, 2015). The connection to the apprentices is that they saw intelligence as a single (unitary) ability as opposed to intelligence being made up of different facets as a whole (Gardner, 2006; Scott, 2015; Sternberg, 1982).

That apprentices within this study identified themselves as practical learners may not be of any surprise, especially given the manual nature of trades. The data were compelling that the apprentices saw being *book* or *academic*-smart and *practical*-smart to be polar opposites and mutually exclusive. Additionally, the learning successes of the apprentices, both within secondary school and the vocational institute were reflected in hands-on activities where the topic was readily contextualised. Additionally, the apprentices had found it difficult to find value in learning that they couldn't relate to the real world. One of the vocational teachers illustrated this point well by saying that the apprentices have probably covered the same mathematical concepts while at secondary school as they do in the vocational institute but had not made sense of the topic out of context. Trigonometry was cited as an example: *"Once you can put it into some context, trigonometry is used to make sure your rooms are square of your frames square. You can also use it to make sure something square like a concrete slab"* (T02).

Although Gardner's theory of multiple intelligences has been criticised for providing justification to stream students towards subject choices after the psychometric diagnosis of their dominant intelligences (Scott, 2015). The multiple intelligences theory is a useful tool to promote students thinking about the unilateral nature of intelligence and the implications for their learning.

As identified by the recent example about the apprentices making sense of trigonometry when it was applied to context: it may be deducted that apprentices' were capable of learning through many ways, although not self-identified. The apprentices' having learning success with these other approaches can conceivably enable the acknowledgement by the apprentices that they can learn through other approaches.

The reflective memo (Figure 4.8 Reflective memo (20 January 2014) – Learning ways) highlights this argument from the personal perspective of a vocational teacher.

**Reflective Memo – 20 January 2014**

The interviews with the teachers have been really enjoyable and informative. They seemed to be very engaged with my study and importantly saw the value in what I am trying to achieve. There were a few issues that stand out. It was interesting that all of the teachers have completed the mandatory Certificate IV in Training and Education and one of these had completed further study in education. The teacher that had completed further study was much more reflective about his practice and clearly saw the benefits of promoting literacy and numeracy within his classes. Further, when he was asked how he prefers to learn he responded by suggesting that before he continued with further study he would have said "practical or hands on". Now he acknowledges that he probably could have always have learnt in other ways.

**Figure 4.8: Reflective memo (20 January 2014) – Learning ways**

Tomlinson (2013), believed that deep-seated assumptions within education, training and the labour market, supposes that "Young people have been orientated towards vocational learning on the basis of its perceived labour market relevance and its compatibility to their learning orientations and identities" (p. 13).

In synergy with Tomlinson, the participants suggested that

> *Going to university seemed like going to school again and I hated school … a mate said that it was pretty easy to become a carpenter so I just went for that* (A05).
>
> *The majority of the tradespersons I know that are teachers can be academic if they want to, but they don't like to* (T01).
>
> *I think all students have the ability to learn but at some point within a school setting they haven't accepted the opportunity for whatever reason … They're all intelligent enough to do it … Somehow through their schooling they haven't had to understand the meaning of why they need to learn [particular topics], be taught these topics, and then be confident enough to ask questions about it and not feel stupid about asking questions* (T02).

> *I believe that people who aren't doing well at school they are pushed towards trades by their career advisors, parents and teachers (T03).*

The extracts from the participants, specifically the vocational teachers, reflect the learning orientations and identities of the apprentices. There appeared to be an inbuilt resistance to the way that aptitude was culturally accepted. The limits of the apprentices' learning experiences and successes also impacted on how they identified themselves, and how others identified the apprentices as learners.

The category of experiencing work commences after the apprentice finds value in seeking an apprenticeship and gains employment as an apprentice. *Experiencing work* recognises that within the initial phases of their apprenticeship, apprentices within this study were required to gain employment, discover their place within the workplace and begin the development of expertise.

As a subcategory, *developing expertise* represents the activity of the apprentice throughout this apprenticeship. The apprentice gaining employment as an apprentice and finding their place within the workplace as both a learner and an employee sets the scene for the development of expertise.

The category of *experiencing work* commences when the apprentice commences their apprenticeship after they have successfully demonstrated to an employer their commitment and motivation to become a tradesperson. As the apprentice enters the workplace they undertake the task of discovering their place within the new environment and the actuation of expertise begins towards the apprentice becoming a self-directed learner who is a tradesperson.

Where learning opportunities were forthcoming and supportive workplace relationships existed, apprentices began to develop self-confidence and technical expertise, and they discovered their place within the workplace. The phase of *experiencing work* was concurrent for the duration of the apprenticeship. The subsequent phase was *confirming value*.

## 4.9 Confirming value

> The trouble with learning on the job … you're only as good as the situations that come up … and the people you are working with and their ability to communicate (Quoted in Billett, 1994).

The apprentices within this study acknowledged an element of risk upon commencing their apprenticeship. These identified risks were individual and often personal. An example involved concerns about wage reduction linked to previous employment and comparing themselves to others who sought alternative study and employment alternatives, such as going to university, entering the public service straight from

secondary school in low-level clerical roles and employment in a laboring position. Other considerations, of the category of *confirming value,* included expectations placed on the apprentices by others and themselves and their levels of self-efficacy towards maintaining value in, and the expectancy of completion of, the apprenticeship. The category of *confirming value* therefore represents the point within the apprenticeship where the apprentices start to see a return on their investment of effort that was initially determined in the category of *committing effort* to the experience of an apprenticeship and becoming a tradesperson.

This return on the apprentices' investment can be further understood in terms of the apprentice and their employer meeting their respective expectations and obligations. E. Smith et al. (2011) investigated the psychological contract in apprenticeships and traineeships to improve retention within Australia. The researchers referred to the psychological contract within apprenticeships in relation:

> Employment comprises the unwritten expectations that parties have of each other: their perceptions of each other's and their own obligations; the relative importance of those obligations; and the extent to which each party feels the obligations have been met (E. Smith et al., 2011, p. 10).

Moreover, the researchers concluded that employment rather than training is the reason why apprentices disengaged with their apprenticeship. This dissatisfaction could be related to the lack of effective training where mature aged apprentices considered that their expectations were met to a lesser extent compared to younger apprentices. It was also suggested (E. Smith et al., 2011) that apprentices employed by GTOs were more satisfied that their employer had met their obligations than were other apprentices who were directly employed by enterprises. Additionally, there were dissimilarities between apprentices and employers to the extent to which employers met obligations to provide adequate training to apprentices.

During the semi-structured interviews apprentices were asked about their expectations of their apprenticeship in terms of what they liked best about their apprenticeship. These are some of their responses:

> *Seeing what you've done. At the end of the day you can see the progress of what you have built. It is rewarding when other people compliment you on your work and things like that* (A01).

> *Just being able to see the finished product and say that I built that* (A02).

> *Rocking up and getting the job done. You don't work at night, you just go there and break a sweat and work hard and then go home* (A03).

> *I can use my skills that I have learnt on weekends to do something that is going [to] earn me twice as much as I earn in a week* (A04).
>
> *Working outside and using hands* (A05).

These insights indicate that the apprentices found enjoyment in aspects of their apprenticeship where they could see what they had achieved during the day, when their achievements were acknowledged by others within the workplace and the skills they learnt could be applied outside the workplace. An example of the apprentices applying skills outside the workplace included building brick letterboxes for family members and doing cash jobs, such as building pergolas and repairs to houses. The host employers were supportive of apprentices applying their trade skills outside the workplace as these were recognised as an additional learning opportunity. In some instances the host employers demonstrated their support by loaning the apprentices their tools and equipment to complete these jobs.

Conversely, one apprentice commented that he was treated unprofessionally during his apprenticeship and liked *"nothing"* about his apprenticeship and expressed that *"you are treated like rubbish, yelled at, paid poorly. I wouldn't recommend anyone becoming an apprentice*" (A06).

The participants were also asked about how they believe that learning could be advanced or improved within apprenticeship:

> *I think there is a big gap between what we are taught [at the vocational institute] and how things are done on site* (A01).
>
> *Try and work with older bosses. Younger bosses get frustrated more quickly and lose their cool. I think it is because younger bosses are still learning and haven't developed teaching and communication skills … and they are all about money, money, money; and they are not good at explaining things* (A02).
>
> *As long as you can get a good host employer. I mean that the majority of time is spent on site so if he has got time to really teach you and he's not just really worried about making money, you will learn* (A03).
>
> *I have felt the whole time I've been an apprentice that I am worth less than everyone in the industry … a lot of things happen [to an apprentice] on a carpentry site. If this were a junior position in a public office it wouldn't be acceptable* (A04).

> *On commercial [building] sites apprentices are at the bottom of the rank- like they go around picking up after everyone and no one is there to help them learn and you just do what you are told* (A05).

> *Developing connections between you and your host employer is a big thing. If you develop a good bond with them they sort of take it easier on you ... and you are not stressed all the time because you are not worried about stuffing up [the consequences]* (A06).

The above data from the apprentices identifies some of the 'highs' and 'lows' of being an apprentice, and provides an insight into the evaluation and decision-making processes, especially as they relate to continuing or discontinuing their apprenticeship. This evaluation and decision-making process was based on the expectations the apprentices placed on themselves and their interpretation of expectations placed on them by others. The apprentices remained engaged with their apprenticeship when their negative experiences were outweighed by positive experiences or rewards. Conversely, if the inverse exists where the negative experiences are dominant, the apprentice would not be able to positively confirm value in their decision to become an apprentice and seek a trade career and were likely to disengage with their apprenticeship and seek alternate employment options.

*Confirming value* as a phase towards the apprentice becoming a self-directed learner rests on clearly identified mutual expectations and positive relationships between the apprentice and the more experienced others within the workplace. The category of *confirming value* incorporates the subcategories of *learning from others, becoming self-confident* and *developing identity*.

These subcategories acknowledge that within the early stages of their apprenticeship the apprentices seemed more reliant on others for their development. As the apprentices continued to experience work they continued to develop expertise and, as this was happening, the apprentices became more confident. The concept of confidence emerged repeatedly throughout the data analysis and can be characterised as a motivational driver, a consequence of learning and gaining respect and acknowledgement. When the participants within the research were asked about motivation their responses were concerned about the development of confidence, where *confidence* was often used interchangeably with *motivation*. As the apprentices became more confident they began to tentatively identify as a practitioner, an active contributor, within their respective trade and workplace.

### 4.9.1 Learning from others

During the analysis and coding it was necessary to distinguish between *learning with others* as opposed to *learning from others*. It was important to do so because during the initial stages of data collection and analysis it became apparent that the learning

relationships within apprenticeships were a complex co-construction within the workplace between the apprentices, host employers, vocational teachers, peers and colleagues. Distinguishing between *learning from others* and *learning with others* identifies how this learning may be co-constructed between the apprentice and the more experienced others within and outside the workplace.

*Learning from others* represents the novice-expert dichotomy that underpins the assumptions of situated learning theory, where the development of expertise from 'new comer' to 'old timer' is linear and the apprentices' autonomy as a learner and critical reflection are underdeveloped. *Learning with others* will be expanded on within the next section. It involves apprentices becoming increasingly autonomous and critically reflective where there is less reliance on didactic approaches to learning from the host employer and vocational teacher (Fuller & Unwin, 2004; Illeris, 2011).

Figure 4.8 (Reflective memo (5 March 2014) – Developing apprentices) shares some commentary about how apprentices develop throughout their apprenticeship. This commentary was from one of the vocational teachers and a professional discussion I had with one on my colleagues with a similar background to myself.

**Reflective Memo – 5 March 2014**

While interviewing one of the vocational teachers he made some interesting 'tongue in cheek' comments about apprentices in the workplace. He suggested that within the building and construction industry: first year apprentices are "not very confident, scared and excited"; second year apprentices are "all about their short shorts and their utes"; and when apprentices reach their third year "it really hits them that they need to grow up soon". Until starting this research, I have had little to do with the building and construction industry and at first I didn't understand these comments. It wasn't until this morning I understood while I was having breakfast with a colleague that I served in the military with, who did his apprenticeship before enlisting. I was talking about this study in general terms and he suggested that; first year apprentices "are trying to find their feet and work out what is going on around them"; second year apprentices "think they know everything"; and third year apprentices "find an increased level of motivation as they realise that they don't know everything and the opportunity to use the 'I'm only an apprentice excuse' is fading". This reminded me of a symposium that I attended a few years ago. These anecdotes support the data analysis informing the categories of *confirming value* and *heightening motivation* towards a substantive theory about self-directed learning and apprenticeships.

**Figure 4.9: Reflective memo (5 March 2014) – Developing apprentices**

The development of apprentices as contained within the reflective memo suggested that when apprentices first commence their apprenticeship they are not particularly confident and are trying to discover their place within the workplace. There is a sense that the apprentices subsequently progressed to a place where they are over confident, without having developed commensurate levels of expertise. This study uncovered that until the

apprentices' became less indulgent by normalising their confidence with expertise they relied on more directive approaches for their learning by others. I also suspected that host employers and vocational teachers might have also relied on directive approaches to transmit their expectations, perhaps through difficult conversations, with the apprentices during this situation.

For apprentices, Lave and Wenger's (1991) concept of *situational learning,* represents a trajectory from novice to expert. *Novices* within the situated community of practice within the workplace, according to Lave and Wenger (1991), are peripheral participants within this community and *experts* are "full participants" (p. 11) within the community. Novices become full participants through interacting with experts and increasingly engaging with workplace activities. This learning within the workplace is facilitated and regulated by the experts. As identified within this study, during the initial stages of the apprenticeship, apprentices' learning is initially primarily dependent on the host employer and vocational teacher. This dependency can be explained as a combination of the apprentices' initial lower levels or confidence, workplace familiarity and expertise. Fuller and Unwin (2004) suggest that apprentices that are only exposed to a restricted or limited range of tasks and interactions within the workplace are more likely to become "narrow" rather than "broad" experts (p. 32). This is representative of the likely future path of the apprentice from novice to expert.

> The likelihood of the apprentice experiencing a narrow trajectory to expert depends at least in part, on whether workplaces have mapped the range of tasks and skills, and have designed a program (e.g. a structured apprenticeship program), which generates opportunities to learn broadly as well and deeply (p. 35).

In connection to learning with others, my research has illuminated that there was a disconnect between the intent and execution of the apprentice training plan. This disconnect was evidenced by the apprentices identifying themselves, and being remunerated as being within, or having completed stage three on their apprenticeship training plan without completion of their off-the-job component, which is conducted away from the immediate workplace. The apprentices conceded that staged completion of their off-the-job component was not commensurate with workplace expectations as there were times where off-the-job training was not available due to closure of their initial RTO and host employers having varying standards.

To further demonstrate this disconnect with the execution of the training plan, one of the host employers commented that one of the challenges that he has experienced using apprentices from the GTO was that stage three apprentices were charged out at a rate higher than either stage one or stage two apprentices, however they are often less experienced. In this host employer's view he indicated that there is *"not a lot of difference price wise between a 3rd year apprentice, a 4th year apprentice and a tradesman on subcontract"* (E01).

With the exception of one host employer who kept his apprentice for the duration of his apprenticeship there was no evidence of any intentional structure to the apprentices' on-the-job component and a linear trajectory from apprentice to tradesperson was evident. There was no suggestion from the participants that host employers were overtly concerned about the apprentices developing a broad range of skills towards their sustainability and longevity within the industry. An example that would facilitate the broad development of expertise would be a deliberate strategy to rotate apprentices through host employers who focus on alternate aspects of the industry, such as residential and commercial building, extensions, and fit outs (Fuller & Unwin, 2004).

### 4.9.2 Becoming confident

Confidence is represented within this subcategory as a personal trait as opposed to a trust, behaviour or decision (Cofta, 2007), and confidence more broadly and as a motivational driver (Currie, 2008). This subcategory understands that the apprentices developing confidence concurrently with expertise within the workplace. The development of self-confidence is reflective of the notion of self-concept as a lifelong process that begins with the individuals' first awareness of themselves as becoming a tradesperson (Rosa, 2007). This awareness is developed through confidence and is "an image of the self or the way that one thinks about oneself" (Rosa, 2007, p. 386).

Within this subcategory the apprentices are beginning to think of themselves as tradespeople. Others did not necessarily share this view of the apprentices as one vocational teacher commented on the growth of apprentices "*there is a bell curve in that they start in their first year and they are scared and excited. In their second year they have got their short shorts and they're ute and all this and then they hit the reality of third year"* (T01). The host employers and vocational teachers expressed a sense of reality as the apprentices developed a mindset that "it was time to grow up", "workout what is important in life" and "an apprenticeship is not like school". It was also suggested that it was not possible to develop this sense of reality independently to confidence.

As a further example, an apprentice commented that:

> *The difference between a first year and third year apprentice is the fact that a first year apprentice hasn't got developed relationships … after six months in a company you work out who you can and who you can't approach … when you get into second and third years you start to wake up and realise what you can and can't do* (A07).

It appeared that apprentices also developed confidence when they had the opportunity to compare themselves with their peers. Presumably due to the apprentices being employed by the GTO and being seconded to host employers they rarely worked together within the same workplace. The data revealed that the apprentices' development of confidence

can be principally attributed to the vocational teachers who promoted being a tradesperson as a valuable and worthwhile career and encouraged the apprentices to compare themselves against their peers.

This comparison appeared, at least within the early stages, to be facilitated by the vocational teachers through assessment strategies. These assessment strategies included the grading of practical and theoretical assessment in terms of percentages and making expectations clear.

As explained by a vocational teacher:

> *If I have to give them a score and if I say 'that's a pass or that's not a pass' they don't like that. What they want is 'this is a distinction, this is a credit or this is a pass' ... for some of them knowing that their project is a distinction is a real motivator. Some of the guys sit there planning how they can turn their project into a high distinction as they have time remaining. An absolute motivator for some* (T01).

> *We tend to grade our practical assessments, which is the greatest chunk of our assessments and we tell the apprentice a number from school as they are used to working with percentages. I think because of this and this, your assignment or project is worth about 80%, which at TAFE we call a distinction, or a credit or pass or it's only good enough because of these reasons ... If we said a pass was good enough as we do for our theoretical things where you just have to get a pass then the apprentices will only do enough work to pass (T02).*

> *Competition is a good way to motivate and reward apprentices* (T03).

Acknowledging that graded assessment of CBT within the Australian VET system is contentious (E. Smith & Keating, 2003; Thomson, Mathers, & Quirk, 1996), in at least this instance, the grading of CBT provided dividends towards the apprentices becoming confident. Thomson et al. (1996) contended that graded CBT "Motivate[s] students/trainees to achieve higher performance in knowledge and skill and also reward excellence" (p. 11).

This is supported from evidence from the data and my reflective memo (Figure 4.10 Reflective memo (15 December 2013) – Grading competency assessment).

**Reflective Memo – 15 December 2013**

This memo is being written with a backdrop of completing the interviews of the vocational teachers. There was compelling advocacy about how the teachers' believed that graded assessment assists with the apprentices' motivation. In fact, it was a common practice that they grade practical assessment regardless that the final record or transcript indicating the apprentice being 'competent' or 'not yet competent' against would be considered as the 'industry standard'. I think that graded assessment is a way of recognising 'better than industry standards'. I understand that there has been little research into graded competency assessment for some time and perhaps the 'great grade debate' should be revisited?

**Figure 4.10: Reflective memo (15 December 2013) – Grading competency based training**

Figure 4.10 also suggested that there is a clear link between the motivation of apprentices and grading competency based training. The vocational teachers appeared not to be content with their apprentices only achieving minimum standards of performance. Collectively they were advocates of apprentices achieving excellence, which was described as the development of confidence. The vocational teachers considered that their role was to prepare the apprentices for the future, which surpassed the immediate skill requirements of industry. The vocational teachers identified that apprentices striving for excellence (and self-direction) needed to be able to take initiative, adapt to new situations, learn new skills, communicate effectively and know how to find information.

Figure 4.11 (Reflective memo (25 March 2013) – Excellence in trades) details some of my reflections after attending a workshop which considered topics around what constitutes as excellence in trades and vocational education and training more broadly.

**Reflective Memo – 25 March 2013**

I just got back from attending a workshop, upon invitation, about excellence in trade training, which was hosted by a Victorian duel sector (vocational and higher education) institution. The workshop offered opportunities for VET educators to explore how skills competitions and competition standards could be used towards improving the quality of vocational assessment. Of particular interest to me was how these competition standards could increase the level of apprentice engagement and their motivation to strive for excellence in their trade. Much of the discussion centred on what trade excellence looks like. Admittedly, this was the first part of what was hoped to become an ongoing discussion within this institution, but the majority of the participants were adamant that CBT could not be graded and to benchmark trade excellence the completion standards (which are graded) could be laid over the top of the existing competency standards. Despite my probing questions, I felt a sense that acknowledging excellence and using this acknowledgement towards improving apprentice engagement and motivation was a 'bolt on' strategy. I was arguing that it should be integral to all teaching and learning within VET. This is certainly very interesting and based on my experiences at this workshop, contentious and value laden.

**Figure 4.11: Reflective memo (25 March 2013) – Excellence in trades**

Aligned with some of my reflections in Figure 4.11, the vocational teachers also assisted the apprentices to develop confidence and motivation as they promoted being a tradesperson as a valuable and worthwhile career and continuously reinforced this message.

> *I think most apprentices love what they do and that is why they chose it … They like the idea of the money that can be made in a trade … They know that they will never be doctors and dentists but they can see that if we work hard as tradesman we can make as much as doctors … we talk a lot about their future and the feedback is that they are interested in setting up a lifestyle to have a family and a happy and successful life … they don't want to struggle like their parents … become good at something as many lost their self-esteem at school because they felt stupid* (T01).

> *Keep them busy and have clear expectations … I tell them how good the trade has been for me and the opportunities they can have … I give them lots of practical jobs to teach them how to use the different types of machinery and gradually get more complex with these jobs … I try and give them lots of skills and I always refer back to how it had helped me as an apprentice and as a tradesman* (T02).

> *Apprentices stay motivated when they can see the direct benefit of their learning … It is harder to motivate apprentices who don't have longer term goals … To motivate apprentices without goals you need to get them past their current situation. I try and do this by linking everything they do to the workplace and future jobs* (T03).

The above extracts from the vocational teachers provide examples of these messages from vocational teachers to assist the apprentices to develop confidence and motivation. Specifically the messages from the vocational teachers to the apprentices emphasised the importance of goal setting and the rewards of working hard to achieve these goals, and their responsibility to prepare themselves (and their families) for a sustainable future.

Importantly, the vocational teachers used their identity as tradespeople as an enabler to develop confidence within the apprentices through sharing their experiences. According to Cofta (2007) "without identity confidence cannot be established" (p. 175). This development of identity of the apprentices was witnessed within this research as being aligned with the concurrent attainment of confidence and expertise.

### 4.9.3 Developing identity

At the same time that the apprentices developed expertise and confidence they began to acquire vocational identity as a tradesperson. This category directly builds on the previous category of developing confidence and concentrates on the apprentices' development of vocational identity.

Identity was defined by Cofta (2007) as "reflected (processed) memories" (p. 174). The researcher noted that memories are changing all the time as older memories fade away and new memories are introduced. Additionally, he advised that the persistence of our memory allows us to reconcile our old and new identities. This advice from Cofta indicates that this subcategory is appropriately located within this psychosocial process as apprentices began to develop vocational identity through workplace experience. Conceivably, new experiences become new memories as vocational expertise is developed.

The notion of vocational identity extends on the broader definition of identity. The vocational identity of the apprentices, which was also acknowledged by the host supervisors and the vocational teachers, become increasingly stable as confidence developed (Gupta, 2008). There was a sense from the vocational teachers and host employers that apprentices who had a strong sense of vocational identity displayed high levels of confidence during unforeseen problems or situations.

In the context of the German apprenticeship system, as applicable here, Klotz, Billett, and Winther (2014) proposed that "those undertaking apprenticeships develop occupational ties and form an identity associated with that occupation, rather than loyalties to a specific company or employer" (p. 1). Vocational identity can be related to self-directed learning as without a sense of vocational identity, or being self-directed, the tradesperson's ability to work autonomously by being able to plan, execute and monitor their work would be less likely. As with self-direction, vocational identity guides the practice of workers particularly during complex and demanding tasks where high levels of learning capacity is required (Klotz et al., 2014; Merriam et al., 2007).

For apprentices, receiving constructive feedback from supervisors and co-workers assisted the development of identity. Apprentices commented "*the respect that I get from my host employer makes it a lot easier as it is easier [to learn] when you are not getting putdown and it's all positive feedback*" (A03) and "*My other mates are always positive so that's a good thing*" (A06). There also appears to be a relationship with the development of identity and the progress towards self-direction. One host employer suggested that "*The more compliments they [the apprentices] get the better and the more they want to progress … be honest with the apprentice when they make a mistake and tell them exactly what they have done"* (E02).

For the apprentices, this concept of vocational identity became increasingly stable as the apprentice became more expert and confident as their apprenticeship progressed. This stability provided some consistency during the constant evaluation and decision-making process. This self-concept, according to Savickas (2002), does "change with time and experience as the situations in which people live and work change" (p. 156). This suggests that when the apprentices evaluated and made decisions in the early stages of their apprenticeship, these decisions may be influenced by different factors (expectancies) than those impacting at other points during their apprenticeship. As an example, these factors may be the difference between supporting yourself and living at home and paying board, making regular mortgage payments and supporting a family. This is to say that what was important when the apprentice first committed effort to seeking an apprenticeship to learn a trade and the outcome of being a tradesperson may not be as important within this phase as personal and vocational identity is developed.

**Reflective Memo – 10 August 2014**

I have been thinking about how I developed my identity as a tradesperson. I recall the day I got off the bus at, what was then, the Army College of TAFE and how the directing staff made it very clear what was expected of me of being both a soldier and a tradesperson. It was like I was being told the type of person I was expected to become. This was probably fair enough as I was in the military. However, I really never developed a sense of self-identity around being a soldier as I had minimal confidence in my 'soldierly' ability. I probably developed my self-identity as a tradesperson reasonably early compared to the apprentices within this research. I was part of a defined cohort. We literally lived together for two years and the reason behind most of us being there was because of the apprenticeship and not to become a soldier foremost. In contrast to what is happening within the research, my self-identity was developed through believing that I had attained the confidence of others in terms of reliability and 'not letting the team down' over my level of technical expertise. The self-identity as a tradesman due to my skills and knowledge came much later and was through the acknowledgement of others. This reflective memo highlights to me the interconnection between confidence and identity.

**Figure 4.12: Reflective memo (10 August 2014) – Developing and not developing identity**

The reflective memo (Figure 4.12 Reflective memo (10 August 2014) – Developing and not developing identity) highlights my experiences and the interconnection between confidence and vocational identity and further exposes the central theme of this category. It shows that I did not develop a vocational identity as a soldier, regardless of meeting performance (behaviour) expectations at the level I was working, it is unlikely that I would have developed into a self-directed soldier. With the benefit of hindsight, not developing this vocational identity as a professional soldier contributed to my leaving the military. In contrast I did develop the vocational identity as a tradesperson through the support of my cohort as we developed expertise and confidence together and developed as a self-directed learner.

A very powerful influence towards my becoming a self-directed learner was when I found a greater sense of motivation towards the end of my apprenticeship, as I was getting closer to achieving my goal. This research revealed similarities between my experiences and those of the apprentices as they approached the twilight stages of the apprenticeship. Hence, the final category within this psychosocial process of apprentices developing self-direction is *heightening motivation*.

## 4.10 Heightening motivation

> Students' motivation determines, directs, and sustains what they do to learn (Ambrose, Bridges, Dipietro, Lovett, & Norman, 2010, p. 5).

The category of *heightening motivation* is representative of the apprentice being on the final ascent to the summit, where the summit is an analogy for experiencing everything that the apprenticeship had to offer and reaching the goal of becoming a tradesperson who is self-directed. This category is reflective of the apprentice seeing the summit and increasing effort (heightened motivation) to secure the desired outcome. The apprentice can see the summit, but is well aware that their hard work is needed to get there. As they get closer to securing this outcome the apprentices are able to draw on their prior success in learning. However, at this phase, the evaluation and decision-making process is more complex and the apprentices are more likely to seek a sponsor who has a facilitative approach.

The role of the sponsor, as a more experienced other who has both a personal and professional interest in the apprentice's development, has been critical throughout this psychosocial process to create the learning environment around the apprentice as they simultaneously developed expertise, confidence, and motivation on the way to becoming a self-directed learner. The sponsor's influence culminates within this category as they support the apprentices acknowledging themselves as self-directed learners and others within the workplace reciprocating this acknowledgement and accepting the apprentices as tradespeople.

This category of *heightening motivation* also identifies the inclination of the apprentices to look past any adversity, which may have caused concern within the earlier stages towards the completion of their apprenticeship. This increased level of motivation according to Ambrose et al. (2010) refers to the "personal investment that an individual has in reaching a desired or stated outcome" and "In the context of learning, motivation influences the direction, intensity, persistence, and quality of the learning behaviours in which students engage" (p. 68).

Within *heightening motivation* the apprentice fully develops their sense of vocational identity and is acknowledged by others, both within and external to the workplace. As the apprentices assume this identity, greater expectations about the increase in their levels of autonomy, decision making and acceptance of responsibility are evident. Additionally during this phase, the apprentices become less dependent on the one-way transmission of knowledge and begin to learn in collaboration with others. The apprentice progresses from being a consumer of knowledge to contributing to their own learning and the learning of others within the workplace.

Heightening motivation has two subcategories. These subcategories are becoming accepted and learning with others.

### 4.10.1 Becoming accepted

Apprentices during this phase become accepted as members of their vocation or workgroup, which Lave and Wenger (1991) referred to as a "community of practice" (p. 100).

Lave and Wenger (1991), within their seminal work on communities of practice, relate becoming a full participant in the workplace to identity and motivation. Newcomers or novices, according to Lave and Wegner, are initially peripheral or a newcomer to the community of practice within the workplace where their role is to become part of the community. As they integrate themselves into the community towards full participation the identity of the apprentices change. As the apprentices incrementally develop full participation within the workplace, this participation can be considered as the "subjective intentions motivating learning [where] changes in cultural identity and social relations are inevitably part of the process" (Lave & Wenger, 1991, p. 112).

Within this phase apprentices are nearing the completion of their apprenticeship and are increasingly developing their full identity as tradespersons within the building and construction industry. This sense of identity appears to be developed commensurate with the apprentices' self-identity and the acknowledgement from others that the apprentice is becoming a competent and valued member of the occupation, so that the acknowledgement affirms the apprentices' shift in identity as discussed in Figure 4.13 (Reflective memo (15 November 2014) – Developing identity).

**Reflective Memo – 15 November 2014**

Throughout, the apprentices were seeking the acknowledgement of others with their first acknowledgement as tradespeople coming from the sponsor. This acknowledgement was the sponsor's ongoing validation of the apprentice and had both professional and personal dimensions. It was like the sponsor was not only facilitating the apprentice acknowledging themselves as tradespeople, they were also convincing others to acknowledge the apprentice as a tradesperson. The sponsor was 'loaning' or 'sharing' their identity and reputation with the apprentice. The vocational teachers had seen the apprenticeship, as a means to become a tradesperson. However, it was suggested that becoming a tradesperson was not an end in itself as learning was continuing past this milestone.

**Figure 4.13: Reflective memo (15 November 2014) – Developing and not developing identity**

One theme that has been very striking during the interviews of the host employers and vocational teachers was that there was an immense sense of pride on seeing the apprentice's achievement in becoming a tradesperson and their subsequent success. The vocational teachers and host employers' acknowledgement of this success involved their observations of both the apprentices' professional and personal achievements. Professional acknowledgement included the acknowledgement of excellence by former apprentices in their fields, in pioneering the application building and construction technology advancements and running successful small businesses. Acknowledging the somewhat subjective nature of these observations and subsequent acknowledgement by the vocational teachers and host employers, the personal aspects included observations of the former apprentices personal aspects such as 'nice house, friendly and supportive wife, great kids, and always happy to have a chat and lend a hand'. These relationships between the vocational teachers and host employers have longevity, often over decades as shown in Figure 4.14 (Reflective memo (10 September 2014) – Being proud)

**Reflective Memo – 10 September 2014**

I have just been re-reading my notes about how much pride the host employers and vocational teachers expressed about the achievements of their past apprentices. This level of acknowledgement surpassed the broader acknowledgement of other peers or employees where their engagement (or sponsorship) in the individual's development was not as deep as the engagement they had towards their apprentices. This is relatable to my own personal experience as, upon reflection, I am also very proud of the achievements of my past apprentices because as a teacher you invest yourself into their development.

The host employers and the vocational teachers during interviewing often commented on how they have long running relationships with past apprentices. Although I can appreciate this situation, I do not have these types of relationships with my former apprentices likely due to, the host employers and vocational teachers having spent longer directly engaged within their trade and not having the same levels of mobility as I have.

**Figure 4.14: Reflective memo (10 September 2014) – Being proud**

Even though it was not explicitly stated, there was a sense from the participants that becoming a self-directed learner involved the capacity for continual learning and as the apprentice engaged with the sponsorship from others, there was also an unstated expectation of the apprentice that they would in turn also develop a personal and professional interest in the development of others during their vocational career. This is highlighted in the category of *learning with others*.

### 4.10.2 Learning with others

As discussed in the previous section in relation to the subcategory of learning from others, *learning with others* represents a move away from the novice-expert dichotomy as the apprentices become increasingly autonomous and accept responsibility for their actions within the workplace environment. Apprentices also reached the point where they were critically reflective of the limitations and opportunities that their current situation offered.

**Reflective Memo – 15 December 2014**

At the time of writing this memo I am in the twilight of my research journey and want to reflect on the learning journey of the apprentices, as they became self-directed learners.

It appears that the apprentices all through their apprenticeships are in a constant evaluation and decision-making process and as apprentices develop self-direction this evaluation and decision-making process becomes more complex. This reminds me of the saying about 'you don't know what you don't know'. This evaluation and decision making also seems to become more complex as apprentices are able to uncover underlying assumptions and see the alternate perspectives of others.

I can relate to the role of the apprentices' sponsor to ensure a safe learning environment. When I first became an apprentice I was terrified by the thought of making mistakes within the workshop until I met a sponsor. In hindsight, this sponsor facilitated a safe learning environment for my development. His personal interest came later than his professional interest in my development. I suspect that his personal interest came later as he needed to ascertain my character before committing personally. I am still a friend with this individual today.

There have been two significant occasions when I recall being accepted by others as a tradesperson. The first time was when I promoted from the rank of Apprentice to Craftsman and was presented my corps badge for the front of my slouch hat. The second time was when I was first employed as a vocational teacher.

**Figure 4.15: Reflective memo (15 December 2014) – What is happening here?**

This study has identified that when apprentices become critically reflective, autonomous and accept responsibility for their actions they reach a position where, once a

relationship is developed, they can learn from anyone in the workplace. These relationships include employers, supervisors, tradespersons and other apprentices. These learning relationships may occur throughout the apprenticeship, however are heightened towards the twilight stages of the apprenticeship as the apprentices evaluate and make decisions towards meeting their aspirations and *seeing the light at the end of the tunnel*. Apprentices believe that teaching other apprentices is rewarding and they also learn themselves when teaching others. As two apprentices commented *"[teaching others] increases my knowledge and when you teach someone it re-enforces what you have already learnt"* (A04), and *"I find it rewarding ... I find that I get a lot of younger apprentices coming to me over the older tradesman asking for help because they find that I'm a little bit easier going and a bit more laid back so they can talk to me"* (A07).

This notion of peer learning is not necessarily hierarchical or linear in the sense of stage three apprentices teaching stage one apprentices. It is relational to the individual's confidence and developed competence within a particular task and the ability and openness to relate and be approachable to others within the workplace.

In support, these extracts are about learning in the workplace and identify the strategies the apprentice used to seek assistance within the workplace:

> *Where I am working now there's a few carpenters working you can just get the closest guy working near you but it is normally the bloke that gave you the job* (A01).
>
> *I will ask the boss or I will ask one of the two qualified carpenters. They have been qualified for a year now* (A02).
>
> *I try and have a go myself before seeking help* (A03).
>
> *I approach the boss or someone with more experience* (A04).
>
> *Firstly, I repeat back the job instructions to the boss as he's got a weird way of explaining things* (A05).
>
> *Keep going back to him [the boss] and say that I don't understand. They either push you aside or do it themselves or keep explaining it ... They don't have the time ... TAFE teachers take the time if you don't understand ... I have had blokes who have taken the time to show me [both apprentices and tradespersons]* (A06).

The strategies that the apprentices used to seek assistance within the workplace are an example of the high learning capacity that the apprentices had attained at this phase of their apprenticeship. Specifically, the apprentices were able to seek assistance within the

workplace using a variety of strategies that included self-reflection, open and ongoing communication with host employers, other tradespeople and peers, and the importance of taking the time to help others. Apprentices began to *learn with others* as they normalised their over confidence with expertise, developed a sense of vocational identity which encompassed confidence and expertise, and the apprentice's level of expertise and vocational identity was acknowledged from others both within and external to the workplace. Additionally, the relationship between the apprentice and the sponsor changed from the apprentice being reliant on the sponsor for their learning to a relationship of collaborative learning.

The category of *heightening motivation* represents the concluding phase of the apprentices' journey to becoming self-directed learners. The research indicated, by this stage in their apprenticeship, that the apprentices were increasingly working autonomously and taking responsibility for their own actions. The acceptance of responsibility also included the apprentice assuming accountability for their own learning and supporting the learning of others within the workplace in conjunction with their own learning. During this phase the apprentice is likely to be seen by apprentices within the other porous and interconnected phases of *committing effort*, *experiencing work* and *confirming value* as the more experienced other. The junior, less experienced and confident apprentice may also be looking towards their senior coworker for sponsorship that encompasses the coworker's professional and personal commitment to the apprentices' development.

When the apprentices were asked how they keep themselves motivated, the following responses were encountered:

> *I guess even if it's a small task just think what you are doing is going to help the bigger picture and just try and refine your skills as best you can no matter what, even if it's just sweeping. Try to stay in the frame of mind that you're there to learn and it's not just a jo*b (A01).

> *The light at the end of the tunnel. When you get your qualification noticing that you have been learning things and you get confidence and you can do things without asking. It keeps you motivated to know that one day you'll be able to have people working under you* (A02).

> *Knowing what I am capable of. It is really hard at the moment as I enjoy [residential carpentry] and I am working in commercial [carpentry]* (A04).

> *Just hope it would get better ... I like to watch others and think that one day I will be able to do that* (A05).

> *It is hard when you have to buy tools and you don't get paid much ... it is easier now because I have a bit of spending money and you can go out and enjoy yourself ... but you really have no life in the first couple of years* (A06).

> *I'm a pretty motivated person in general ... I like to have a go and if I see people struggling I will give them a hand. Keeping myself motivated would be like going to work everyday ... I enjoy the blokes in the company that I am working for at the moment* (A07).

The category of *heightening motivation* represents the phase where apprentices are able to *look past* any adversity that they may have previously experienced and are given and accept the opportunity to work autonomously, accept responsibility and learn from others. *Heightening motivation* contains subcategories of *learning with others and becoming accepted,* which acknowledges the apprentices' changes of personal and social relationships within the workplace and the subsequent development of self-directed learning.

One special type of relationship that I have termed *sponsorship* is central to enabling apprentices to become self-directed learners.

## 4.11 Sponsorship within the workplace

The sponsor is a more experienced other who has both a professional and personal interest in the apprentice's development. The apprentice may have more than one sponsor during their apprenticeship. The number of sponsors depends on the capacity of sponsors to meet the needs of the apprentices. In the initial stages of the apprenticeship, the apprentice is looking for a sponsor who is more transmissive or directive in their teaching approach. During the later stages of the apprenticeship the apprentice is looking for a sponsor who has a more collaborative or facilitative approach to work and learning.

The sponsor creates a safe learning environment for the apprentice. The sponsor monitoring the apprentices' level of self-direction enables this safe learning environment. Sponsors monitor the apprentices learning and sometimes need to protect them from negative experiences. I refer to this as *shielding*. This *shielding* is the influence that the sponsor uses to deflect detrimental experiences away from the apprentice. Experiences that are determined as detrimental by the sponsor are experiences that may compromise the apprentices' ability to learn in a non-threatening environment. The sponsor makes a judgment that the apprentice requires higher levels of expertise and self-direction before a similar experience becomes beneficial to the apprentice's development. This is to say that experiences that are determined as detrimental by the sponsor are less common within the later stages of the apprenticeship and the sponsor is less likely to use their influence to shield the apprentice from these experiences.

## 4.12 Summary

As a substantive theory, apprentices become self-directed and competent tradespersons through constant evaluation and decision making throughout their apprenticeship. This evaluation and decision making coexists and occurs in parallel with the apprentice *committing effort*, *experiencing work, confirming value* and *heightening motivation* on their journey to becoming a competent and self-directed tradesperson as they continue to develop expertise. A self-directed learner is one who can make informed and independent decisions and take responsibility for their actions.

This chapter has primarily discussed the process through which apprentices develop capability for self-directed learning. It has demonstrated the process consisting of categories or phases (*committing effort, experiencing work, confirming value and heightening motivation*), which have been explained in detail. It has also made brief mention of the continuous process of evaluation and decision making, which are a part of the apprentices' learning and the importance of what has been termed sponsorship as a key factor affecting the development of self-directed learning. These are discussed in further detail in Chapter 5.

The categories or phases discussed conceptually represent the journey of the apprentice towards the development of self-direction. Newsome, Throne, and Wyld (1973) considered that vocational maturity and becoming self-directed are outcomes of a number of stages, which consist of the psychosocial processes discussed in this chapter. Vocational maturity of apprentices develops along with their self-concept. This self-concept is an indicator of their high self-regard and the uniqueness or readiness for decision making as a characteristic of being self-directed (Watts, 2001). This self-direction signifies that apprentices' have the readiness and resources for coping with the anticipated tasks of developing during their apprenticeship, as pertaining to the notion of *adaptability* (Savickas, 2001, 2002).

To become self-directed, apprentices constantly evaluate their experiences by balancing the positive and negative aspects of these experiences and making subsequent decisions to adapt to the changing circumstances or to reconcile their ongoing engagement in their apprenticeship. In the event that the apprentice cannot reconcile their continued engagement within their apprenticeship a decision is made which leads to the apprentice withdrawing from their apprenticeship. This is not to say that the apprentice who leaves their apprenticeship will never develop self-direction, as there are many environments where individuals can develop and grow.

These categories and their interrelationship represent a development process rather than a specific event in terms of the development of expertise. The focus, or core concept, of this substantive theory—which will be discussed within the next chapter—is therefore concerned with the social context, the personal and learning needs of the apprentices,

and the guidance or sponsorship they require from a more experienced other to progress from an apprentice to a tradesperson.

# Chapter 5 Discussion

> When you write up your grounded theory, you may feel like a giant when in reality you are a dwarf: it is because of everything you have read, seen, heard and felt that you have been able to put the thesis together. Therefore it is important to situate your work within the body of related literature, both because it's academically honest to give credit to other researchers, and because you need to demonstrate how you built upon it so you can see further (Stern, 2007, p. 123).

## 5.1 Introduction

The preceding chapter explored the categories developed through analysis of the data, which was collected through semi-structured interviews of the participants in this study. The participants included apprentices and a representation of the apprentices' host employers and vocational teachers. The data analysis identified the phases (categories) of the psychosocial process of the apprentices becoming self-directed learners by *confirming effort*, *experiencing work*, *confirming value* and *heightening motivation*.

As explained, the phases of development are interconnected in a non-linear model. Throughout these phases there was a continuing decision-making process where the apprentices evaluate and balance negative and positive experiences. These evaluations were based on the expectancies of the apprentices and the apprentices' interpretation of the expectancies placed on them by others. The continuing process of evaluation allows the apprentices to make the decision to continue or discontinue their engagement with their apprenticeship. This evaluation was formal and informal, conscious and subconscious.

The purpose of this chapter is to re-engage with the supplementary literature that was identified during the development of my substantive theory. Ideally, the search for literature, other than initially exploring the sensitising concepts as a point of departure to inform data collection, comes after the construction of the theoretical framework or substantive theory (Charmaz, 2006; Stern, 2007). As Stern (2007) suggested, a literature review "undertaken after data analysis, reviewing the work of other researchers completes and enriches the research" (p. 123).

To complete and enrich my research, this chapter compares and contrasts my findings to the scholarly contributions of others. Where possible I have engaged in both the seminal and more current literature. The chapter is structured around the theoretical foundations of the substantive theory. The substantive theory details the phases through which the apprentices move towards becoming self-directed learners. These phases are discussed in detail in Chapter 4 and include *committing effort*, *experiencing work, confirming*

*value* and *heightening motivation.* As the apprentices progressed through these phases they were involved in an ongoing evaluation and decision-making process.

The most significant enabling factor for the development of self-directed learners was the influence of the sponsor as the more experienced or confident other who had both a personal and professional interest in the development of the apprentice. The sponsor (or sponsors) ensured a safe learning environment around the apprentice so the apprentice felt safe to fully engage with their learning and make mistakes without fear of negative repercussions.

I chose to use the term sponsorship within this study to represent this relationship over the similar terms of coaching and mentoring. I felt that the term sponsorship better described this relationship and has greater distinction compared to that of coaching and mentoring. In support, Megginson and Clutterbuck (2005) identified definitional confusion existing between mentoring and coaching as requisite skills overlap to some extent.

Megginson and Clutterbuck (2005) in another publication suggested that:

> Coaching is normally – but not always – associated with some form of performance change, while mentoring is more concerned with career self-management. Mentoring may involve the giving of practical advice (but not as a first option) whereas coaching can (in its more managerialist manifestations) involve coaches having priorities and actions set for them. Mentoring may involve assistance in enlarging the learner's networks, whereas coaching may focus on the immediate work context (p. 17).

Thus, as sponsorship within this study it presented as a dynamic, often complex, relationship, the concept of sponsorship integrates the notions of coaching and mentoring.

Apprentices develop the capacity to be self-directed learners incrementally during their apprenticeship. Supplementary to the achievement of expertise, the capacity to be self-directed was observable through the apprentices developing high levels of responsibility, autonomy and judgment.

The section on *learning context* within this chapter investigates the literature involving the transfer of learning within professional contexts, the quality of the apprentice experience and the imperative relationship between the apprentices' sponsorship and their development as a self-directed learner.

The topic of *motivation*, as with the other identified theoretical foundations, has been a recurrent theme throughout this study. The section on motivation compares and contrasts the seminal scholarly contributions of others to my theoretical framework. Specific

consideration is given to perspectives of motivation, seminal motivational theories, and the comparison of my substantive theory against these models.

The following section is concerned with *decision making*. Within this section the apprentices' evaluation and decision-making process is considered further by evaluating decision making in terms of types of decision making, subconscious and conscious decision making and styles of decision making.

## 5.2 Decision making

Phillips (2008) defined decision making as the "process by which an individual comes to choose between two (or more) courses of action" (p. 1523). The substantive findings of this research indicate that apprentices throughout their apprenticeship are engaged in a continuous evaluative decision-making process. The decision-making process is an integral part of being an apprentice. As described in Chapter 4, apprentices are continuously and intentionally evaluating their experiences in negative and positive terms (see Figure 5.1). Upon this evaluation being positive or indeed neutral or passive, the apprentice is likely to make the decision to stay engaged with their apprenticeship. In cases where the apprentice's evaluation is negative it is likely that the apprentice will think about discontinuing their apprenticeship. This evaluation and decision making is ongoing, where apprentices repeatedly evaluate their experiences.

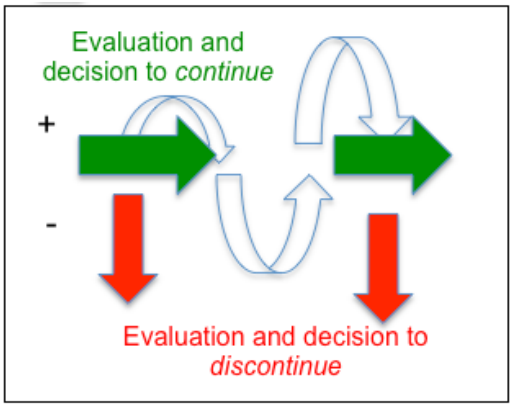



**Figure 5.1: Evaluation and decision making by apprentices**

Effectively, this continuous decision-making process leads apprentices to continue with their apprenticeship, which enables them to continue the learning and development process. This decision making may also lead individuals to further explore their career direction or for others to abandon previously made choices to engage with a vocational career. Career decision making, as illuminated within this research, reflects the descriptive process of decision making, where apprentices as individuals take in, weigh-

up and make judgments about themselves in relation to the world of work (Phillips, 2008).

Decisions are central to every kind of human cognitive processing. Decision making involves the selection of one or more beneficial or satisfying options, where decision making always requires "a commitment to a course of action that is intended to yield results that are satisfying for specific individuals" (Yates, 2003, p. 24) Conferring to Yates and Tschirhardt (2006) there are many different types of decisions:

- *Choices* are where you select a subset from a large set of alternatives (e.g. selecting vehicle for purchase)
- *Acceptances and rejections* are twofold choices in which only one specific option is accepted or not (e.g. accepting an offer for employment).
- *Evaluations* are statements of worth that need to be backed up with commitments (e.g. how much are you willing to bid for your first house or how much do you need when trading a car to a dealer).
- *Constructions* are attempts to create ideal given situations with the available resources and are complex problems (e.g. deciding on a budget for a student association or community agency) (p. 422).

This research has indicated that the decision making of apprentices involved making decisions across the various types of decisions as detailed by Yates and Tschirhardt (2006). These now will be discussed in greater depth.

The decision type of *evaluations* was prevailing over the other types and, as discussed above, continues throughout the apprenticeship and was directly relatable to apprentices' evaluating workplace experiences. The evaluative question for the apprentices were "how are my expectations being met?", "what value do I place on my expectations being met?" and "what can I or others do to help me meet these expectations"?

The participants detailed *choices:* types of decisions that they had made as apprentices about purchasing tools, vehicles and equipment. Choice decisions were also made by the apprentices in respect to developing self-direction. As an example, apprentices commented about making choices to *"stay and think ahead of the current job [or process]"* (A05), *"decisions around job planning like knowing what tools you need"* (A01), and *"deciding to do the job properly and not necessarily super quickly"* (A04). The choice decisions made by apprentices were largely process-orientated. They were about selecting the right tool for the task at hand and job planning. Additionally, the apprentices routinely made choices within the workplace about what to do if mistakes were made, instructions were not understood or when to look to others for assistance.

The decision type of *acceptances and rejections* was evident as the apprentices all had accepted, and in some cases rejected, offers of employment before finding employment

as an apprentice. Although this research revealed the *evaluations* type of decisions was dominant, the decision types of *choices, acceptances and rejections* were also ongoing throughout the apprenticeship.

There was significant evidence to suggest this commonality for the *constructions* type of decisions throughout the apprenticeship. As *constructions* are complex decisions that have multiple solutions or solution paths, a high level of expertise is required to uncover these solutions (Strobel & Pan, 2011). Strobel and Pan (2011) suggest that "professionals in any field are hired, retained and rewarded for their ability to solve workplace problems" (p. 215), therefore a link between solving complex problems and self-direction within apprenticeships can be asserted. The apprentices increasingly developed the ability to solve complex problems as they developed expertise, and becoming self-directed demonstrates this assertion. I suggest that within this substantive theory the ability to solve complex problems commences as the apprentices approach the phase of *heightening motivation* as they develop a full identity as tradespersons. This full identity was seen as reflective of a competent and self-directed tradesperson.

It seems that the apprentice's behaviour during the later phases of the apprenticeship was consistent with *constructions* type of decision making. This is evidenced throughout this research as the apprentices developed self-direction they were able to identify many possible solutions to problems as they presented. However, in determining the most suitable solution for a successful outcome the apprentices' acknowledged that they would often need to settle for a second best option, as their preferred option was not palatable for various reasons within the workplace. An example was when an apprentice transferred his learning from a particular solution to a similar problem during a previous secondment with another host employer that involved the use of a newly accessible piece of equipment. This preferred and recommended approach was met with resistance within the current workplace resulting in an alternate less efficient, but tried and tested option being enacted. This problem is an example of a *construction* type of decision as the apprentice not only needed to identify the technical aspects of the task; he also had to navigate through the social and cultural environments surrounding the later workplace. In this instance, these environmental considerations included the current host employer feeling threatened, as the apprentice was conceptualised in his mental construct as the lesser experienced of the two. Additionally, the host employer had no knowledge of the innovative solution suggested by the apprentice regardless of the apprentice providing sound justification. He was not prepared to learn from the apprentice's prior experiences. This apprentice demonstrated self-direction, as he was able to identify these assumptions and innately knew when and how to express his views and when to tentatively accept the views of others when making or guiding decisions.

Jonassen (2012) identified two distinct conceptions of decision making, *normative* (or prescriptive) and *descriptive* (or naturalistic), which warrant consideration specifically because of their relationship to vocational identity.

### 5.2.1 Normative decision making

Normative theories of decision making assume that decisions are made by rational people who seek to identify the optimal choice that maximise options in any uncertain situation. These approaches are based on norms or standards about how decision making should be done and often prescribe how people should make decisions. This prescription is often communicated through directives, policies and operating procedures. Research around normative models have concentrated on how rational and informed people determine the best option, usually by assigning quantitative values to decision options. Normative decision making is scientific, methodical and rational towards replicability and consistency (Jonassen, 2012; Phillips, 2008).

Normative models of decision making fall into three categories: rational choice, cost benefit analysis and risk assessment. Rational choice models involve decision matrices such as Armstrong's (1982) early and systematic model of considering the strengths, weaknesses, opportunities and threats (SWOT) of a particular situation; and Lewin's (1943) force-field analysis, as an application of field theory (field theory examines patterns of interactions between the individual and their total field or environment).

An example of the normative decision-making model comes from the work of Krumboltz (1996). Krumboltz, from a background of career decision making, believed that career indecision is a consequence of either unsatisfactory or insufficient learning experiences. He offered a prescriptive model to help young people determine career decisions in a rational and logical manner. His model details the steps for this decision-making approach and advocates a systematic progression through these steps. This model, known by the acronym DECIDES, involves defining the problem, establishing a plan of action, clarifying values, identifying alternatives, discovering probable outcomes, eliminating alternatives systematically, and starting action.

### 5.2.2 Descriptive decision making

*Descriptive* models of decision making (Jonassen, 2012) are based on research that examines how people actually make decisions, as people are seldom as rational as it is assumed in normative approaches to decision making. Descriptive decisions are made or influenced by unconscious drivers, emotions and the previous experiences of the individual. Subsequently, descriptive models of decision making are those that detail the steps involved in the *process* of making decisions without advocating *how* the process should proceed. Moreover, individuals frequently construct explanations of decisions in the form of narratives about possible outcomes. Importantly, descriptive models understand that personal identity has a significant role in decision making and decisions are often influenced by these personal identities and the social expectations of these identities. Compared to normative approaches to decision making, descriptive models are contextually embedded (Jonassen, 2012; Phillips, 2008).

S. D. Phillips (2008) identified two broad approaches to descriptive models defined as *narrative based* and *identity based* decision making. *Narrative based* decision making accepts that people know about decision options and harbor knowledge, beliefs and biases about them. Jonassen (2012) explains that some decisions are so emotionally charged that rationality plays no informing role at all, as "decisions in different domains or contexts are related to fundamental differences in subjective evaluations of each outcome, including different choice strategies" (p. 348). These decision-making strategies may include: narrative constructions, a focus on regret or morality, choosing the favourite or avoiding the worst outcome, or other emotional reactions that are removed from being rational (Jonassen, 2012).

As analysed throughout this research, within our personal and professional lives there are numerous influences on our decision-making process. *Identity based* decisions are often made based upon the implicit and explicit rules that follow identities and the expectations of these identities by others and ourselves. This is to say that people are significantly influenced by their professional identities (March, 2004). Jonassen (2012) agreed that workplaces and professions socialise individuals to adopt these professional identities, where these identities are specific to themselves within their surroundings and sometimes may not be well defined or articulated. Additionally, when individuals develop and fulfill professional identities they influence and contribute to all decision making, including those relating to family, friends and the workplace. As shown in this study, this vocational identity reflects a sense of self-concept as an outcome of a number of growth stages throughout the apprenticeship. These ideas of vocational maturity and self-concept imply a high regard for the apprentices' decision making, as a characteristic of being self-directed (Watts, 2001).

According to Gupta (2008):

> Vocational identity is an integral part of human functioning and human development. This is because it is one of the principal tasks in human development, especially for adolescents, in the formation of various identities (p. 1674).

Tiedeman's (1979) early descriptive model depicting vocational or career decision making retains relevance today. This model represented decision making as a sequence of stages leading up to and proceeding from the point of choice. According to Tiedeman, prior to reaching a decision there is a stage of *anticipation* in which individuals explore, crystallise alternatives, make a decision, and clarify how the choice will be put into action. At the point that the choice is made and implementation begins, the supplementary stage of *implementation* commences. Within the *implementation* phase, individuals constantly evaluate the initial decision and the plan for enactment against the pre-determined objectives as discussed in Chapter 4. In the context of the apprentices' evaluation and decision-making process these objectives constitute the expectancies. In the event of these expectancies not being met, the individual reviews and makes necessary modifications as required. This may require re-visiting the initial stage of anticipation to establish whether or not it was suitable.

Tiedeman (1979) advised that this decision-making process was not inevitably linear and irreversible as, in his view, an individual may recycle through the stages of anticipation and implementation at any point. Through his descriptive model of decision making Tiedeman contended that the initial and modified decisions are influenced by the individual's emotions and identity. Recycling of these decisions occurred when the alternatives failed to crystallise or the selected alternative failed to lead to satisfactorily implementation (Tiedeman, 1979).

The descriptive model of decision making has synergies with this substantive theory. It was found that the apprentices' decision-making process was ongoing throughout their apprenticeship and these decisions were influenced by expectancies. The specific expectancies were influenced by the phase where the apprentice was located during the learning journey. As these phases were non-linear, but porous and interconnected, apprentices may have recycled their initial decisions resulting in a change of mind. This was certainly the case in the later phases of the apprenticeship as apprentices were able to overcome or 'look past' barriers and setbacks that may have concerned them earlier within their apprenticeship when they had lower levels of competency and self-direction. This was particularly the case within the category of *heightening motivation*. It was noted within this research that the participants made both subconscious and conscious decisions throughout their apprenticeship.

### 5.2.3 Subconscious or autonomous decision making

D. Brooks (2011) maintained that the primary driver for the naturalistic approach to decision-making is the unconscious. Further, decisions are value based, where our values are derived from our emotions and guide our choices. In this regard, D. Brooks (2011) articulates "mental processes that are inaccessible to consciousness organise our thinking, shape our judgments, informed by our character, and provides us with the skills we need in order to thrive" (p. xi).

This subconscious decision making, as discussed in Chapter 4, from the neurocognitive perspective of Teddy, Yap, Quek, and Lai (2010), appears synonymous with the *autonomous* phase of cognitive development. The *autonomous* phase is the last of three consecutive phases of learning and is preceded by the *cognitive* and *associative* phases. Individual learning commences with the *cognitive* phase where an individuals' ability to use knowledge effectively and readily in the execution of perceptive activities around learning, thinking and decision making is a conscious activity within apprenticeships. The mental processing of information within this stage is slow, deliberate and tedious, and requires significant cognitive resources.

In the *associative* phase the individual learns how to respond more effectively by retaining effective thoughts or actions and eliminating ineffective ones. This efficiency is enabled by experience and repeated exposures to the workplace learning situation. As the individual becomes more cognitively efficient or competent, a lesser degree of

consciousness is required to perform the task. The *autonomous* phase is the stage where the discrimination process between effective and ineffective thoughts is performed subconsciously. This allows an 'expert' of a particular task or situation to quickly discriminate the many stimuli and to focus on highly explicit signs (Teddy et al., 2010). This was demonstrated in the study where the apprentices were able to identify the difference between a well-known or routine problem and a new or unknown problematic situation and were able to switch between an adaptive (associative) and developmental (cognitive) mode of learning (Ellstrom, 2006; Eraut, 1994). As the apprentices develop competence and self-direction they operate autonomously within the workplace to become more expert within their trade. As the apprentice develops expertise they begin to make autonomous decisions.

Eraut (1994), considering the relationships between expertise and deliberation, reviewed the seminal work of Schon (1983, 1987) and Hammond, McClennand, and Mumpower (1980). My observations, that as the apprentices developed expertise they appeared to make decisions quicker in the workplace, supported the outcomes of Eraut's (1994) review as he identified a continuum of *deliberate*, *rapid* and *instant* modes of analysing and acting as expertise was developed.

Figure 5.2 draws from Eraut (1994) and Teddy et al. (2010) and this study to illustrate the link between speed and the model of cognition and the development of expertise. As apprentices became more confident, expert and self-directed they also appeared to become quicker to respond to situations within the workplace. The middle row of the table brings this distinction forward in regard to making a decision about the response to the situation. The bottom row indicates the differences between levels of deliberation and the reflective thinking of that deliberation. My extension from Eraut (1994), based on the findings of this research, has included the draping of the phases of cognitive and social development of the apprentices, as described by Teddy et al. (2010), as previously discussed.

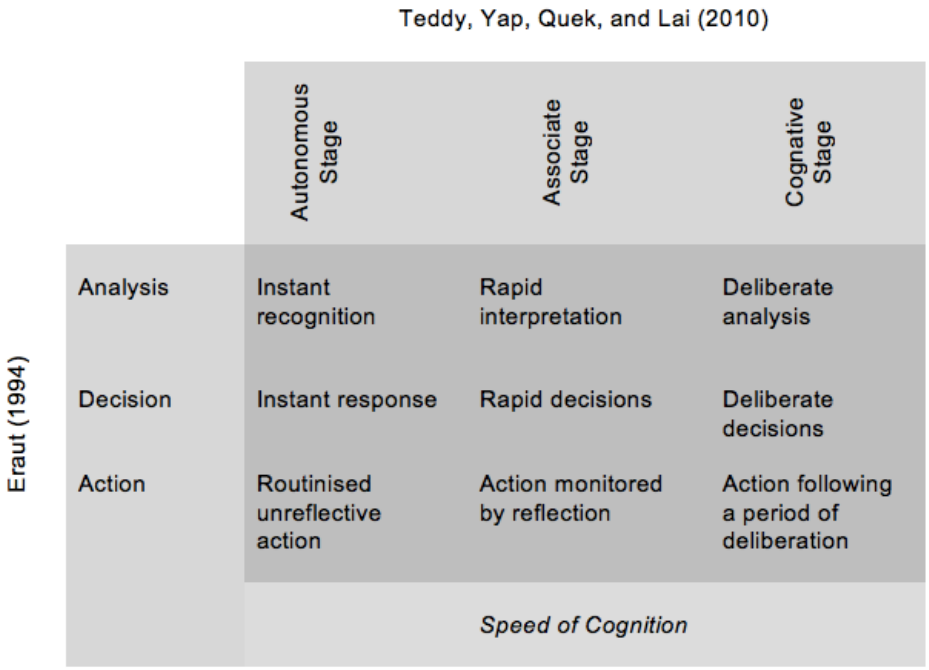



**Figure 5.2: Link between speed and the mode of cognition towards expertise (adapted from Eraut, 1994, p. 149)**

According to Teddy et al. (2010):

> As with the acquisition of other cognitive skills, decision makers improve their decision-making skills through the accumulation, recognition and refinement of encountered decision episodes. Such skills developed primarily through the recognition of salient features and an increased familiarity to each of the past episodes. The knowledge of previous decision episodes becomes the primary differentiating factor between a novice and the expert decision makers (p. 499).

The implications of these words from Teddy et al. (2010) are: that an apprentice can only develop work-related decision-making skills during their apprenticeship by navigating through decision-making processes within the workplace. Secondly, apprentices need to be provided with opportunities to make decisions in different circumstances as it is possible to become a more competent or expert decision maker in one situation but not another.

There was a sense from the host employers interviewed that especially within the early stages of the apprenticeship (at least the first year) they actually did not want apprentices to make decisions. Effectively, host employers described a relationship where the apprentices were told what to do until they developed sufficient expertise to be trusted.

As two of the host employers advised that decisions are *"made based on [the apprentices] developed skill set*" (T03) and *"I don't really want first years making decisions apart from keeping busy [sweeping]*" (E01). The required extent of this expertise and trust was not revealed during this study, however a conundrum exists.

This study has revealed that in the early stages of an apprenticeship apprentices *learn from others*; yet the literature suggests that for apprentices to develop expertise they need to be provided with the opportunity to make increasingly *autonomous* decisions. In practice the solution involves the ability of the apprentice's sponsor to facilitate a supportive environment around the apprentice where the apprentice feels safe to ask questions and make decisions. This may involve the sponsor shielding the apprentice from unhelpful influences. These unhelpful influences may include the host employers having a detrimental conceptualisation of the apprenticeship.

The next section on decision-making styles considers the features of how apprentices may behave in different decision-making situations within and outside the workplace.

## 5.3 Decision-making styles

Decision-making styles are relevant to apprentices as they refer to the characteristics that different people bring to decision-making situations. S. D. Phillips (2008) articulates that rational models of decision-making styles have advanced so that they ascertain differences in how people approach and behave during decision-making events. This behaviour is likely to be dependent on the particular situation and the specific circumstances.

Accordingly, an apprentice who is a decider might be hesitant (procrastinates or postpones decision making) in one situation, while being intuitive (choices based in inner feelings of rightness or inevitability) or logical (objective appraisal and selection) or compliant (passive, choice based on expectations of others or self imposed expectations) in another. Additionally, other approaches have suggested that deciders vary the way in which they systematically or spontaneously gather information and process information, either internally or externally (Harren, 1979; Phillips, 2008).

As a foundational academic in decision-making styles, Harren (1979) maintained that rational decision making varies in the degree to which an individual assumes personal responsibility. This is the extent in which the individual is logical versus emotional during the decision-making process. The opposite of the individual taking responsibility for their decision making, as an example is an apprentice implicitly or explicitly delegating or assigning their responsibility to fate, family and friends, teachers or employers.

My substantive theory indicates that for apprentices to become self-directed learners, as they progress through their apprenticeship, they need to increasingly make independent decisions and take responsibility for their actions and learning. Apprentices who take responsibility for their decision making will develop a better knowledge of themselves and have a firmer sense of personal and professional identity (Harren, 1979; Jonassen, 2012; S. D. Phillips, 2008). However, the tension exists that if apprentices are not given the opportunity to make decisions during their apprenticeship across the spectrum of occupational tasks, there is a proportional threshold of how much responsibility they can accept. This can also mean they can accept responsibility but may not be able to fulfill the required actions. For an apprentice to accept responsibility, reasonable responsibility needs to be increasingly entrusted to the apprentice within the combined learning and workplace environment. This study shows that the giving and accepting of responsibility and fulfilling expectations is important for the development of decision-making skills and needs to be consistent so the apprentices have an opportunity to make repeated decisions in similar situations across the range of occupational tasks.

Decision making as a theoretical foundation of this substantive theory has practical implications in facilitating the development of self-direction in apprentices. This research has exposed that decision making is instrumental for the development of expertise and self-direction. This research has demonstrated that apprentices make decisions on a continuous basis during their apprenticeship. Unless apprentices are given the opportunity to make decisions, the development of their expertise may be stifled. The evidence of this study suggests that the quality of decisions experienced by the participants was sufficient for the apprentice to stay engaged with their apprenticeship. However, the quality of these decisions and the decision-making process was not ascertained from the data. The development of decision-making skills across routine and complex situations needs to be explicitly incorporated and encouraged within apprenticeship learning to develop as self-directed learners.

The following section discusses the *learning context* of this substantive theory, where this evaluation and decision making takes place.

## 5.4 Learning context

> Every trade is different. Each offers its own intrinsic satisfactions, characteristic frustrations, and cognitive challenges; sometimes these challenges are rich enough to be totally absorbing (Crawford, 2009, p. 36).

The apprenticeship is a model of learning that has relevance across the vocational and professional spectrum as discussed within Chapters 2 and 4. As seen within this research, an apprenticeship is a learning journey that is underpinned by the learner making the transition between novice and expert. This research has been centred on apprenticeships within the building and construction industry where the participants readily identify with the notion of a trade apprentice or colloquially “doing your time” to become self-directed learners. Conceivably, similarities can be drawn with the

development of surgeons, teachers, journalists and lawyers along with carpenters, bricklayers and cabinetmakers, although perhaps not readily acknowledged, in their aligning with the experience of learning from more experienced others during a time of apprenticeship. As observed within this research, the sponsorship within the workplace of a more experienced other who has both a professional and personal interest in the apprentice's development was pivotal in the development of self-direction. This sponsorship also involved promoting the socialisation of the apprentice into the workplace. Outside the direct context of the apprenticeship within this research, other variants of apprenticeships promote socialisation through internships or industry placements as part of their preparation for professional practice. This socialisation provides the opportunity for learners to develop experience and assimilate to the world of work (Fuller & Unwin, 2010; Illeris, 2011).

The argument that I would like to make is that as parallels can be made between trades and 'other' types of apprenticeships where the gaining of workplace experience is important to learning, the substantive theory may have applicability across other professional domains. This applicability is due to the psychosocial aspects of this substantive theory, as it has minimal dependency on the specific discipline or industry area.

The participants within this research were very conscious of the perceived, and often long held, separation of thinking from doing, as evidenced in Chapter 4. This separation of thinking and doing, according to Sennett (2009) is a fracturing of skills between the hand and the head and is a social-economic construct of what constitutes success. This construct of success is that an individual is seen to be more successful if they are engaged within university educated white collar professions in contrast to vocationally trained blue collar jobs. Regardless of the participants' perceptions it was abundantly clear that apprentices who developed into self-directed learners had alternate views of success compared to the dominant discourse that being educated at university is a predisposition to being successful. Their view was that a vocational career could provide the success that they were seeking, however that success was determined. The apprentices, host employers and vocational teachers saw being a self-directed tradesperson as being an enabler of success.

The Edge Foundation supports this position of the apprentices. The Edge Foundation (2014) as a champion of vocational learning in the United Kingdom, promotes the view that we can no longer believe that any university degree is a passport to success, while technical and vocational education is for the remainder, "A degree no longer guarantees success, while looming skill shortages mean that there are great prospects for people with technical and vocational skills" (p. 3).

The fundamental characteristic of an apprenticeship is about learning from more experienced others and fundamentally does not discriminate between occupations that are contained within either the formal sectors of higher education, or those concerned

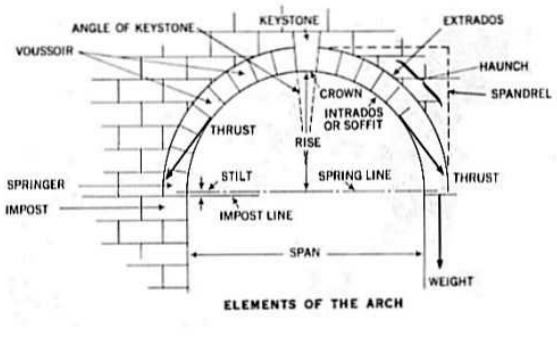
with vocational education and training. Additionally the concept of the apprenticeship in itself does not fracture thinking from doing (Crawford, 2009; Sennett, 2009; Tomlinson, 2013). In this study, the apprentices understood that as they became self-directed they also were developing cognitive skills. Regardless of this the apprentices, presumably due to their high sense of vocational identity and pride, did not identify as being anything other than being *practical smart*.

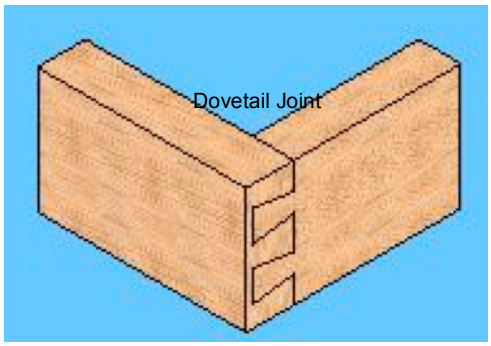
The host employers and vocational teachers were asked during interviewing about what they saw as the main difference between apprentices today compared to when they were apprentices. As this research was being conducted, a study by Karmel, Roberts, and Lim (2014) statistically analysed the impact of university participation on the pool of apprentices within Australia. Amongst the key messages of the study they reported was that young men are less likely to undertake an apprenticeship if they were academically inclined; that apprenticeships are more likely to be undertaken by young men from lower socioeconomic backgrounds; and increased participation in higher education has come from academically lower-performing young men with a higher socioeconomic background. It was further stated that "those choosing to go to university are unlikely to be the 'average' apprentice, and therefore it is likely that there will be a decline in the number of 'high ability' apprentices" (p. 9).

Based on my experiences, albeit in a different industry sector, I was expecting responses aligned to the observations of Karmel et al. (2014) about the lower aptitude of apprentices, which has been my observation from my experiences. Unanimously in this study, the host employers and vocational teachers considered that the difference was negligible in terms of the ability of today's apprentices with whom they have had involvement with. Differences were expressed in terms of implications of technological advances (equipment, consumables and processes) and changing employment conditions (time served to competency based), which contradict this stance. I suspect that this contradiction may be attributed to the local building and construction industry historically not attracting high ability apprentices compared to the more technologically advanced industry sectors, such as advanced manufacturing, mining and technology services, which were included within Karmel et al.'s (2014) study. There was some evidence within this study from the participants, in the case of bricklaying and concreting, that there has been little change in the way work is done. The extent of change within this area of the industry was represented by aesthetics such as brick arches for entryways (see Figure 5.3) within houses currently being unfashionable and the popularity of coloured and stenciled concrete, in a variety of patterns, for applications such as driveways and entertaining areas (E01).

There was also evidence to suggest that technological advances had de-skilled the role of the tradespeople. An example of this de-skilling is that one vocational teacher suggested that it was difficult to learn traditional cabinetmaking techniques, such as cutting dove tail joints for the corners of kitchen draws (see Figure 5.3), in the workplace as much of the work within the local industry involved the installation of pre-manufactured

cabinetry such as *"kitchens purchased from places like IKEA [designs and sells ready-made-furniture]"* (T03).




Source: https://architechstok.files.wordpress.com Source: http://www.materialstechnologywood

The host employers and vocational teachers who participated in this study identified that it was imperative that apprentices were prepared for their longevity within the industry, to be able to transfer their learning into new environments. This longevity is reflective of the holistic development and included the apprentices learning the extent of tradecraft.

As used in the examples above this tradecraft included concepts such as knowing how to build brick archways and knowing how to cut dovetail joints for the bespoke manufacture of cabinetry. From my experience as an apprentice, tradesperson and vocational teacher, the level of expertise that is required for tasks such as those mentioned above is high. I also believe that achieving the final result is not necessarily as important for the apprentice as the development required to complete these types of complex tasks, such as work planning, computation, problem solving and self-confidence.

This research has shown that for an apprentice to become a self-directed tradesperson, learning cannot be seen as the sole responsibility of the individual or vocational institutes. Rather, learning within apprenticeships needs also to be seen as an integral and ongoing feature of the contemporary workplace to ultimately enable the apprentice to transfer their learning from one context to another, both immediately and into the future.

## 5.5 Transfer of learning

This research identified a critical assumption that underpins and motivates apprentices to develop as a self-directed learner. This assumption is that the apprentices are expecting to transfer what they have learnt at one time and place, at least in part, to another place or context. This can be exemplified by what the apprentices learn at the vocational

institute (off-the-job) should be readily transferred and applied to the immediate workplace (Cullen, 2003). The apprentices subsequently suggested that learning that occurs within the workplace (on-the-job) should also be transferable to the learning environment at the vocational institute and to future workplaces which operate within a similar industry context (Mitchell, 2002; Mitchell, Chappell, Bateman, & Roy, 2006). The apprentices, host employers and vocational teachers understood that being self-directed learners enabled this transferability of learning to other contexts. This was seen by the participants as particularly important as the nature of group training schemes meant that apprentices will likely be seconded to a number of host employers during their apprenticeship. Upon the apprentice leaving one enterprise and joining another, the host employers reported that apprentices were expected to perform at least at consistent levels as they were within the previous workplace. This immediate requirement to transfer learning in other workplaces was also expanded by the host employers, and supported by the vocational teachers, that apprentices also needed to be able to transfer their skills and knowledge into different contexts in the longer term, throughout their working life. I suspect that the apprentices would have also seen this ability to transfer their expertise into other contexts throughout their career as highly desirable.

When apprentices are unable to transfer learning to contexts other than from where it has been learnt, this failure has been termed by Larsen-Freeman (2013) as an *inert knowledge problem*. This *inert knowledge problem* is where apprentices have been assessed and appear to have learned something at a particular time and place, but cannot transfer it to another time or place. It appeared that when the apprentices' developed as a self-directed learner they were more likely to avoid this transfer problem. This avoidance was because they were able to self-identify and action their additional learning needs to transfer the initial learning to another situation, converting the initial learning failure into achievement. Self-direction represents a solution to the inert knowledge program, as a self-directed learner is capable of transferring existing knowledge to alternate environments and developing new knowledge within these environments. Moreover, it was observed that apprentices as self-directed learners have the capacity to identify and fulfil their learning needs upon entering new and changing personal or professional environments.

The approach to defining transfer of learning, also called transfer of training or transfer of practice (Whitehead, 1929), appears to be dependant on the discipline where it is being discussed. From an educational perspective, as represented by self-directed learning, Butterfield and Nelson (1989) define the positive transfer of learning as the "flexible use of knowledge and skills. It is shown by using what one knows to good effect in new context for new purposes" (p. 63). From a human resources training or learning and development viewpoint, which has relationships with the outcomes focus of competency based training within the Australian Vocational Education and Training (VET) sector (as discussed in Chapter 2), the position of Baldwin and Ford (1988) is that positive transfer of training is defined to the degree to which trainees effectively apply knowledge, skills, and attitudes gained in a training context to the immediate job. To Baldwin and Ford (1988) for "training [transfer] to have occurred learned behaviour

must be generalised to the job context and maintained over time" (p. 63). The educational perspective of the positive transfer of learning, consistent with Butterfield and Nelson (1989), is representative of self-directed learning as high levels of discretionary learning capacity are required. These levels of discretionary learning are elevated from the notion of competence or transfer of training (the 'near transfer' of learning as discussed below) within the specific employment setting.

Upon the formation of the formal Australian VET sector, Kangan (1979) drew a relevant distinction between *education* and *training*. In his view:

> Education relates to the development of the whole person as an individual, his personality, social skills and manual skills. Training is concerned with a part of education, the skill-part whether manipulative or cognitive. This distinction means that although training has a place in a TAFE [Technical and Further Education] institution, it is a narrow place and omits the advantage of an educational approach (p. 6).

The apprentices within this study indicated that they were seeking an educational approach to their apprenticeship, as they were interested in preparing themselves for future challenges. Additionally, the host employers and vocational teachers and the apprentices' sponsor or sponsors also subscribed to this outlook. The debates between education and training appear to be value laden and epistemologically based (Chappell, Hawke, Rhodes, & Soloman, 2003; Cullen, Hadjivassiliou, Kelleher, Sommerlad, & Stern, 2002). Alternatively, instead of arguing the dominance of one approach over another, notwithstanding my professional philosophy as an educationalist, I suggest that it would be much more efficient and pragmatic to consider the appropriateness of the different teaching and learning approaches to different settings and purposes with the weight towards the holistic development of the apprentice, aligned to an educational approach that promotes the development of self-directed learning.

A helpful way to do this is by exploring the immediate and future transfer of learning. Positive or efficient transfer minimises the space between the development of skills and knowledge and sustained or prolonged workplace performance. This encapsulates the concepts of *near transfer* and *far transfer* and is referred to as the *transfer problem* (Billett, 2001; Blume, Ford, Baldwin, & Huang, 2010; Garavglia, 1995).

*Near transfer* occurs when a learner can apply the learned skills and knowledge within the workplace in the same way that was demonstrated in the learning environment. Royer (1979) and Laker (1990) applied this definition of near transfer as the transfer to simple tasks that are relatively easy to grasp as they consist of defined steps that result in observable behaviour. However, Billett (2001) considers near transfer more broadly as the effortless transfer into the workplace without emphasis on the complexity of the task. Billett's emphasis does not draw distinctions between transfer from one occupation to another. Instead he considers that professionals, such as doctors, nurses or teachers, also transfer skills and knowledge within similar or routine circumstances within the

workplace. This is regardless of the task's complexity compared to, as an example, the routine tasks of an apprentice or tradesperson on a building site.

Similarly, Billett (2001) when considering the application of *far transfer* of learning in an equally broad sense, identifies no link to the complexity of work whether labelled as 'semi-skilled' or 'un-skilled'. All these roles require the ability to respond to new and emerging workplace tasks and challenges, coherent with the aims of apprentices developing as self-directed learners.

Both Billett (2001) and Laker (1990) agreed that far transfer is the transference of consolidated learning into new situations. Far transfer according to Royer (1979) includes theoretical principals, general information and soft skills. He described the most significant benefit of far transfer as *flexibility*, in that a worker will be able to handle different or ambiguous situations when responding to change. The theory of *far transfer of learning* seems to be consistent with self-directed learning. Learners who are self-directed, as demonstrated within this research are able to display high levels of learning capacity to handle these and similar situations as described by Royer.

These approaches of near and far transfer, according to Garavglia (1995), are mutually exclusive. Near transfer concentrates on specific tasks that mimic those of the workplace and inhibit the learner becoming flexible and therefore unable to adapt to change. Near transfer in this setting parallels Taylorism or Fordism, which involves the breaking down of tasks by separating the cognitive requirements from the manual performance (Crawford, 2009; Sennett, 2009; F. W. Taylor, 1915). The apprentice developing self-direction positions the emerging tradesperson to respond to change by being able to continually learn and develop.

According to Taylor's (1915) principles of scientific management, which are still influential:

> All possible brain work should be removed from the shop [floor] and centred in the planning or laying-out department [and that the full possibilities of scientific management] will not have been realised until almost all of the machines in the shop are run by men who are of a smaller calibre and attainments, and are therefore cheaper than those required under the old system (F. W. Taylor, 1915, p. 36).

This research has indicated that the two notions of the near transfer of learning and the far transfer of learning are evident. This is substantiated by reports from the participants about the different approaches taken by host employers who engage with a GTO. These approaches are focused on the foremost needs of the business where apprentices are utilised, often for short periods, as an economic strategy to minimise labour and associated overheads. These employers are less interested in the holistic development of a self-directed competent tradesperson who is employable outside the context of the immediate workplace. Employers who conceptualise the role of an apprentice differently certainly want their apprentices to be viable and productive, however see the

development of expertise as a serious endeavour, which takes time, patience, understanding and an ongoing commitment. These host employers balance the business needs against the learning needs of the apprentice.

Employers, where a narrow concept of an apprenticeship is ingrained, promote the near transfer of learning, which can become *context bound*. Learning that is context bound is where skills are tied to the situation and the manner or the context of the problem or environment in which they are initially learnt (Laker, 1990). Avoiding a singular focus on the near transfer of learning is particularly important for apprentices employed by GTOs as they often, as comprehended in this research, are assigned to multiple host employers for varying intervals throughout their apprenticeship.

As evidenced within this research, inside their comprehensive meta-analytic review of learning transfer, Blume et al. (2010) identified predicators for learning transfer to occur. Applied to this research, these predicators for the transfer of learning include: host employers and vocational teachers considering multiple approaches to learning strategies, which includes a more proactive approach to the recruitment and selection of apprentices. This proactive approach should focus on apprentices who value and are prepared to commit effort towards a successful vocational career. These predicators also included a focus on increasing the motivation of learners through finding ways to stimulate higher levels of supervisor and peer support in the combined learning and working environment of the apprenticeship.

The following section advances to consider the factors pertaining to the quality of the apprentice's learning experiences. These factors surround the reciprocal relationship between the apprenticeship and the employer.

## 5.6 Quality of apprentice experience

Fuller and Unwin (2011), applying an English lens to apprenticeships within the United Kingdom, have documented a continuum between an *expensive* and *restrictive* conception of an apprenticeship towards understanding the quality of the apprenticeship experience. At one end of the continuum the employer creates an *expansive* environment that makes use of the apprentices' capabilities, both the ones that they brought with them to their apprenticeship and those competencies that have been learnt during their apprenticeship. The opposite end of the continuum, the *restrictive* environment, has particular focus on trying to perform a particular task and gain the related qualification.

As identified within this study, my theoretical framework emphasises the importance of the host employer in establishing a high level of value and a broad scope of the apprenticeship towards the apprentice being coming self-directed (see Figure 5.4).

This model encapsulates the following features:

- Relationship of the apprentice to the business
- The way apprentice's work and training is organised
- Pedagogical approach within the workplace and beyond
- Use of qualifications as a platform for progression (Fuller & Unwin, 2011, p. 35).

| Expansive | Restrictive |
|---|---|
| Apprenticeship is a vehicle for aligning goals of individual and organisational capability | Apprenticeship is used to tailor individual capability to immediate organisational need |
| Workplace, training provider and (where present) trade union share post apprenticeship vision: progression for career | Post apprenticeship vision: static for job |
| Apprentice has dual status as learner and employee | Status as employee dominates: status as learner restricted to minimum required to meet statutory 'apprentice framework' |
| Apprentice makes gradual transition to productive worker, gaining expertise in occupational field | Fast transition to productive worker with a limited knowledge of occupational field; existing productive workers are given minimal development |
| Apprentice treated as a member of the occupational community with access to community's rules, history, knowledge and expertise | Apprentice treated as an extra pair of hands who only need access to limited knowledge and skills to perform job |
| Apprentice participates in different communities of practice inside and outside the workplace | Participation restricted to narrowly defined job role and work station |
| Workplace maps everyday work tasks against qualification requirements – qualifications valued as extending beyond immediate job requirements | Weak relationships between workplace and qualifications – no recognition for skills and knowledge acquired beyond immediate work tasks |
| Qualifications develop knowledge for progression to next level and platform for further education | Qualifications accredit limited range of on-the-job competence |
| Apprentice has time off-the-job for study to gain a wider perspective | Off-the-job simply a minor extension of on-the-job |
| Apprentice's existing skills and knowledge recognised, valued and used as a platform for new learning | Apprentices regarded as 'blank sheets' or 'empty vessels' |
| Apprentice's progress closely monitored – regular constructive feedback from a range of employer and provider personnel who take a holistic approach | Apprentice's progress monitored for job performance with limited feedback – provider involvement restricted to formal assessments for qualifications |

**Figure 5.4: The expansive-restrictive continuum for apprenticeships (adapted from Fuller & Unwin, 2011, p. 36)**

In restrictive work environments the focus is on trying to move apprentices as quickly as possible to being productive workers using the influence of external motivations.

Acknowledging that workplaces must be productive and their goal is to be productive and sustainable, these organisations with restrictive ways are more likely to lose the chance for the apprentice to reach their full potential. Apprentices reaching their full potential is to the advantage of the employer (Fuller & Unwin, 2011), and the facilitation of self-direction in apprentices, within expansive work environments, will give them the opportunity to make the most of their abilities and to take opportunities as they present during their working lives.

Bardon (2010), with an Australian group training perspective, explored the issues surrounding the declining completion rates of trade apprentices. Bardon links the falling apprenticeship completions to low wage employment conditions and the changing labour market demographics and motivations of the apprentice candidate group. Similar to the considerations offered by Fuller and Unwin (2011) and their expansive-restrictive continuum towards quality apprenticeships (Figure 5.4), Bardon (2010) identified three tiers of employers ranging from Tier 1 as *Employers of choice*, Tier 2 as *Conventional employers*, and Tier 3 as *Challenging workplaces*. The distinction and characteristics of these tiers of employers are below, and signify the complex nature of work environments (see Figure 5.5).

| **Tier 1**<br>**Employers of choice** | **Tier 2**<br>**Conventional employers** | **Tier 3**<br>**Challangeing workplaces** |
|---|---|---|
| Iconic regional or national brand<br>Above award wages<br>Long term apprenticeship program<br>Supportive apprenticeship culture<br>Involved in VET in schools<br>Clear about skill requirements<br>Exemplary OH&S<br>Strong human resource systems<br>Good career prospects | Pay award wages<br>Have identified skill needs<br>Good OH&S system<br>Cyclical business patterns<br>Need apprentices in the medium term<br>Sound human resource practices<br>Comtemporary apprentice support<br>Trade pathways | Do not fully comply with award<br>OH&S system intermittant<br>Short term need for labour<br>Basic human resource processes<br>Old fashioned apprentice support<br>Motivated by cheap labour |

**Figure 5.5: Employer tiers (adapted from Bardon, 2010, p. 10)**

Bardon (2010) also considered the characteristics of candidates for apprentices and their probability of success. These characteristics range from Tier 1 as *aspirational* as they have a high likelihood of completion, Tier 2 apprentices are *ambivalen*t and have much lower levels of completion because they are unsure about the vocation they have chosen, and Tier 3 apprentices are *apathetic* towards their apprenticeship (see Figure 5.6). Bardon (2010) calculated that when aspirational apprentices are matched with employers of choice a completion rate in the vicinity of 80% is achieved (p. 1). Moreover, when

ambivalent apprentices are matched with conventional employers the completion rate is significantly reduced to 25%. Bardon blames the falling completion rates of apprentices within Australian on the increased portion of Tier 2 ambivalent candidates within the vocational system.

| Tier 1<br>Aspirational | Tier 2<br>Ambivalent | Tier 3<br>Apathetic |
|---|---|---|
| Family support<br>Family trade background<br>Clear vocational path<br>Trade network<br>VET in school<br>Aptitude for trade<br>Prepared for commitment<br>Realistic expectations<br>Confident learner<br>Good match to employer | Want to acquire skills<br>Trade is one possible pathway<br>Want skills recognised through pay<br>Ready to move jobs<br>Some aptitude | Unsure about career goals<br>No relevant work history<br>No 'trade' culture<br>Identifies learning issues |

**Figure 5.6: Apprentice tiers (adapted from Bardon, 2010, p. 10)**

These models reviewed from Bardon's (2010) and Fuller and Unwin's (2011) provide insight into how a quality apprentice experience can be achieved. These models, although not psychosocial, have similarities with my substantive theory and the categories identified within this study in relation to apprentices *committing effort*, *experiencing work*, *confirming value* and *heightening motivation* towards becoming self-directed learners.

The similarities between Bardon (2010) and Fuller and Unwin (2011) centre on the importance of relationships for the quality of the apprentice experience regardless of how this quality is measured either by expansive approaches to the apprentice training plan, increased completions, and the development of self-direction, as also evidenced within my study. My research represents the apprentice becoming a self-directed learner as a quality outcome of the apprenticeship experience. Underpinning that quality outcome and the categories of the substantive theory is the importance of the apprentice developing relationships within the workplace. These relationships, as expanded within Chapter 4, include those with peers and more experienced others ranging from vocational teachers, junior tradespersons and host employers. The development and maintenance of these relationships emerged as central to the development of self-confidence, motivation and expertise towards becoming self-directed. This research has demonstrated that apprentices who have the opportunity to develop meaningful relationships within the workplace, in combination with their own resourcefulness, will likely develop as self-directed learners as they progress through their apprenticeship. The nature of one particular relationship, that between the apprentice and the host

employer (tradesperson) is of critical importance. I have termed this a 'sponsorship' relationship and the host employer is the sponsor.

### 5.6.1 Role of the apprentice's sponsor

The role of the apprentice's sponsor within the workplace is to serve as mentor, guide, advocate, challenger and supporter during the learning process within apprenticeships (Merriam et al., 2007). My research confirmed that the learning of apprentices has the primary objective of the apprentice becoming a competent and self-directed tradesperson (Vickerstaff, 2003, 2007). This process of becoming acknowledges that the apprentice is constantly making decisions about learning. This psychosocial process of learning is always situational. Sponsorship guides the apprentice towards a self-directed vocational identity, and a sponsor is someone who understands that what has been learnt throughout the different phases of the apprenticeship can either be modified or reinforced. This research has indicated that apprentices' are constantly learning through becoming and becoming through learning (Hodkinson, Biesta, & James, 2007) and that learning is both a social process and a process of enculturation.

*Learning to become* and *self-directed learning* are inseparable according to Hodkinson et al. (2007):

> If we see people becoming through learning in the learning culture of one situation, they do so again, if and when they move to another learning culture of a different situation. The person who has become through learning as a student, arrives in a workplace and continues to learn and become as a worker (p. 43).

Building on the work of Billett (2001), I see the characteristics and obligations of the apprentice's sponsor is to:

- Have expertise in the trade area – be a more experienced (expert) other who can handle novel problems, possess work-related knowledge to share with apprentices. The sponsor must be viewed as credible.
- Understand what is required for successful performance in the workplace at the different phases of the apprentices' development.
- Value guided learning, as sponsors understand that knowledge needs to be built by learners.
- Have a willingness to share knowledge with learners.
- Be a guide for learners, rather than a teacher, by making the learners do the thinking and acting.
- Secure access to experiences through determining readiness, sequencing of experiences and providing access to these opportunities. These opportunities include apprentices being encouraged to make decisions and mistakes within a safe environment.

- Guarding against the learning or knowledge that is inappropriate or detrimental the apprentice's wellbeing.
- Monitoring the apprentice's experiences, progress and outcomes.
- Providing access to knowledge that is difficult to learn about that may be hidden or opaque (Billett, 2001, p. 117–118).

This research indicated that the relationship between apprentices and more experienced others is imperative to the development of self-direction. In this research the sponsorship relationship developed over time and was mutual, as opposed to assigned; gradually it became optimal for the development of self-directed learners. Sponsorship was based on trust. The level of trust was sufficient for an apprentice to not fear realistic or perceived adverse reactions from seeking assistance, asking questions, making mistakes and freely expressing their opinion.

The sponsorship of an apprentice by more experienced others is essential for their learning and assimilation within the workplace (Lave & Wenger, 1991). According to Lave and Wenger (1991) this sponsorship allows the apprentice to have legitimate access to participation in the workplace's community and where the:

> Relation of apprentice to master is specific and implicit, it is not this relationship, but rather the apprentice's relations to other apprentices and even other masters to organise opportunities to learn (p. 92).

Learning and the related assimilation within the workplace is a two-way exchange whereupon the sponsorship of an apprentice leads to the production of new understandings of vocational practice (Lave, 2009). Lave (2009) exemplifies this by using the analogy of a blacksmith: "The blacksmith's practices, as he creates a skimming spoon, draw on rich resources of experience, his own and that of other people, present and past" (p. 204).

This section has discussed factors that influence the quality of the apprentice's experiences during their apprenticeship as a result of the reciprocal relationships between the host employer and apprentice. Specifically, the learning environment was considered and the importance of the apprentice developing a relationship with a more experienced other who has both a personal and professional interest in the apprentice's development. This research found that this relationship was critical for the development of expertise and self-direction by the apprentices during their apprenticeship. It was also discovered that this sponsorship enabled the apprentices to acquire a sense of belongingness within the workplace.

## 5.7 Belongingness

> Belongingness appears to have multiple strong effects on emotional patterns and on cognitive processes (Baumeister & Leary, 1995, p. 479).

It emerged from the data that sponsorship by more experienced others leads to the apprentices' greater sense of becoming and belonging. The notion of 'belonging' extends on the importance of apprentices being sponsored by more experienced others within the workplace to enable the development of self-direction and expertise. S. Chan (2011), when considering belonging of first-year apprentices within New Zealand, takes a general approach to a sense of belonging and concurs that support from the workplace is an essential component for apprentices continuation, retention and completion. S. Chan (2011) identified two conditions for newcomers to the workplace or practice community to establish and support a sense of belonging. These two general conditions are the *role of the workplace relationships* and the *need for workplace support.* These two conditions are described as concurrent. According to Chan, there needs to be recognition of the apprentices' role within the workplace. The meaningful relationships between apprentices, co-workers, peers and supervisors need to be promoted, and the more experienced others understand that "novice workers often need more time to become acquainted with specialised workplaces and expectations (p. 40). With the exception of S. Chan (2011) and her complementary earlier work (S. Chan, 2009), there appears to be little literature on belonging, specifically about *belongingness* in trade apprentice learning, particularly in the context of Australian apprentices and GTOs.

Earlier research by Baumeister and Leary (1995) proposed that the theory of belongingness is that "human beings have a pervasive drive to form and maintain at least a minimum quality of lasting, positive, and significant interpersonal relationships" (p. 497). Baumeister and Leary (1995) considered belongingness as a need which highlights emotional aspects where "real, potential, or imagined changes in one's belongingness status will produce emotional responses, with positive affect linked to an increase in belongingness and negative affect linked to decrease in it" (p. 501).

In this chapter I have drawn parallels between professional apprenticeships and trade apprenticeships as they both involve learning in the workplace with a more experienced other. Reinforcing this perspective, Levett-Jones and Lathlean (2008), from their research into nurse clinical education define belongingness as:

> A deeply personal and contextually mediated experience that evolves in response to the degree to which the individuals feels (a) secure, accepted, included, valued and respected by a defined group, (b) connected with or integral to the group, and (c) that their professional and/or personal values are in harmony with those of the group. The experience of belongingness may evolve passively in response to the actions of the group which one aspires to belong and/or actively through the actions initiated by the individual (p. 104).

At a behavioural level, as evidenced during this study by the participant's views about their relationships with others within the workplace and how these relationships affect learning, the absence of belongingness is consistent with the absence of meaningful personal relationships. There is a connection between belongingness and the meaningful relationship between the apprentice and their sponsor. Informed by this study, I agree

with Clark (1992) and Lambert et al. (2013) who suggested that the absence of these personal relationships within the workplace may lead to adverse behaviours. These adverse behaviours include giving unquestioning agreement, modifying behaviour, or engaging in negative behaviours sanctioned by group members (Moreland & Levine, 1989). Towards finding belongingness (or place) in the workplace it was evident that, apprentices who are self-directed are more likely to avoid these adverse behaviours.

I suggest that in order for apprentices, without self-direction, to become accepted within the workplace they may conform to outdated or unsafe work practices. Levett-Jones and Lathlean (2008) reported similar instances in nursing students during clinical placements where they have complied with localised clinical practices. This compliance was suggested to be irrespective of previous learning against accepted 'best practice'. This further highlights the importance of the apprentice being sponsored by a more experienced other within the workplace who has the apprentice's best interest forefront. The sponsor, who has both a personal and professional commitment to the apprentice's development, may guard against the apprentice developing inappropriate or unsafe knowledge and work practices (Billett, 2001; Illeris, 2011; Vickerstaff, 2007).

The apprentices who were participants within this research project reported that, by the very nature of being employed by a GTO, they had often been seconded to host employers for varying durations. The apprentices clearly indicated that often the duration with host employers was too short to develop relationships where they felt confident enough to fully engage with opportunities within the workplace to learn. This indicates a link between belongingness and learning. The optimum conditions and duration for apprentices to remain with one host employer deserves further consideration. However, in the context of short clinical rotations for nurses of between two to four weeks, Nolan (1998) concluded that during these short clinical rotations it is unlikely that students will develop a sense of belongingness within this time.

A pragmatic way forward for GTOs is to consider opportunities to increase the length of apprentice's placements with host employers. However, this research has revealed that the duration of time spent with host employers is far less influential on the apprentices' experiences of belongingness than the quality of the support and guidance that is received from the more experienced others during their placement (Billett, 2001; Illeris, 2011; Levett-Jones & Lathlean, 2008). This revelation is based on all of the apprentices within this research becoming a self-directed learner.

As apprentices develop and maintain a sense of belongingness, within *experiencing work* they discover place and begin the development of expertise. Without this sense of belongingness the apprentice will not progress through the additional phases of *confirming value* and *heightening motivation* towards becoming a self-directed learner. Tradespersons who are self-directed are reflective thinkers, work autonomously, and assume full responsibility for their actions.

The final theoretical foundation of my substantive theory is *motivation*. Although the phase of *heightening motivation* is concerned with high levels of motivation within the twilight stages of the apprenticeship, the apprentices' motivation was important throughout their apprenticeship.

## 5.8 Motivation

> Motivation is more important than talent in consummating craftsmanship (Sennett, 2009, p. 285).

The underpinning theoretical foundation of motivation is considered here in terms of the commitment that the apprentice held towards developing trade expertise and becoming a self-directed learner. Motivation, within the context of an apprenticeship, can be broadly defined as the process in which goal-directed activities are undertaken and sustained (Schunk & Usher, 2011). The commitment to becoming a self-directed learner and a tradesperson, presumably like other vocational commitments, is the psychological bond that the apprentices held towards becoming a tradesperson (Chesnut & Cullen, 2014).

### 5.8.1 Social cognitive career theory

The *social cognitive career theory* (SCCT) of Lent, Brown, and Hackett (1994) is a career specific elaboration of Bandura's (1986) *general social cognitive theory* (as discussed in Chapter 4). SCCT provides a useful framework for helping individuals during the early stages of their careers, such as apprentices, by exploring the individual's self-efficacy, outcome expectations and personal goals.

SCCT proves particularly useful to knit my substantive theory, as SCCT also considers the influence of contextual supports and barriers, which influences the ongoing development of an individual. My substantive theory appears to be consistent with SCCT, as both theories seek to explain how people develop vocational interests, make choices, and achieve success in work pursuits (Brown, Lent, Telander, & Tramayne, 2010).

SCCT has been used as a framework within recent educational studies within Australia (Rodgers & Creed, 2011) and internationally (Ali & Menke, 2013; Chesnut & Burley, 2015; Olson, 2014) as it emphasises the interplay between self-reflective thought and social constructs in guiding human behaviour and learning. Consistent with social cognitive theory (Bandura, 1986), SCCT places a premium on personal goals viewing them as a key motivator of learning. SCCT, as with self-directed learning, places increased focus on cognitive, self-regulatory (Zimmerman, 2010) and motivational processes that extend beyond the basic issues of learning and conditioning.

SCCT is concerned with understanding how learning experiences guide learning or career behaviour, how variables such as abilities and interests interrelate, and the

theoretical paths by which personal and contextual factors influence learning and career outcomes (Lent et al., 1994).

Lent et al. (1994) hypothesised that cognitive, academic or work skills are developed through direct and vicarious experiences and influence educational and workplace performance both directly and indirectly through *self-efficacy beliefs, outcome expectations* and *personal goals*. *Self-efficacy beliefs* refer to the apprentices' confidence in their abilities to accomplish educational or work-related tasks, whereas *outcome expectations* are beliefs about the consequences of engaging in these tasks. *Personal goals* are the apprentices' intentions to engage in a particular activity and are tied to both self-efficacy beliefs and outcome expectations. Success or failure in attaining personal goals, such as becoming a tradesperson, assisted the apprentices to modify or confirm their self-efficacy beliefs.

As with my substantive theory, SCCT also places emphasis on personal agency and self-direction, and acknowledges that the apprentices' personal characteristics, behaviours, work environments and contextual (or interpersonal) factors influence their learning and career development (Lent et al., 1994).

The applicability to completing and enriching my research is that SCCT organises career-related interlocking models of *interest*, *choice* and *performance* (see Figure 5.7).

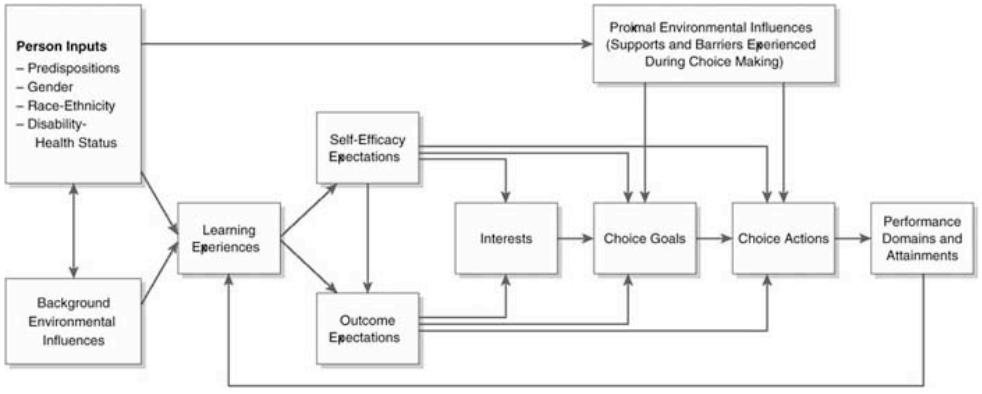



**Figure 5.7: A simplified view of how career-related interests and choices develop over time according to social cognitive career theory (Lent, Hackett, & Brown, 2008, p. 2)**

After describing these interlocking models and applying them to my research, I will also consider Lent et al.'s (1994) concept of *contextual supports and barriers* to learning and

career development and the importance of sponsorship for the apprentice to overcome these barriers.

### 5.8.2 Interest model

The SCCT interest model (shown in the centre of Figure 5.7) explains how individuals may develop an interest in a particular career. These interests are developed as a joint function between self-efficacy belief and outcome expectations.

This model suggests that as young people cognitively and physically develop they are exposed, both directly and vicariously, to a variety of occupationally related activities. The young person is exposed to these activities during formal schooling, in the home and within the community more broadly, where the scope of these activities is reflective of the culture and socioeconomic context where the young person grew up.

This model contends that career interest is developed through having positive experiences within these career related activities and the interest or aptitude to do well in these identified vocation areas where self-efficacy and outcome expectancies were developed. Effectively the premise of the interest model is that people are likely to form a long-lasting interest when they view themselves as being able to learn how to do an activity and being able to do this activity will produce outcomes that are valued (Lent et al., 1994).

Consistent with the SCCT interest model, this study revealed that when apprentices commit to seeking an apprenticeship and become a tradesperson, this is a consequence of the apprentice valuing the opportunities that a trade career may provide. This research indicated that the apprentices, when committing effort and determining value, were influenced by a number of factors, including: receiving positive comments and support from family and friends who valued opportunities and development pathways within the VET sector; apprentices' experiences with work, which included work experience, either voluntary, part-time, full-time employment and work experience initiatives at secondary school; and importantly the apprentices' intrinsic belief (self-efficacy) that completing a trade qualification was not only achievable, but also valuable (outcome expectations). This example also has synergies with the SCCT *choice model.*

### 5.8.3 Choice model

The career *choice model,* of Lent et al. (1994) builds on the interest model embedded within Figure 5.7 and encompasses goal and action variables. The relationship between these two models is that they reflect the developmental continuum between having an initial interest in a vocational area, coming to a position to pursue this interest in a specific occupation and making a choice to translate this interest into action (i.e.

becoming interested in building and construction trades, making a decision to become a carpenter and applying for a carpentry apprenticeship).

The choice model, distinct from the interest model and as identified in the example in the last section, considers the degree to which the apprentices' choices are directly guided by the more experienced other. In deciding to seek an apprenticeship the influence of family and friends was considered important; however, as the apprentices began finding their place in the workplace there was a shift away from the locus of influence being family and friends towards the influences exerted by the workplace environment. SCCT suggests that these proximal workplace influences are the supports and barriers experienced during decision making (Lent et al., 1994).

Therefore, highlighting my evident link between decision making and becoming a self-directed learner and relating SCCT to my substantive theory, it can be concluded that the supports and barriers within this research are reflective of environments within the apprentices' workplace that enable or inhibit learning. Further these supports and barriers, as depicted by Lent et al. (1994), are also consistent with the expectations that the apprentices placed on themselves and the apprentices' interpretation of the expectations placed onto them by others as a reference for the apprentices' ongoing evaluation and decision-making process.

### 5.8.4 Performance model

The SCCT's *performance model* (shown far right of Figure 5.7) is concerned with the level or quality of success that people attain in educational and vocational pursuits, and to the degree that the individual persists when confronting these obstacles. SCCT considers the influences of the individuals' past achievements and capacity, self-efficacy, outcome expectations and performance goals on success and performance. The performance model contends that learners who have a higher aptitude in a particular subject area tend to persist longer and do better in subjects where lesser capacity exists. Subsequently, learners with higher levels of self-efficacy or self-direction and more positive outcome expectations will more likely determine high performance goals for themselves (Lent et al., 1994).

Lent et al. (1994) described self-efficacy as "specific to particular performance domains" (p. 83). This means that an apprentice who expresses a high level of self-efficacy in one area (e.g. building a brick archway at the vocational institute) may not feel confident that this success will transfer to another performance domain (e.g. building a brick archway on a multi-story building site). This notion of domain is consistent with the phases (or categories) of the psychosocial process of apprentices developing trade expertise and becoming self-directed learners, as domains and phases both represent a non-linear trajectory. As an example, an apprentice may have progressed to the category of *heightening motivation* with one host employer and the move to another host employer, a change in domain, may result in the apprentice

regressing to the phase of *confirming value* as their workplace environment and skill requirements have changed (e.g. moving from commercial carpentry to residential carpentry). The SCCT performance model confirms that apprentices who have higher levels of self-efficacy and positive outcome expectancies are likely to develop as self-directed learners who are tradespeople as they are able to identify their own learning needs and determine strategies to address these needs. Expanding from the example above, an apprentice who is developing as a self-directed learner will increasingly be able to identify the gap in skills and knowledge between commercial and residential carpentry settings and determine opportunities to address this contextual gap.

This research found that the apprentices' sponsorship of a more experienced or confident other who had both a personal and professional interest in the apprentices' development proved to be an important resource or point of reference as the apprentice developed as a self-directed learner. The role of the sponsor was evidenced as being someone who used his or her influence to create a safe learning environment around the apprentice. Using the SCCT terminology of Lent et al. (1994), the sponsor provided direct or indirect *contextual support* to the apprentice to overcome *barriers* to their development.

### 5.8.5 Contextual support and barriers

The purpose of considering the variable of *contextual supports and barriers*, through a SCCT lens, is to further consolidate the importance of sponsors' role to assist the apprentice to overcome barriers by providing conceptual support within the learning environment.

Supports and support systems are conceived within SCCT as environmental variables that can facilitate the development of an individuals' learning through the provision of supportive or enabling conditions. Therefore, barriers are the perceived or actual situations that restrict the learning opportunities of apprentices (Lent, Brown, & Hackett, 2000). An example of a perceived barrier to the apprentices' learning would be the apprentice lacking confidence to attempt a workplace task in a new environment. An actual barrier to the apprentices' learning may be the way that that an apprenticeship is contextualised within the workplace, where apprentices are considered as efficient sources of labour.

Drawing from Lent, Hackett, and Brown (1999), the apprentices' sponsor can assist the apprentice to prevent or manage these barriers by helping them anticipate and prepare for these barriers and by assisting the apprentices to identify additional environmental support structures and resources, both within and external to the workplace. Additionally, the apprentices' need for sponsorship is not dependent on barriers existing, as being supportive is not the absence of barriers or a neutral condition; being supportive involves the active promotion of self-directed learning.

The promotion of self-directed learning according to Hiemstra and Brockett (2012), which builds on SCCT, is optimal and most effective when the variable elements of the *person*, *process* and *context* (PPC model) exert equal influence on the apprentice (the PPC model was discussed in Chapter 2 and represented pictorially in Figure 2.1).

The *personal* element of the PPC model includes those characteristics of the apprentice, such as reflective thinking, life experience, enthusiasm, resilience and self-efficacy. The *process* element involves the sponsors' teaching and learning transaction with the apprentice, which includes planning, conducting, and evaluating learning opportunities within the workplace. Finally, the *context* element encompasses the environmental and social political climate of the workplace and the level of importance that is given to supporting self-directed learners (Hiemstra & Brockett, 2012).

This suggests that apprentices develop self-direction when they are assumed to be capable of becoming self-directed learners, when the teaching and learning strategies are defined and arranged in a way that encourages apprentices to take control of their own learning, and the sociopolitical context of the workplace climate supports the apprentices becoming self-directed learners.

## 5.9 Sponsorship and the development of self-directed learning in apprentices

Using a narrative approach, the purpose of the following section is to directly relate sponsorship with the development of self-directed learning in apprentices. Subsequently the categories or phases as emerged of *committing effort*, *experiencing work*, *confirming value* and *heightening motivation*, detail the psychosocial process of this development within an ongoing evaluation and decision-making paradigm. The common factor throughout the psychosocial process, and the tenets of the substantive theory, is the sponsorship of the apprentices. The sponsorship relationship with an apprentice is predicated on the development and maintenance of relationships between the apprentice and a more experienced, or indeed confident other. This is a dynamic relationship and the sponsor or sponsors can be anyone who is more experienced or confident where a relationship is developed between the individual and apprentice, internal or external to the immediate workplace. Sponsors can be current or past host employers, other tradespeople, vocational teachers and even other apprentices. These sponsorship relationships are dynamic as they change as the apprentice develops as a self-directed tradesperson. In the initial phases of the apprenticeship the apprentice is looking for a sponsor who teaches and communicates in a more transmissive manner. Within the later phases of the apprenticeship the apprentice is seeking a sponsor who is more facilitative or collaborative. The primary concern of the sponsor is the development of the apprentice, particularly through management of the apprentice's learning environment.

In the early stages of the apprenticeship the sponsor needs to create an environment in which the apprentice feels safe and is able to develop a sense that the decision to commit

effort to become an apprentice was the right one for them. The sponsor encourages the apprentice as they develop confidence and expertise to increasingly accept responsibility for their own learning. As a consequence of the apprentice accepting full responsibility for their learning as a self-directed tradesperson, the apprentice identifies their own learning needs.

For an apprenticeship to be successful the apprentice needs to be motivated. The apprentice needs to come to the early stages of the apprenticeship with the attitude that they will 'give it a go', the willingness to learn. In these early phases of the apprenticeship, apprentices evaluate their circumstances and make decisions about whether to continue or discontinue the apprenticeship. They need time to find their place, to question: Is this the right choice for me? Am I likely to succeed? Is this worth the effort? What will a trade give me?

The decision to stay or continue their engagement with the apprenticeship is influenced by the apprentice's experiences. If the individual evaluates the early experiences in positive terms they will remain committed and be motivated to continue their learning. The role of the apprentices' sponsor is critical to this evaluation and decision-making process.

The sponsor has a key role in managing the apprentice's expectations and experiences. If the sponsor is able to manage the learning context (the various workplaces) in ways that enable apprentices to experience learning, make mistakes without fear of retribution, feel respected and supported by others then it is likely that the apprentice will evaluate the experiences in a positive manner. At this stage the beginning apprentice is mainly learning from others, often in a directed manner. From a VET perspective there is a strong emphasis on 'training' the young person to meet the initial skill and knowledge requirements of the industry.

Workplaces where beginning apprentices can learn in such ways do not happen by accident. These learning environments are a consequence of the culture of the particular workplace and those with the most real or perceived power and influence—the host employer, supervisor, and other tradespersons—create them. A good sponsor is an active creator of productive and safe learning environments. Subsequently, because of this effective sponsorship we should expect to see far less attrition of apprentices.

After time in the workplace, with an effective sponsor and an enabling learning environment the apprentice begins to *find place*, feel accepted and develop new relationships. Gradually the apprentices begin to tentatively see themselves as tradespeople. In the right learning environment they begin to move from being recipients of learning, to active contributors of learning. The apprentices learn with others and begin to help others learn within this learning environment.

As the apprenticeship progresses the apprentice begins to develop relevant industry knowledge and skills, and feel more competent. Others progressively accept the apprentice's competence and vocational identity. Increasingly others within the workplace learn from the apprentices and the apprentices become more aware of their own learning and the circumstances in which they and others around them learn. Once again, the sponsor is central to creating the learning environments where such learning can happen. A good sponsor seems to actively consider the learning requirements of the apprentice and uses their influence based on these reflections to maximise the learning opportunities. Sponsors are also able to critically reflect on their experiences as learners. It also appears that good sponsors have an instinctive understanding of learning and how to create workplaces where learning thrives. Although not readily self-identified, sponsors that facilitate these learning environments are self-directed learners. Through their awareness of how they learn themselves and how others learn—additional to creating safe learning environments—sponsors also facilitate the development of these characteristics within apprentices through role modeling.

The apprentices now have high levels of motivation to become tradespersons and where the sponsor has created a workplace where learning thrives, the apprentice begins to develop both competence and confidence. Increasingly the apprentice begins to consolidate a durable sense of vocational identity. More and more others (within and outside the immediate workplace) recognise the apprentice as a legitimate member of the trade. What once began as a novice and expert (apprentice and master) relationship now starts to become a peer-to-peer relationship of mutual trust, respect and reward.

Over time, the apprentice—with the development of expertise—begins to accept more and more responsibility for their own learning, and with encouragement and opportunity from the sponsor they begin to reflect on their own learning. The apprentices' confidence enables them to solve problems, and seek challenges and opportunities.

The apprentice is now learning, growing and becoming self-directed on a daily basis. Towards the end of the apprenticeship, the growth and confidence seem to develop exponentially. With the right sponsor, the growth and learning are happening in the workplace, including off-the-job learning environments. As the apprentices are now critically reflecting on their work and questioning assumptions, learning can happen anywhere and at any time.

Apprentices in workplaces where the sponsor is unable to create the conditions for the higher level learning, as described, do not develop the confidence, are much slower to incorporate vocational identity, less likely to attempt problems and tend to focus on immediate workplace skill development. Competence can still be achieved however there is less evidence of reflection, collaborative learning and problem solving compared to a self-directed learner.

The manner in which experienced apprentices, those in the later stage of their apprenticeship, learn is different from the manner in which beginning apprentices learn. Accordingly, how the sponsor manages and interacts with the experienced apprentice differs from the manner in which he deals with an inexperienced apprentice. Somehow, the good sponsors knew this and were able to create workplaces where the inexperienced and experienced could learn, often in different ways, sometimes individually and sometimes simultaneously. The effective sponsor creates opportunities for apprentices to learn with tradespeople, tradespeople to learn from apprentices, and the apprentices to learn from each other. Sometimes the sponsor left the apprentices alone to grapple with problems, even though it was often time consuming and had the potential to slow down the completion of the job. I often noticed that the less effective sponsors were quickly frustrated and became impatient by the lack of progress and quickly intervened when a problem arose. It seemed rather ironic that *completion focused* sponsorship resulted in the apprentice taking longer to develop expertise. This developed expertise was shallow, as the apprentice did not fully understand the reasons behind what they were doing. This resulted in the inability of the apprentice to transfer this learning into alternate workplace contexts. Although it may initially take the apprentice longer to complete a task, a sponsor who provided the apprentice latitude to 'solve the problem' facilitated the apprentice developing a deep understanding of the task. The expertise developed in this manner will be transferable to different workplaces and to more complex problems and is elevated from the narrower, or nearer, notion of competence.

While all the host employers recognised that apprentices need opportunities to learn, there were different views of how learning occurs in the workplace. For some, getting on with the job was the priority. I noticed that these host employers viewed 'learning' as something that slowed down progress and while they recognised that apprentices needed to learn, their teaching was very didactic and dedicating time to learning was a relatively low priority. They tended to be very directive and quick to intervene when the apprentice was perceived to be struggling. I noticed that the apprentices rarely asked questions and the communication between employer and apprentice was similar to that found in 'command and control' organisations such as the military and law enforcement. For these host employers their approach to teaching resembled a series of 'orders to be obeyed', after which the employer quickly moved to another task, with the emphasis being on the outcome of the task assigned. There was limited opportunity for the apprentice to ask questions or seek clarification, and when the apprentice did seek clarification they usually had to go searching for the employer. Once he or she was located, the apprentice indicated the employer's behaviour towards them was unpredictable, which often involved being quick to remind the apprentice that they had already been told what to do. The employer lamented that to avoid wasting time and money the appropriate time to seek clarification was at the time the task was given. The apprentices quickly learned not to seek clarification and leave the boss alone. Often, the apprentices would seek clarification from others in the workplace. In most cases the apprentice would be able to eventually gain advice or assistance from another, however in these workplaces there was a clear sense that when an apprentice sought help, they

were slowing down progress and that helping the apprentice learn was a chore and something additional to what they were being remunerated.

In the restrictive workplaces just described, apprentices were more likely to leave, while those who stuck it out were focused on 'getting their ticket' and getting away from the employer. At morning tea and lunch, there was very little talk of work-related matters, and if there was, the apprentice was rarely included as their contribution was not valued. Nevertheless, there was an unstated expectation that the apprentices attend social opportunities such as drinks on Friday afternoon after the week at work.

Fortunately most of the workplaces and host employers were not like those described above. Most of the host employers could empathise with the apprentice and could remember how it felt to be an apprentice. In these workplaces the communication between the host employer and apprentice was characterised by two-way communication where asking questions and seeking clarification was encouraged. The host employer would always make sure that the apprentice was clear about what to do and how to do it. If the host employer was absent or busy with something else, the apprentice was actively encouraged to seek assistance from others. It was interesting to compare the two work environments. In the former workplace it was rare to see people working together, while in the latter it was usual to see collaboration. It soon became clear that there were many opportunities for learning from and with others in the latter workplace, while almost absent in the former. This is to say that:

- Workplaces where people are working together and mutual professional and personal relationships are present are conducive to the development of self-directed and competent tradespeople.
- Workplaces where meaningful and dynamic sponsorship relationships between apprentices and more experienced and confident others are easily achievable is aspirational for the development of a self-directed learner.

The table following (Table 5.1) is an amendment to the initial conceptual learning journey, as summarised in Chapter 2 (Table 2.3), which highlights this journey from a beginning apprentice, to the achievement of competence to becoming a self-directed tradesperson.

The conceptual rubric, as amended below builds on my initial image of what I expected this learning journey to be as apprentices developed as self-directed learners. The amendments reflect the insights that I have gained through the identification of this psychosocial process and development of this substantive theory. These insights include the addition of criteria that emerged during this research that includes; *autonomy*, *confidence in performing tasks*, *learning with others*, *recognising successful practice*, *learning transfer*, *decision making*, *motivation*, *awareness of own learning*, and *awareness of how others learn.*

As with the parent table (Table 2.3), the various criteria are listed in the far left column and the three key developmental milestones are listed in the top row from beginning apprentice to self-directed learner. The various cells contain descriptors relevant to the criteria and milestone as discovered during this research, as apprentices became self-directed learners. As highlighted in the narrative above, the progress between the milestones from the beginning apprentice, competent tradesperson and a self-directed learner is enabled by the effective sponsorship of the apprentice. The italic font in the table indicates my amendments discovered through this research.

**Table 5.1: Amended summary of learning journey (updates in italics)**

| Criteria | The Beginning Apprentice | The Competent Tradesperson | The Self-Directed Learner |
|---|---|---|---|
| Critical reflection | Tends to accept status quo and cannot identify underlying assumptions for themselves.<br>*Low levels of awareness.*<br>*Awareness of taken for granted assumptions is transmitted by the sponsor.* | *Aware of taken for granted assumptions in familiar environments.*<br>*Taken for granted assumptions identified by individuals.* | Readily questions the status quo, identifies underlying assumptions and can see alternate perspectives.<br>Capable of transformative learning i.e. deep change personal and professional identity.<br>*High level of awareness.* |
| Responsibility for learning | *Generally believes that learning occurs under direction from others.*<br>*Rarely initiates own learning.* | *Takes responsibility for learning to ensure that industry standards are maintained.*<br>*Sees industry standards as the goal of learning.* | Full responsibility and accountability for own learning.<br>*Actively creates opportunity for own learning and the learning of others.*<br>*Looks for opportunities to improve on existing standards.* |
| Determining learning goals | *Comes with goal to become a tradesperson with little understanding.*<br>*After initial commitment learning goals are determined by others.* | Minimal capacity to determine learning goals past occupational standards. | High capacity to determine occupational learning exceeding occupational standards and learning strategies.<br>Able to determine suitable strategies to meet learning goals. |
| Self-regulation | Assumed ability to self-regulate by balancing emotions and cognition (developed during schooling).<br>*Relies on / happy to accept the management by others within the workplace.* | Sufficient self-regulation within immediate workplace.<br>*Has understanding of impact of own emotions.* | Elevated levels of self-regulation within changing workplaces e.g. understanding how emotions impact others. |
| Problem solving | *Often problem solving rarely encouraged.*<br>*Problem solving skills slow to initially* | Able to solve routine problems contextualised to the workplace. | Routinely solve complex problems within expansive workplaces.<br>*Consistently able to* |

| Criteria | The Beginning Apprentice | The Competent Tradesperson | The Self-Directed Learner |
|---|---|---|---|
| | *develop.*<br>*Capacity to solve problems not ascertained.* | | *recognise underlying factors of complex problems.* |
| *Conception of expertise* | *Starts with a sense of 'trade readiness', prepared to learn and 'have a go'.*<br>*Varying technical knowledge and experience.* | Sees expertise as meeting minimal occupational standards with low discretionary learning resources.<br>(Competency approach) | Considers that expertise is broader than occupational standards with high discretionary learning resources.<br>Elevated characteristics of 'self' e.g. autonomy, responsibility and judgment.<br>(Capabilities approach)<br>*Sees development and maintenance of expertise as ongoing*. |
| *Autonomy* | *Tends to have lower levels of autonomy. Tends to rely on directions from others and works under supervision.* | *Capable of working autonomously and unsupervised.*<br>*Sees autonomy as necessary to get the job done.* | *Capable of working autonomously and unsupervised.*<br>*Considers autonomy as a way to improve on previous performance and an opportunity to learn.* |
| *Confidence in performing workplace tasks* | *Little confidence in performing workplace tasks.*<br>*Seeks regular guidance.* | *Confident to perform routine workplace tasks to occupational standards.*<br>*Seeks guidance as required.* | *Highly confident to attempt non-routine, complex workplace tasks in different contexts.*<br>*Seeks collaboration with others and provides guidance to others.* |
| *Learning with others* | *Learns from others, often in didactic manner.*<br>*Requires supervision and looks to others for answers.*<br>*Looks for advice from experienced others.* | *Can work and learn without supervision. Feels equal to other tradespersons.*<br>*Learns alone and with others. Sometimes helps others learn if more experienced and confident.* | *Others readily recognise this person for his skills and expertise, especially in his innovation and ability to solve complex problems in unfamiliar situations.*<br>*Readily engages with others when learning opportunities arises.* |
| *Recognising successful practice* | *Unsure of what constitutes successful practice.*<br>*Looks to others for verification and recognition of* | *Able to recognise successful practice as defined by industry standards*<br>*Rarely seeks to innovate or exceed industry standards.* | *Readily recognises successful practice in self and others, often seeking to exceed standards, readily innovates and encourages others to do so.* |

| Criteria | The Beginning Apprentice | The Competent Tradesperson | The Self-Directed Learner |
|---|---|---|---|
| | *success.* | | *Sponsor promotes innovative thinking – 'thinking outside the box'* |
| *Learning transfer* | *Minimal capacity for learning transfer in the workplace (mostly does as told)* | *Capacity to transfer learning into familiar and intermediate contexts (near transfer of learning)* | *Capacity to transfer learning into unfamiliar and future contexts (near and far transfer of learning)* |
| *Decision-making* | *Minimal decision-making.*<br>*Capacity to make decisions past committing effort not ascertained.*<br>*Decision making discouraged.* | *Routine decision making within immediate workplace.*<br>*Sponsor vets decisions.* | *Complex decision making.* |
| *Motivation* | *Often reliant of others for motivation (reward and punishment).* | *Able to motivate themselves to achieve learning goals.* | *Capable of motivating themselves to achieve self-determined learning goals.* |
| *Awareness of own learning* | *Awareness of learning is limited to past learning success and failure.*<br>*Little awareness how context affects own learning.* | *Begins to develop an awareness of own learning independent of past learning experiences.*<br>*Developed awareness of the affect of context upon own learning.* | *High awareness of own learning.*<br>*Able to apply different learning strategies.*<br>*High awareness of how contexts influence own learning and the learning of others.*<br>*Able to influence their own and others learning environments.* |
| *Awareness of how others learn* | *Generally has a low awareness of how others learn apart from the limited awareness of their own past learning success and failure.* | *Starts to become aware of how others learn independent of past experiences.* | *How others learn is well understood, applied and influenced.* |

Table 5.1 highlights the conceptual learning journey of an apprentice to becoming a self-directed tradesperson. This journey commences as a beginning apprentice, to one who is a tradesperson and then elevated from being a competent tradesperson to a tradesperson that is self-directed. Each of the criteria within this rubric identifies descriptors of the learning experienced during this journey. In all cases the descriptors characterise self-

directed learners as having deep engagement with the *self* and the ability to recognise and develop successful practice within the workplace. Further, these characteristics of a self-directed tradesperson include support for the learning of others within the workplace as they have awareness of the personal and professional needs of others. Self-directed apprentices are not only future leaders within their profession, they may also become sponsors as they are capable of influencing and enabling safe learning environments.

## 5.10 Summary

The purpose of this chapter has been to re-engage with the literature that was identified during the development of my substantive theory to complete and enrich this research. This chapter explored the topics, which I identified as the theoretical foundations of the substantive theory. These theoretical foundations included *decision-making*, *motivation* and *learning context*.

In constructivist grounded theory the purpose of a substantive theory is to "explore and explain a substantive or empirical area of sociological inquiry" (Glaser & Strauss, 1971, p. 77). In this research the area of sociological inquiry was the psychosocial process of how a sample of building and construction apprentices, who were employed by a GTO in the geographic region of the Australian Capital Territory and southern New South Wales, developed the capability to become self-directed learners.

In this study the various conceptual elements of categories and subcategories were a link, which revolves around the appreciation of *sponsorship. Sponsorship* is the term that I have used to describe the more experienced or confident other who has both a personal and professional interest in the apprentice's development and uses their influence to create a safe learning environment to enable the apprentice to develop expertise.

This study revealed that an effective sponsor is central to the development of self-directed learning in apprentices. For the apprentice the learning journey incorporates the phases of *committing effort*, *confirming value*, and *heightening motivation* as they are concurrently *experiencing work*.

During this learning journey the apprentices are continually evaluating their experiences and making decisions after asking themselves questions such as "Will I continue with my apprenticeship or will I leave?" This study has revealed that apprentices are far more likely to remain engaged until their expectations are met if they see value in what they are learning and are able to incorporate a sense of vocational identity through their learning.

It seems that the apprentice is continually making decisions in relation to the manner in which the learning context is reflected in his experience in meeting his needs. Basically

it seems that if everything is acceptable, the apprentice is likely to persist and successfully complete the apprenticeship and become a self-directed learner.

The importance of the learning context is critical and suitable learning contexts do not appear by accident. In this study it emerged that the sponsor was the most important factor determining the quality of the learning environment. Effective sponsors were able to manage the learning context in a manner that the apprentice felt safe to ask questions, make mistakes, develop expertise and eventually accept responsibility, be autonomous and solve complex problems. Indeed, the apprentices become tradespeople that are more than competent but a true self-directed learner.

By managing this learning context, the sponsor created an environment that enabled the intrinsic motivation of the apprentice to drive their own growth and development towards becoming self-directed learners.

The following chapter focuses on the findings on this study and identifies the contribution this study has made to the contribution of knowledge. The chapter also provides an evaluation of my substantive learning theory, identifies the possible implications for my theoretical framework and offers my personal reflections on this research journey.

# Chapter 6 Conclusion

> The end of a work such as this should signal neither a conclusion nor a final word, but rather a punctuation in time that marks a stop merely to take a breath (Lincoln & Denzin, 2005, p. 1115).

## 6.1 Introduction

The previous chapter provided a discussion about the substantive theory of how apprentices develop the capacity to become self-directed and in doing so provides insight into the psychosocial phenomenon of how apprentices learn. Existing theories in the literature that was available in relation to the study's topics were applied and contextualised. This chapter focuses on what has been found as a result of this study and how these findings are relevant to the central research aims and the dominant themes. These conclusions emphasise and identify the implications of the study's findings towards apprentices being adequately supported as they progress through their apprenticeship, as they become tradespersons and full members of their community of practice. The study limitations are acknowledged and the implications from the study are presented towards the end of the chapter. I conclude the chapter with some observations and final remarks about the study's findings and, as the above words by Lincoln and Denzin (2005) suggests, where further opportunities for complementary research may present, and provide some personal reflections.

## 6.2 Study's contribution to knowledge

The purpose of this study, as in the case of constructivist grounded theory, was to develop a deep understanding of the manner in which apprentices in contemporary Australian work environments develop the capacity for self-directed learning. By developing this deep understanding the aim of this research was to develop a substantive theory of how apprentices develop this capacity for self-directed learning.

This purpose and aim has been achieved. The substantive theory about how apprentices develop the capacity to be self-directed provides a conceptual rendering of the data and furthers the understanding of the apprenticeship phenomenon as a supportive framework for the development of occupational expertise and self-direction (Fuller & Unwin, 2011). This substantive theory is robust as it is situated in the social, historical, local and interactional context of the apprenticeship within both the on-the-job and off-the-job learning environment (Charmaz, 2006). The substantive theory that has been developed rests integrally upon my own interpretation of the studied phenomenon.

This work contributes to the knowledge base concerning the cognitive, social and affective practice of learning within apprenticeships, which has received little research since the substantial implementation of the current approach to competency-based training within the Australian Vocational Education and Training (VET) sector twenty years ago.

The methodology of constructivist grounded theory has proven to be an appropriate method to use where the research participants are from distinct, interrelated and identifiable cohorts, such as apprentices, host supervisors and vocational teachers. The use of constructivist grounded theory has resulted in a deep understanding of how apprentices develop the capacity to be self-directed; as a co-construction with more experienced others where a trusting relationship is developed and maintained.

As a researcher engaging with the participants I was part of the research and was able to develop a set of categories, or phases, from the data that was analysed and interpreted that showed the co-constructed relationships between the participants and the more experienced others. I identified within this co-construction that the more experienced other, along with their professional commitment, also had a sense of personal sponsorship of the apprentice's development. These phases *committing effort*, *experiencing workplace*, *confirming value* and *heightening motivation* towards becoming a competent and self-directed learner.

Concurrently, as the apprentice develops and moves through these phases in addition to the sponsorship of a more experienced other where a personal and professional relationship exists, the apprentice is within an ongoing evaluation and decision-making paradigm. Within this decision-making paradigm the apprentice consciously and unconsciously evaluates and re-evaluates their experiences and priorities. With the accrual of these experiences being positive, apprentices are more likely to remain engaged within their apprenticeship and inherently develop self-direction within this thread. An apprentice may disengage with their apprenticeship in the event that the judgement of these experiences is unfavourable. This is not to say that the apprentice is not developing self-direction. It is not apparent if this disengagement was because of the apprentice displaying self-direction as they have made an informed or apathetic choice.

This reflective thinking by the apprentice is integral to the development of self-direction, where self-direction as applied within this research is when apprentices can identify and understand taken for granted assumptions and try to imagine alternatives: work autonomously; accept responsibility for their actions; having an awareness of how personal, social and contextual issues influence learning; and making decisions about their learning throughout their apprenticeship (Chapter 2 expands).

The research contributes to the knowledge base of teaching and learning practice within VET as it highlights the importance of the apprentice's sponsor within this construction. This research reveals that the dynamic relationship between the sponsor or sponsors and

the apprentices was instrumental to the apprentice becoming a self-directed tradesperson. Without a sponsor, who has both a personal and professional interest in the apprentice's development, it is highly unlikely that an apprentice will develop high-levels of learning within their respective trade vocations. In this regard, it can also be reasonably concluded that apprentices who are not sponsored within the workplace are unlikely to become a self-directed learner. Further, apprentices who were sponsored within the workplace are likely to become sponsors themselves and possess both a professional and personal interest in their apprentices' development.

## 6.3 Evaluation of the research

The evaluation of this research includes an appraisal of the substantive theory, the theory's strengths and limitations; how the standards for a grounded study apply to this research; and a contemplation of the research journey.

### 6.3.1 Answering the research questions

The following research questions were identified in Chapter 1:

- How does self-directed learning develop in apprentices?
- What are the relationships between contemporary vocational pedagogy, self-directed learning and the emerging professional practices of apprentices in Australia?
- What substantive theory can be used to demonstrate the process through which apprentices develop the capability for self-directed learning?

This research revealed that apprentices develop as self-directed learners in a workplace environment where their role is conceptualised as having duel status as both a learner and employee and are given the opportunity to develop expertise. Commensurately with the development of expertise the capacity to be a self-directed learner developed as the apprentice accepted the opportunity to increasingly learn with others, work autonomously, determine individual learning needs, and accept responsibility for both themselves and others.

Self-directed learning has been used within this research as an approach that represents contemporary vocational pedagogy as it placed emphasis on how apprentices are learning as apprentices. As highlighted in this research, for apprentices to become self-directed learners who are tradespeople the on-the-job and off-the-job places of learning have equal importance. Both of these places of learning provided the apprentices with the immediate and future context that the apprentices were seeking.

It appeared that the apprentices' motivation and engagement was heavily influenced by them being able to situate themselves within their studies by being able to see the application of what they were learning. The on-the-job aspects of the apprentices' training plan provided the opportunity to consolidate learnt skills and knowledge within the workplace. However, given the nature of group training, apprentices did not often have peers within the workplace.

The off-the-job training, one day a week during the semester at the vocational institute, provided a networking opportunity for apprentices with their peers from across the local building and construction industry to discuss ideas and importantly share experiences. This is the location where the more theoretical or underpinning learning took place, however it also provided the opportunity to develop skills that were unlikely to be experienced within the immediate workplace but were considered imperative for future employability (such as laying brick archways and cutting dovetail joints for drawers).

The most important factor for the development of self-directed learning within apprentices is the sponsor. The apprentices' sponsors have both a personal and professional interest in the development of the apprentice. The sponsor or sponsors facilitated a safe learning environment around the apprentice as they progressed through the phases and during the ongoing evaluation and decision-making process, towards becoming a self-directed learner.

### 6.3.2 Substantive theory

Engeström (2001) contends that any valid theory about learning must answer at least four central questions: Who are the subjects of the learning? Why do they learn? What do they learn? How do they learn and what are the key actions or process of learning? In response, the substantive theory that I have developed has the apprentices as the subjects of learning; the apprentices were engaged and motivated towards their learning as they aspired to become tradespersons and have a vocational career; the apprentices learnt how to become competent and self-directed tradespersons who can make independent decisions; and they became a self-directed tradesperson through a psychosocial process.

Within this non-linear psychosocial process the apprentices constantly evaluate their experiences against the expectancies, and their interpretation of the expectancies, that are placed on them by others. A positive evaluation of these experiences results in the apprentice remaining engaged with their apprenticeship. Conversely, in the event that the apprentices evaluate their experiences as negative, they are likely to disengage with their apprenticeship and become apathetic towards their learning.

Concurrently, along with this evaluation and decision-making process, the apprentices' progress through the phases of *committing effort*, *experiencing work*, *confirming value*, and *heightening motivation* towards becoming a self-directed tradesperson. With the exception of the phase of experiencing work, which is ongoing throughout the

apprenticeship upon commencement, although the phases are interconnected they represent significant indicators within the apprentice's learning journey. I now know, as this research confirms, that a relationship between the novice and expert does not exist as a binary, but is a continuum.

The phase of *committing effort* occurs before the apprentice seeks and gains employment as an apprentice. Within this phase the apprentice, towards committing effort towards a vocational career, is influenced by significant others such as family and friends, previous experiences with work and the apprentices' own high expectancy of becoming a tradesperson.

For the apprentice to gain employment they need to demonstrate to the prospective employer that the prospective apprentice is 'trade ready'. This notion of being trade ready represents the apprentices not being expected to have any previously developed vocational skills or aptitude. The emphasis is on the apprentices being prepared to learn, and colloquially 'have a go'. The phase of experiencing work also includes the apprentices' discovering place within the workplace and the ongoing development of expertise.

*Confirming value* represents the point of the apprentices learning journey where they begin to experience the rewards of committing to an apprenticeship and vocational career. The apprentice learning from others, becoming confident and tentatively developing vocational identity as a tradesperson, is reflective of this phase.

Within the phase of *heightening motivation* the apprentices' vocational identity has developed to the point where they become accepted and acknowledged as a full member of their profession, both internal and outside the workplace within professional and personal networks. Additionally, the apprentices' motivation is amplified; through the apprentices' realisation that successful completion of the apprenticeship is imminent, within their reach. This phase also denotes the apprentice progressing from learning from others to learning in collaboration with others towards becoming a self-directed tradesperson.

A tradesperson who is self-directed has developed elevated levels of learning compared to the limited notion of competency as reflected by outcomes focused industry standards. Self-directed learners are independent decision makers, autonomous workers and assume responsibility for their actions. Importantly, as evidenced within this research, self-directed learners understand that learning is ongoing throughout one's lifetime.

The central tenet, or core category, of an apprentice becoming a self-directed tradesperson, as revealed from this research, is the critical importance of the sponsorship of the apprentice. The sponsor uses their influence to create a safe learning environment around the apprentice where the apprentice is encouraged to take risks, ask questions and make suggestions, mistakes, and decisions without fear of adverse consequences.

A sponsor can be anyone within the workplace, a more experienced or confident other, who has both a personal and professional interest in the development of the apprentice. These sponsorship relationships are dynamic as the apprentice may have one or more sponsors during their apprenticeship. As the apprentice develops as a self-directed tradesperson these relationships change within a continuum of the apprentice seeking a sponsor who is more directive in the initial stages to one that is more collaborative within the later stages of the apprenticeship. This relationship changes as the apprentices develop expertise and confidence, as they progress through the phases towards becoming a self-directed lifelong learner.

#### *6.3.2.1 Strengths and limitations*

Acknowledging the limitations of research does not decrease the value of the study, but rather enriches it by making the underlying assumptions and premises transparent and open to scrutiny. Acknowledging the limitations of the study crystallises the strengths.

The findings of this research were drawn from 13 participants. Of these participants, seven were apprentices, three host supervisors and three vocational teachers within the building and construction industry. The apprentices were completing or had completed stage three of their apprenticeship and the remainder of participants were tradespersons who had completed apprenticeships. All the participants were male as female participants were not available.

This study lies securely within the interpretative tradition as the concurrent data collection and analysis was contextually situated in time, place, culture and situation (Charmaz, 2006). Therefore the findings cannot be universally representative of all co-constructed relationships within the apprenticeship paradigm. Qualitative approaches to research recognise that there is no single truth and qualitative research is the interpretation of these constructed experiences. These constructed experiences can provide important insights and knowledge (Cohen et al., 2007).

The relatively small number of participants within this study may be considered a limitation, however, the number of participants in this research is indicative of other grounded studies (Creswell, 2009; Morse & Chung, 2003). I would have liked to interview more participants but this was not required as theoretical saturation was reached (see Chapter 3); however, the small number provided the opportunity to investigate each of the participants in greater detail than otherwise might have not been possible with a larger sample size. The ultimate quality and creditability of this research lies with the richness, depth, suitability and sufficiency of the data, analysis and interpretation (Charmaz, 2006, 2009).

#### *6.3.2.2 Criteria for a grounded theory study*

To ensure the usefulness and quality of this study, I was guided by the criteria outlined by Charmaz (2006) for research using constructivist grounded theory. The four criteria that guided this study are *creditability*, *originality*, *resonance* (significance) and *usefulness*. Using this criterion this research meets the criteria for a grounded theory study, as it is important to ensure what I have represented as a grounded theory is in fact grounded theory.

Credibility: The research has explored the development of self-direction within apprentices from the perspective of the apprentices, their host supervisors and vocational teachers. The concurrent data collection and analysis through semi-structured interviews and my own observations and interpretations have allowed me to develop a deep understanding of how apprentices develop the capacity to be self-directed. This was enabled by, as an inside researcher, getting close to the participants' understandings.

Originality: The study adds to the body of knowledge that already exists in apprenticeships, vocational and professional more broadly. However, other qualitative contributions that have explored self-direction within Australian apprentices are somewhat dated. More current scholarly offerings about self-directed learning have been in alternate settings, particularly from North America. The analysis of the interviews and research memos resulted in a new conceptual rendering. The categories or phases presented are original and offer new insights and alternate viewpoints into the topic of learning within apprenticeships.

Resonance: The significance of this research conveys the progression of phases towards the development of self-direction, which have been identified as the apprentice *committing effort*, *experiencing the workplace*, *confirming value* and *heightening motivation* towards being competent and self-directed. The decision-making paradigm is furthermore integral to this process.

Usefulness: This analysis presents a substantive theory that people can use in their everyday domains. The substantive theory offers my interpretations about how apprentices become self-directed. It also highlights, to this end, the importance of the more experienced other taking both a professional and personal interest in the development of the apprentice. This is the holistic development of the individual.

## 6.4 Observation

This section considers my observations as a researcher throughout the duration of this study about what has been gained through the journey. This thesis takes the form of my completed work and how this tentative endpoint appears to me. The endpoint makes sense to me as I have been immersed, and consumed, within the study. I also understand that the consumer of this research, which I hope will be educationalists and other

interested groups working within vocational education and training, will ultimately judge the usefulness of my methods and the quality of the final product. As a grounded theorist, I aspire to empower the consumer to determine the generalisability of my contribution of knowledge to situations beyond those examined within this research (Charmaz, 2006). As a self-identified practitioner researcher and proponent of scholarship at all levels of understanding within VET teachers, it would be immensely satisfying if this work could be readily applied towards the holistic development of learners in similar and alternative settings.

## 6.5 Implications

This research has shown that apprentices learn from more experienced others within the workplace where there is both a professional and personal relationship. Therefore, employers need to exploit opportunities to facilitate the development of these relationships within the workplace. To develop self-directed learners—employers and all those involved within the preparation of apprentices for a vocational career—the development of personal relationships are as important as professional relationships.

There are two implications for the placement of apprentices with host employers for GTOs. The first implication is GTOs must second apprentices to host employers that are prepared to foster the professional development of the apprentice, but also develop a personal relationship with the apprentice being sponsored. The second implication is that the duration of the placement must be sufficient for these personal relationships to develop. These personal relationships enable the apprentice to develop expertise, as they feel safe and confident within the workplace.

This substantive theory also provides insight for vocational teachers and those involved within apprenticeship curriculum (learning / instructional) design. This insight highlights the necessity to utilise approaches, at the early stages of the apprenticeship, which promote the development of self-direction, such as reflective thinking and decision making. The phases of the substantive theory of *committing effort*, *experiencing work*, confirming *value* and *heightening motivation* reflect the apprentice's development continuum. This continuum is reflective of the stages of the apprentices' training plan. One end of the training plan identifies the need for supportive relationships within the workplace milieu where apprentices learn from others where this supportive environment is maintained. On the other end of the continuum, this supportive environment transforms where the apprentices learn with others, become autonomous and accept responsibility for their actions, which includes high levels of learning capacity. For an apprentice to become a self-directed learner they also must be given the opportunity to learn how, and be given the opportunity to make decisions.

## 6.6 Future research opportunities

Future research opportunities include:

- Evaluation of my substantive theory by 'theory testing' researchers about how apprentices develop the capacity to become a competent and self-directed tradesperson.
- Exploring what influence the apprentices' family, friends and significant others have on the apprentice's decision-making paradigm.
- Developing a deeper understanding of the influence that the sponsor—as the more experienced other, who has both a professional and personal relationship with the apprentice—has on decision making by apprentices.
- Revisiting the concept of graded assessment within the Australian competency based VET system focusing on the relationship between grading and motivation.
- Considering the applicability of my substantive theory within other cohorts (especially female apprentices), professions and workplaces. Future work may build upon and extend beyond the humanistic position, to consider the socio-political and humanistic impact of neoliberal agendas.

## 6.7 Personal reflection

At the beginning of this dissertation, I made two significant personal reflections. The first of these reflections is that I subscribe to an approach that learning is socially constructed. The second, along with developing a deep understanding of learning within apprenticeships, this study was also about me understanding my own journey.

This doctoral journey has been transformational in the sense that I have had a deep shift in perspective of my identity. This research has confirmed that the learning within apprenticeships is socially constructed. Specifically, the imperative co-construction between the apprentice and the more experienced other. As an apprentice I was cognisant of the importance of the relationships with superiors within the military environment. I now realise that the focus on hierarchical relationships was possibly unfavorable to my development as a tradesperson. There were opportunities to learn from the more experienced and confident others around me regardless of the equivalence of rank as *Craftsman*.

At the conclusion of this study I now understand my own learning journey. Coherent with the findings of this study, my learning journey from an apprentice to an educational leader has foremost been enabled by the sponsorship of more experienced others who have shown both a personal and professional interest in my development. These individuals have come and gone throughout this time. I am grateful they helped me see something in myself where I was oblivious.

# References

Adams St.Pierre, E. (2011). Post Qualitative Research: A critique and the coming after. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAFE Handbook of Qualitative Research* (4th ed.). Thousand Oaks, CA: SAGE.

Adams, T. (2012). Chess from square a1: Incorporating chess into the gifted class. *Gifted Child Today, 35*(4), 243-251.

Ali, S. R., & Menke, K. A. (2013). Rural Latino youth career development: An application of social cognitive career theory. *The Career Development Quarterly, 62*, 175-189.

Allen Consulting Group. (2004). *Final Report: Development of a strategy to support universal recognition of Employability Skills.* Canberra: Department of Science Education and Training.

Ambrose, S. A., Bridges, M. W., Dipietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching*. Chichester, GB: John Wiley & Sons.

Anderson, J. R. (1993). Problem solving and learning. *American Psychologist, 48*(1), 35-44.

Armstrong, J. S. (1982). The value of formal planning for strategic decisions. *Strategic Management Journal, 3*(3), 197-211.

Aubin, F., Atoyan, H., Robert, J.-M., & Atoyan, T. (2012). Measuring a product's usefulness. *Work, 41*, 5266-5273.

Australia and New Zealand Classifications of Occupations. (2006). *ANZCO – Australia and New Zealand Classifications of Occupations* (1 ed.).

Australian Bureau of Statistics. (2012). 8165.0 - *Counts of Australian Businesses, including Entries and Exits*, Jun 2007 to Jun 2011 Retrieved 7 December, 2012.

Australian Chamber of Commerce and Industry, & Business Council of Australia. (2002). *Employability skills for the future.* Canberra: Department of Education Science and Training.

Australian Education Council. (1992). *Key Competencies: Report of the committee to advise the Australian Educational Council Ministers of vocational education,*

*employment and training on employment related key competencies for post-compulsory education and training*. Canberra: Australian Education Council (Mayer Committee).

Australian Industry Group. (2013a). *Apprenticeships: Achieving excellence*. Canberra: Australian Industry Group.

Australian Industry Group. (2013b). *Getting it right: Foundations skills for the workforce.* Canberra: Australian Industry Group.

Australian Industry Group, & Deloitte. (2009). *National CEO survey – Skilling business in tough times*. Sydney, NSW: Australian Industry Group.

Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology* (41), 63-105.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freemen.

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management, 38*(1) 9-44.

Bardon, B. (2010). *The future of trade apprenticeships in Australia.* Bathurst, NSW: Central West Group Apprentices.

Bauman, Z. (2013). *Liquid moderninity*. Cambridge, UK: John Wiley & Sons.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundermental human motovation. *Psychological Bulletin, 117*, 176-181.

Beasley, K. (1980). The Commonwealth Ministry of Education: An experience in the Whitlam Government, 1972 to 1975 *Melbourne Studies in Education*. Melbourne: Melbourne University Press.

Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university* (3rd ed.). Buckingham: SRHE / Open University Press.

Billett, S. (1994). Situated learning – a workplace exerienced. *Australian and New Zealand Journal of Vocational Education Research, 2*(1), 1-29.

Billett, S. (2001). *Learning in the workplace: Strategies for effective practice*. Crows Nest, New South Wales: Allen & Unwin.

Billett, S. (2011a). Intergrating experiences in workplace and university settings: A conceptual perspective. In H. Gruber, C. Harteis, & S. Billett (Eds.), *Professional and Practice based Learning* (Vol. 7). New York: Springer.

Billett, S. (2011b). *Vocational Education: Purposes, traditions and prospects*. New York: Springer.

Blair, C., & Diamond, A. (2008). Biological process in prevention and intervention: The promotion of self-regulation as a means of preventing school failure. *Development of Psychopathology, 20*, 899-911.

Blume, B. D., Ford, J. K., Baldwin, T. T., & Huang, J. L. (2010). Transfer of training: A meta-analytic review. *Journal or Management, 36*(4), 1065-1105.

Blumer, H. (1969). *Symbolic Interactionism: Perspectives and Method*. Englewood Cliffs, NJ: Prentice-Hall.

Bodrova, E. (2008). Make-believe play versus academic skills: A Vygotskian approach to today's dilemma of early childhood education. *European Early Childhood Education Research Journal, 16*(3), 357-369.

Boud, D., Cressy, C., & Docherty, P. (2006). The emergence of public reflection. In D. Boud, C. Cressy, & P. Docherty (Eds.), *Productive Reflection at Work*. Oxon: Routledge.

Bowers, B., & Schatzman, L. (2009). Dimensional analysis. In J. Morse, P. Stern, J. Corbin, B. Bowers, K. Charmaz, & A. Clarke (Eds.), *Developing grounded theory: The second generation*. California: Left Coast Press.

Brocket, R. G., & Hiemstra, R. (1991). Self-direction in adult learning: Perspectives on theory, research and practice (Vol. 2012). London: Routledge.

Brockett, R. G., & Hiemstra, R. (1991). *Self-direction in adult learning: Perspectives on theory, research, and practice*. New York: Routledge.

Brooker, R., & Butler, J. (1997). The learning context within the workplace: as perceived by apprentices and their workplace trainers. *Journal of Vocational Education & Training, 49*(4), 487-510. doi: 10.1080/13636829700200028

Brookfield, S. (1986). *Understanding and facilitating adult learning: A comprehensive analysis of principles and effective practices*. San Francisco: Jossey-Bass.

Brookfield, S. (1995). *Becoming a critically reflective teacher*. San Francisco: Jossey-Bass.

Brookfield, S. (2003). Adult cognition as a dimension of lifelong learning. In J. Field & M. Leicester (Eds.), *Lifelong Learning: Education across the lifespan*. London: Routledge Press.

Brookfield, S. (2005). *The power of critical theory – Liberating adult learning and teaching*. San Francisco: Jossey-Bass.

Brookfield, S. (2012). *Teaching for critical thinking: Tools and techniques to help students question their assumptions*. San Francisco: Jossey-Bass.

Brookfield, S., & Holst, J. (2011). *Radicalizing Learning: Adult education for a just world*. San Francisco, CA: Jossey-Bass.

Brooks, D. (2011). *The social amimal: The hidden sources of love, character and achievement*. New York: Random House.

Brooks, R. (2003). Young people's higher education choices: The role of family and friends. *The British Journal of Sociology of Education, 24*(3), 283-297.

Brown, S. D., Lent, R. W., Telander, K., & Tramayne, S. (2010). Social cognitive career theory, conscientiousness, and work performance: A meta-analytic path analysis. *Journal of Vocational Behavior, 79*, 81-90.

Bryant, A., & Charmaz, K. (2007a). Grounded theory a historical perspective: An epistemlogical account. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of grounded theory*. Thousand Oaks, CA: Sage.

Bryant, A., & Charmaz, K. (Eds.). (2007b). *The SAGE handbook of grounded theory*. Thousand Oaks, CA: Sage.

Buchanan, J. (2006). *From 'skill shortages' to decent work: The role of better skill ecosystems*. Sydney, NSW: Board of Vocational Education and Training.

Butterfield, E., & Nelson, G. (1989). Theory and practice for transfer. *Education Technology Research Development, 3*, 5-38.

Callan, V. (2003). *Generic skills: Understanding vocational education and teacher training and student attitudes*. Adelaide, SA: NCVER.

Candy, P. C. (1991). *Self-direction for lifelong learning: A comprehensive guide to theory and practice.* San Francisco: Jossey-Bass.

Carspecken, P. (1996). *Critical ethnography in educational research: A theoretical and practical guide*. New York: Routledge.

Chan, S. (2009). *Belonging, becoming and being: The role of proximal participation in beginning an apprenticeship*. Paper presented at the NZ Vocational Training & Research Forum, Victoria University, Wellington, NZ.

Chan, S. (2011). *Belonging, becoming and being: First-year apprentices' experiences in the workplace.* Wellington, NZ: Ako Aoteroa – The National Centre for Teaching Excellence

Chan, V. (2010). Readiness for learner autonomy: What do our learners tell us. *Teaching in Higher Education, 6*(4), 505-518.

Chappell, C., Hawke, G., Rhodes, C., & Soloman, N. (2003). *High level review of training packages Phase 1 Report*. Brisbane: Australian National Training Authority.

Charmaz, K. (1990). 'Discovering' chronic illness: Using grounded theory. *Social Science Medicine, 30*(11), 1161-1172.

Charmaz, K. (1991). *Good days, bad days: The self in chronic illness and time*. New Brunswick, NJ: Rutgers University Press.

Charmaz, K. (2003). Grounded theory: Objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* (2 ed.). London: SAGE.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: SAGE Publications

Charmaz, K. (2009). Shifting the grounds: Constructivist grounded theory methods. In J. Morse, P. Stern, J. Corbin, B. Bowers, K. Charmaz, & A. Clarke (Eds.), *Developing grounded theory: The second generation*. California: Left Coast Press.

Charmaz, K., & Henwood, K. (2008). Grounded theory. In C. Willig & W. Stainton-Rodgers (Eds.), *The SAGE handbook of qualitative research in psychology*. Los Angeles, CA: Sage Publications.

Chesnut, S. R., & Burley, H. (2015). Self-efficacy as a predictor of commitment to the teaching profession: A meta-analysis. *Educational Research Review, 2/2015*.

Chesnut, S. R., & Cullen, T. A. (2014). Effects of self-efficacy, emotional intelligence, and perceptions of future work enviornment on pre-service teacher commitment. *The Teacher Educator, 49*(2), 116-132.

Clark, C. (1992). Deviant adolescent subcultures: Assessment strategies and clinical interventions. *Adolescence, 27*(106), 283-293.

Clarke, A. (2005). *Situational analyses: Grounded theory after the postmodern turn*. Thousand Oaks, CA: Sage.

Clayton, B., Blom, K., Meyers, D., & Bateman, A. (2003). *Assessing and certifying generic skills: What is happening in VET?* Adelaide, SA: NCVER.

Clutterbuck, D., & Megginson, D. (2005). *Making Coaching Work: Creating a coaching culture.* Chartered Institute of Personnel and Development: London.

Cofta, P. (2007). Confidence, trust and identity. *BT Technology Journal, 25*(2), 173-178.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (6 ed.). Oxon: Routledge.

Collins, A., Brown, J., & Newman, S. (1989). Cognative Apprenticeships: Teaching the crafts of reading, writing, and mathematics. In L. Resnick (Ed.), *Knowing, Learning and Instruction: Essays in Honour of Robert Glaser*. New Jersey: Erlbaum.

Collinson, V. (2012). Sources of teachers' values and attitudes. *Teacher Development: An International journal of teachers' professional development, 16*(3), 321-344.

Colman, R. A., Hardy, S. A., Albert, M., Raffaelli, M., & Crockett, L. (2006). Early predictors of self-regulation in middle childhood. *Infant and Child Development, 15*, 421-437.

Commonwealth of Australia. (2011). *A shared responsibility: Apprenticeships for the 21st century, final report of the expert panel.* Canberra, ACT: Commonwealth of Australia.

Cooper, L., Orrell, J., & Bowden, M. (2010). *Work intergrated learning*. Oxon: Routledge.

Corbin, J., & Holt, N. (2011). Grounded theory. In B. Somekh & C. Lewin (Eds.), *Theory and methods in social research*. London: Sage.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3 ed.). Thousand Oaks, CA: Sage Publications.

Cranton, P. (2006). *Understanding and promoting transformative learning: A guide for educators of adults*. San Francisco: Jossey-Bass.

Cranton, P., & Taylor, E. (2012). Transformative learning theory: Seeking a more unified theory. In P. Cranton & E. Taylor (Eds.), *The handbook of transformative learning*. San Francisco, CA: Jossey-Bass.

Crawford, M. (2009). *Shop class as soulcraft: An inquiry into the value of work*. New York: Penguin Books.

Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles, CA: Sage Publications.

Cullen, J. (2003). *Innovations in education and training – Briefing Paper 7, New Perspectives for Learning*. Brussels: European Commission.

Cullen, J., Hadjivassiliou, K., Kelleher, E., Sommerlad, J., & Stern, E. (2002). *Review of current pedagogic research and practice in the fields of post-compulsory education and lifelong learning*. London: Travistock Institute.

Currie, K. (2008). Linking learning and confidence in developing expert practice. *International Journal of Nursing Education Scholarship, 5*(1), 1-13.

Curtis, D. (2008). VET Pathways taken by school leavers. Melbourne: Australian Council of Education Research.

Dembo, M. H., & Eaton, M. J. (2000). Self-regulation of academic learning in middle-level schools. *The Elementary School Journal, 100*(5), 473-490.

Demetriou, A. (2000). Organization and development of self-understanding and self-regulation: Towards a general theory. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 209-251). San Diego: Academic.

Denzin, N. (1989). *The research act*. Englewood Cliffs, NJ: Prentice Hall.

Denzin, N., & Lincoln, Y. (2005). The discipline and practice of qualitative research. In N. Denzin & Y. Lincoln (Eds.), *The SAGE handbook of qualitative research*. Thousand Oaks: Sage.

Department of Education, Employment and Workplace Relations,. (2011). *Australian Jobs 2011*. Canberra ACT: Department of Education, Employment and Workplace Relations.

Department of Industry, Innovation, Climate Change, Science Research and Tertiary Education, & Department of Education, Employment and Workplace Relations,. (2013). *Core Skills for Work: Overview*. Canberra, ACT.

Dew, K. (2007). A health researcher's guide to qualitative methodologies. *Australian and New Zealand Journal of Public Health, 31*(5), 433-437.

Dewey, J. (1916). *Democracy and education* (2004 Dover ed.). Mineola, New York: Dover Publications.

Dewey, J. (1929). *The source of a science of education*. New York: Liveright.

Drake, P., & Heath, L. (2011). *Practitioner Research at Doctoral Level: Developing coherent research methodologies*. London: Routledge.

Dreyfus, S. E. (2004). The Five-stage model of adult skill acquisition. *Bulletin of Science, Technology & Society, 24*(3), 177-181.

Dreyfus, S. E., & Dreyfus, H. L. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. Oxford: Basil Blackwell.

Dunleavy, P. (2003). *Authoring a PhD: How to plan, draft, write and finish a doctoral thesis or dissertation* London, UK: Palgrave Macmillian.

Edge Foundation. (2014). *The skills mismatch.* Westminster, London: The Edge Foundation.

Edwards, R. (1995). Different discourses, discourses of difference: Globalisation, distance education and open learning. *Distance Education, 16*(2), 241-255. doi: 10.1080/0158791950160206

Ellinger, A. D. (2004). The concept of self-directed learning and its implications for human resource development. *Advances in Developing Human Resources, 6*(158), 158-166.

Ellstrom, P. (2006). The meaning and role of reflection in informal learning at work. In D. Boud, P. Cressey, & P. Docherty (Eds.), *Productive Reflection at Work*. New York, NY: Routledge.

Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of Education and Work, 14*(1), 133-156. doi: 10.1080/13639080020028747

Eraut, M. (1994). *Developing professional knowledge and competence*. Oxon: Routledge.

Eraut, M. (2008). How professionals learn through work. *Working Papers, Surry Centre for Excellence in Professional Training and Education*. University of Surrey.

Ezzamel, M., Lilley, S., & Willmott, H. (1994). The 'New Organisation' and the 'New Managerial Work'. *European Management Journal, 12*(4), 454-461.

Flick, U. (2006). *An introduction to qualitative research* (3rd ed.). London: Sage.

Foley, G. (2004). Introduction: The state of adult education and learning. In G. Foley (Ed.), *Dimensions of adult learning: Adult education and training in a global era* (pp. 3-18). Crows Nest, New South Wales: Allen & Unwin.

Fontana, A., & Frey, J. (2005). From neutral stance to political involvement. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed.). Thousand Oakes, CA: Sage Publications.

Frankl, V. (2006). *Man's search for meaning*. Boston, MA: Beacon Press.

Freire, P. (1972). *Pedagogy of the oppressed*. Harmondsworth, England: Penguin.

Fuller, A., & Unwin, L. (2004). Young people as teachers and learners in the workplace: challanging the novice-expert dichotomy. *International Journal of Training and Development, 8*(1), 32-42.

Fuller, A., & Unwin, L. (2010). 'Knowledge Workers' as the new Apprentices: The influences of organisational autonomy, goals and values of nurturing expertise. *Vocations and Learning* (3), 203-222.

Fuller, A., & Unwin, L. (2011). The content of apprenticeships. In T. Dolphin & T. Lanning (Eds.), *Rethinking apprenticeships*. London: Institute for Public Policy Research.

Garavglia, P. (1995). *Transfer of Training: Making Training Stick*. Alexandria, VA: American Society for Training and Development.

Gardner, H. (1993). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.

Gardner, H. (2006). *Multiple intelligences: New horizons*. New York: Basic Books.

Glaser, B. (1992). *Basics of grounded theory analysis: Emergence v forcing*. Mill Valley: The Sociology Press.

Glaser, B., & Holton, J. (2004). Remodeling frounded theory: Article 4. *Forum: Qualitative Social Research, 5*(2), 1-17.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Chicargo: Aldine.

Glaser, B., & Strauss, A. (1971). *Status passage*. Aldine Atherton.

Glense, C. (2006). *Becoming Qualitative Researchers: An introduction*. Boston: Pearson.

Gobet, F., & Campitelli, G. (2006). Education and chess: A critical review. In T. Redman (Ed.), *Chess and education: Selected essays from the Koltanowski conference* (pp. 124-143). Dallas, TX: University of Texas at Dallas.

Gobet, F., Voogt, A. d., & Retschitzki, J. (2004). *Moves in the mind: The psychology of board games*. New York, NY: Psychology Press.

Gough, N. (2000). *Methodologies under the microscope*. Paper presented at the Deakin University Postgraduate Association research students' conference, Deakin University, Geelong, Vic.

Goulding, C. (1999). *Grounded Theory: some reflections on paradigm, procedures and misconceptions*. Wolverhampton, UK: University of Wolverhampton.

Group Training Australia. (2012). Group Training – a foundation of Australia's skills architecture. Retrieved 6 December, 2012, from http://www.grouptraining.com.au/Publications/2012-group-training-narrative

Guba, E., & Lincoln, Y. (2005). Paradigmatic controversies, contradictions and emerging confluences. In N. Denzin & Y. Lincoln (Eds.), *The SAGE handbook of qualitative research*. Thousand Oaks: Sage Publications.

Gupta, A. (2008). Vocational identity. In F. T. Long (Ed.), *Encylopedia of counseling*. Thousand Oaks, CA: SAGE.

Guthrie, H. (2009). Competence and competency based training: what the literature says. Adelaide: NCVER.

Gyurko, C. (2010). A synthesis on Vroom's model with other social theories: An application to nursing education. *Nurse Education Today, 31*, 506-510.

Habermas, J. (1975). *Legitimation Crisis*. Boston: Beacon Press.

Hammond, K. R., McClennand, G. H., & Mumpower, J. (1980). *Human judgement and decision making*. New York: Praeger Publishers.

Harren, V. A. (1979). A model of career decision making for college students. *Journal of Vocational Behavior, 12*(2), 199-133.

Hattie, J., & Timperly, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112.

Hewitt, D. (2008). *Understanding effective learning: Strategies for the classroom* Retrieved from http://USQ.eblib.com.au/patron/FullRecord.aspx?p=345136

Hiemstra, R. (1996). *What is in a word: Changes in SDL language (lexicon) over a decade*. Paper presented at the International Symposium on Self-Directed Learning, West Palm Beach, Florida.

Hiemstra, R., & Brockett, R. G. (2012). Reframing the meaning of self-directed learning: An updated model. In J. Buban & D. Ramdeholl (Eds.), *Adult Education Research Conference (AERC) 2012* (pp. 155 to 161). Saratoga Springs, New York.

Hodkinson, P., Biesta, G., & James, D. (2007). Understanding Learning Culturally: Overcoming the dualism between social and individual views of learning. *Vocations and Learning, 1*(27-47).

Hood, J. (2007). Orthodoxy vs. power: The defining traits of grounded theory. In A. Bryant & C. Charmaz (Eds.), *The SAGE handbook of grounded theory*. Thousand Oaks, CA: Sage.

Honderich, T. (1998) *The Oxford Companion to Philosophy*. Oxford: Oxford University Press.

Houle, C. O. (1972). *The design of education*. San Francisco: Jossey-Bass.

Houle, C. O. (1988). *The inquiring mind* (2 ed.). Madison: University of Wisconsin Press & Norman.

Illeris, K. (2011). *The fundamentals of workplace learning: Understanding how people learn in working life*. Oxon: Routledge.

Illeris, K. (2014a). Transformative learning and identity. *Journal of Transformative Education*, 148-163. doi: 10.1177/1541344614548423

Illeris, K. (2014b). Transformative learning re-defined: as changes in elements of the identity. *International Journal of Lifelong Education* (pp. 1-14): Routledge.

Jonassen, D. H. (2012). Designing for decision making. *Education Technology Research Development, 60*, 341-356.

Kahneman, D. (2011). *Thinking, fast and slow*. New York, NY: Penguin Group.

Kalantzis, M., & Cope, B. (2012). New learning: a charter for change in education. *Critical Studies in Education, 53*(1), 83-94.

Kangan, M. (1974). *TAFE in Australia: report on the needs in technical and further education.* Canberra, ACT: Australian Committee on Technical and Further Education (ACOTAFE).

Kangan, M. (1979). A comment on TAFE in Australia. In D. D McKenzie & C. Wilkins (Eds.), *The TAFE Papers*. Melbourne: McMillan.

Karmel, T., & Misco, J. (2009). *Apprentices and traineeships in the downturn*. Adelaide, SA: NCVER.

Karmel, T., & Roberts, D. (2012). *The role of 'culture' in apprenticeship completions.* Adelaide, SA: NCVER.

Karmel, T., Roberts, D., & Lim, P. (2014). *The impact of increasing university participation on the pool of apprentices*. Adelaide: NCVER.

Kasworm, C. E. (1983). An examination of self-directed learning contracts as an instructional strategy. *Innovative Higher Education, 8*(1), 45-54.

Kerlinger, F. N. (1986). *Foundations of behavioral research*. NY: Holt, Rinehart & Winston.

Klotz, V. K., Billett, S., & Winther, E. (2014). Promoting workplace excellence: Formation and relevance of vocational identity for vocational educational training. *Empirical Research in Vocational Education and Training, 6*(6), 1-20.

Knight, B. (2012). Evolution of apprenticeships and traineeships in Australia: An unfinished history. Adelaide, SA: NCVER.

Knowles, M. (1973). *The adult learner: A neglected species*. Houston: Gulf.

Knowles, M. (1975). *Self-directed learning*. New York: Association Press.

Knowles, M. (1980). *The modern practice of adult education: From pedagogy to andragogy* (2 ed.). New York: Association Press.

Kopp, C. B. (1982). Antedents of self-regulation: A developmental perspective. *Developmental Psychology, 18*, 199-214.

Krumboltz, J. D. (1996). A learning theory of career counseling. In M. L. Savikas & W. B. Walsh (Eds.), *Handbook of career counseling theory and practice*. Palo Alto, CA: Davies-Black.

Laker, D. (1990). Duel dimensionality of training transfer. *Human Resourse Development Quarterly, 1*(3), 209-223.

Lambert, N. M., Stillman, T. F., Hicks, J. A., Kamble, S., Baumeister, R. F., & Fincham, F. D. (2013). To belong is to matter: Sense of belonging enhances meaning in life. *Personality and Social Psychology Bulletin, 39*, 1418-1427.

Larsen-Freeman, D. (2013). Transfer of learning transformed. *Language Learning, 63* (March 2013), 107-129.

Lave, J. (2009). The practice of learning. In K. Illleris (Ed.), *Contemporary theories of learning: Learning theorists in their own words*. Oxon, UK: Routledge.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Lee, S. (2007). Vroom's expectancy theory and the public library customer motivational model. *Library Review, 56*(9), 788-796.

Leinhardt, G., Young, K. M., & Merriman, J. (1995). Intergrating professional knowledge: the theory of practice and the practice of theory. *Learning and Instruction* (5), 401-408.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Towards a unifying social cognitive theory of career and academic interest, choice and performance. *Journal of Vocational Behavior, 45*, 79-112.

Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology, 47*(1), 36-49.

Lent, R. W., Hackett, D., & Brown, S. D. (2008). *Social Cognitive Career Theory. Encyclopedia of Counseling. SAGE Publications, Inc*. Thousand Oaks, CA: SAGE Publications, Inc.

Lent, R. W., Hackett, G., & Brown, S. D. (1999). A social cognitive view of school-to-work transition. *The Career Development Quarterly, 47*, 297-331.

Levett-Jones, T., & Lathlean, J. (2008). Belongingness: A prerequisite of nursing students' clinical learning. *Nurse Education in Practice, 8*, 1033-1111.

Lewin, K. (1943). Defining the "Field at a given time". *Psychological Review, 50*, 292-310.

Liamputtong, P. (2009). *Qualitative research methods* (3rd ed.). South Melbourne, VIC: Oxford University Press.

Lincoln, Y., & Denzin, N. (2005). Epilogue: The eighth and ninth moments – Qualitative research in/and the future. In N. Denzin & Y. Lincoln (Eds.), *The SAGE handbook of qualitative research*. Thousand Oaks: Sage.

Lincoln, Y., Lynham, S., & Guba, E. (2013). Paradigmatic controversies, contradictions and emerging confluences, revisited. In N. Denzin & Y. Lincoln (Eds.), *The SAGE handbook of qualitative research* (4 ed.). Thousand Oaks: Sage Publications.

Lofland, J., & Lofland, J. (1995). *Analyzing social settings* (3 ed.). Belmont, CA: Wadsworth.

March, J. G. (2004). *A primer on decision making: How decisions happen*. New York: Free Press.

Maxwell, S. (2010). *Using rubrics to support graded assessment in a competency based environment*. Adelaide, SA: NCVER.

Meltzer, R. N., Petras, J. W., & Reynolds, L. T. (1975). *Symbolic interactionism: Genesis, varieties and criticism*. Boston, MA: Routledge and Keegan Paul.

Megginson, D., & Clutterbuck, D. (2005). *Techniques for coaching and mentoring.* Elsevier Butterworth-Heinemann: Oxford.

Merriam, S. B., & Brockett, R. G. (1997). *The profession and practice of adult education*. San Francisco, CA: Jossey Bass.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L. (2007). *Learning in adulthood: A comprehensive guide* (3 ed.). San Francisco: Jossey-Bass.

Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education, 32*(1), 3-24.

Mezirow, J. (1985). A critical theory of self-directed learning. In S. Brookfield (Ed.), *Self-directed learning: From theory to practice*. San Francisco: Jossey-Bass.

Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.

Mezirow, J. (1998). On critical reflection. *Adult Education Quarterly, 48*(3), 185-195.

Mezirow, J. (2000). Learning to think like an adult: Core concepts of transformation theory. In J. Mezirow (Ed.), *Learning as Transformation: Critical perspectives on a theory in progress*. San Francisco: Jossey-Bass.

Mezirow, J. (2009). An overview on transformative learning. In K. Illeris (Ed.), *Contemporary theories of learning: Learning theorists…in their own words* (pp. 90-105). New York, NY: Routledge.

Miller, L., Whalley, J., & Stronach, I. (2011). From structuralism to post-structuralism. In B. Somekh & C. Lewin (Eds.), *Theory and Methods in Social Research*. London: Sage.

Misko, J., & Robertson, C. (2000). Competency-based training in Australia. In A. Arguelles & A. Gonczi (Eds.), *Competency-based Education and Training: A world perspective*. Mexico: Editiroal Limusa.

Mitchell, J. (2002). *The potential for Communities of Practice to Underpin the National Training System*. Melbourne: Australian National Training Authority.

Mitchell, J., Chappell, C., Bateman, A., & Roy, S. (2006). *Quality is the key: Critical issues in teaching, learning and assessment in vocational education and training*. Adelaide, SA: NCVER.

Moreland, R., & Levine, J. (1989). *Newcomers and oldtimers in small groups*. New Jersey: Erlbaum.

Morse, J. (2009). Tussles, tensions and resolutions. In J. Morse, P. N. Stern, J. Corbin, B. Bowers, K. Charmaz, & A. Clarke (Eds.), *Developing grounded theory: The second generation*. California: Left Coast Press.

Morse, J., & Chung, S. (2003). Toward holism: The significance of methodological pluralism. *International Journal of Qualitative Methods.* Retrieved 3 December, 2013, from http://www.ualberta.ca/~iiqm/backissues/2_3final/html/morsechung.html

National Quality Council. (2009a). *VET training products for the 21st century: Consultation paper.* Canberra: TVET.

National Quality Council. (2009b). *VET training products for the 21st century: Final report.* Canberra: TVET.

NCVER. (2012). *Australian vocational education and training statistics: completion and attrition rates for apprentices and trainees 2011*. Adelaide, SA: NCVER.

Newman, M. (2006). *Teaching Defiance: Stories and strategies for activist educators*. San Francisco: Jossey-Bass.

Newman, M. (2014). Transformative learning: Mutinous thoughts revisited. *Adult Education Quartley, 64*(345), 345-355.

Newsome, A., Throne, B. J., & Wyld, K. L. (1973). *Student counselling in practice*. London: University of London Press.

Nolan, C. (1998). Learning on clinical placement: The experience of six Australian student nurses. *Nurse Education Today, 18*, 622-629.

Nussbaum, M. (2000). *Women and human development: The capabilities approach*. Cambridge: Cambridge University Press.

Olson, J. S. (2014). Opportunities, obstacles, and options: First generation college graduates and social career theory. *Journal of Career Development, 4*(3), 199-217.

Paterson, R. (1979). *Values education and the adult*. London: Routledge and Keegan Paul.

Patton, W., & McMohon, M. (2006). *Career development and systems theory: Connecting theory and practice.* Rotterdam, Netherlands: Sense Publishers.

Phillips, E., & Pugh, D. (2010). *How to get a PhD: A handbook for students and their supervisors* (5 ed.). Berkshire, England: Open University Press.

Phillips, S. D. (2008). Decision Making. In F. T. Leong (Ed.), *Encyclopedia of Counseling* (pp. 1523-1526). Thousand Oaks: SAGE.

Piaget, J. (1932). *Play, dreams, and imagination*. New York: Norton.

Pilling-Cormick, J. (1997). Transformative and self-directed learning practice. In P. Cranton (Ed.), *Transformative Learning in Action: Insights from practice*. San Francisco: Jossey-Bass.

Piore, M., & Stable, C. (1984). *The second industrial divide: Possibilities for prosperity*. New York: Basic Books.

Reason, P. (1994). Three approaches to participative inquiry. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 324-339). Thousand Oaks, CA.: Sage.

Reigeluth, C. (2009). Instructional theory education. In C. Reigheluth & A. Carr-Chellman (Eds.), *Instructional design theory and models: Building a common knowledge base* (Vol. 3). New York: Routledge.

Robinson, C., & Arthy, K. (1999). *Lifelong learning: developing a training culture.* Adelaide: NCVER.

Rodgers, M. E., & Creed, P. A. (2011). A longitudinal examination of adolescent planning and exploration using a social cognitive career theory framework. *Journal of Adolescence, 34*, 163-172.

Rosa, P. (2007). Self-enhancement strategies, self-view and school environment as building blocks for college teachers' expertise. *Asia Pacific Education Review, 3*, 386-396.

Royer, J. (1979). Theories of the transfer of learning. *Educational Psychologist, 14*, 53 - 69.

Ryan, R. (1999). How TAFE became 'unresponsive': A study of rhetoric as a tool of educational policy. *Australian and New Zealand Journal of Vocational Education Research. 7*(2), 105-127.

Ryan, R. (2011). *How VET responds: A historical policy perspective.* Adelaide, SA: NCVER.

Ryle, G. (1949). *The concept of mind*. London: Hutchinson University Library.

Savickas, M. L. (2001). A developmental perspective on vocational behaviour: Career patterns, saliance and themes. *International Journal for Educational and Vocational Guidance, 1*, 49-57.

Savickas, M. L. (2002). Career construction: A developmental theory of vocational behaviour. In D. Brown (Ed.), *Career Choice and Development* (4th ed.). San Francisco, CA: Jossey-Bass.

Schneider, M. A. (1997). Social dimensions of epistemological disputes: A case of literary theory. *Social Perspectives, 40*, 243-264.

Schreiber, R.S., & Stern, P (2001). *Using grounded theory in nursing*. New York: Springer.

Schon, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

Schon, D. A. (1987). *Educating reflective practitioner: Towards a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.

Schuller, T. (2004). Three capitals: A framework. In T. Schuller, J. Preston, C. Hammond, A. Brassett-Grundy, & J. Bynner (Eds.), *The Benefits of Learning: The impact of education on health, family life and social capital*. London: Taylor & Francis.

Schunk, D. H., & Usher, E. L. (2011). Assessing self-efficacy for self-regulated learning. In B. J. Zimmerman & D. H. Schunk (Eds.), *Handbook of self-regulation of learning and performance* (pp. 282-297). New York: Routledge.

Scott, C. (2015). *Learn to teach: Teach to learn*. Port Melbourne. Victoria: Cambridge University Press.

Sen, A. (1993). Capability and well-being. In M. Nussbaum & A. Sen (Eds.), *The Quality of Life*: Oxford Scholarship Online.

Sennett, R. (2009). *The Craftsman*. London: Penguin Books.

Siegal, H. (1988). *Educating Reason*. New York: Routledge.

Simons, M., & Yaringa, A. (2014). Assessment in the VET Sector. In K. R Brennen & L. Atkins (Eds.), *Teaching in the VET Sector in Australia*. Macksville, NSW: David Barlow Publishing.

Skills Australia. (2009). *Foundations for the Future*. Canberra: Skills Australia.

Smith, E., & Keating, J. (2003). *From Training Reform to Training Packages*. Tuggerah: Social Science Press Australia.

Smith, E., Walker, A., & Brennan-Kemmis, R. (2011). Understanding the psychological contract in apprenticeships and traineeships to improve retention. Adelaide, SA: NCVER.

Smith, P. (2001). Learners and their workplaces: Towards a strategic model of flexible delivery of training in the workplace. *Journal of Vocational Education & Training, 53*(4), 609-628. doi: 10.1080/13636820100200180

Smith, P. (2002). Modern learning methods: Rhetoric or reality. *Personnel Review, 31*(1), 103-113.

Somekh, B., Burman, E., Delamont, S., Meyer, J., Payne, M., & Thorpe, R. (2011). Research in the social sciences. In B. Somekh & C. Lewin (Eds.), *Theory and methods in social research*. London: Sage.

Somekh, B., & Lewin, C. (2011). *Theory and methods in social research* (2 ed.). London: Sage.

Spratt, M., Humphreys, G., & Chan, V. (2002). Autonomy and motivation: which comes first? *Learning Teaching Research, 6*(3), 245-266.

Stern, P. (1994). Eroding grounded theory. In J. Morse (Ed.), *Critical issues in qualitative research*. Thousand Oaks: Sage.

Stern, P. (2007). On Solid Ground: Essential properties for growing grounded theory. In A. Bryant & K. Charmaz (Eds.), *The SAGE handbook of grounded theory*. Thousand Oaks, CA: Sage.

Stern, P. (2009). In the beginning Glaser and Strauss created grounded theory. In J. Morse, P. Stern, J. Corbin, B. Bowers, K. Charmaz, & A. Clarke (Eds.), *Developing grounded theory: The second generation*. California: Left Coast Press.

Stern, P., & Kerry, J. (2009). Example: Restructuring life after home loss by fire. In J. Morse, P. Stern, J. Corbin, B. Bowers, K. Charmaz, & A. Clarke (Eds.), *Developing grounded theory: The second generation*. California: Left Coast Press.

Sternberg, R. J. (1982). Reasoning, problem solving and intelligence. In R. J. Sternberg (Ed.), *Handbook of human intelligence* (pp. 225-307). Cambridge, NY: Cambridge University Press.

Strauss, A. (1991). *Qualitative analysis for social scientists*. New York: Cambridge University Press.

Strobel, J., & Pan, R. (2011). Compound Problem Solving: Insights from the workplace for engineering education. *Journal of Professional Issues in Engineering Education and Practice, 137*(4), 215-221.

Stuckey, H. L., Taylor, E. W., & Cranton, P. (2013). Developing a survey of transformative learning outcomes and processes based on theoretical principles. *Journal of Transformative Education, 11*(4), 211-228. doi: 10.1177/1541344614540335

Sullivan, L. E. (2009a). Self-efficacy (Education). In L. E. Sullivan (Ed.), *The SAGE glossary of the social and behavioural sciences*. Thousand Oaks: SAGE Publications.

Sullivan, L. E. (2009b). Self-efficacy (Psychology). In L. E. Sullivan (Ed.), *The SAGE glossary of the social and behavioural sciences*. Thousand Oaks: SAGE Publications.

Taylor, F. W. (1915). *Principles of scientific management*. New York, NY: Harper and Brothers.

Taylor, J. E. (2008). Fostering Self-directed Learning and Transformative Learning: Searching for connections. *International Journal of Self-Directed Learning, 5*(2), 23-34.

Teddy, S. D., Yap, F., Quek, C., & Lai, E. M.-K. (2010). A neurocognitive approach to decision making for the reconstruction of the metabolic insulin profile of a healthy person. In L. C. Jain & C. P. Lim (Eds.), *Handbook on decision making*. Berlin: Springer.

Thomson, P., Mathers, R., & Quirk, R. (1996). The grade debate: Should we grade competency based assessment? Adelaide, SA: NCVER.

Tiedeman, D. V. (1979). *Career development: Designing our career machines*. Schenectady, NY: Character Research Press.

Tomlinson, M. (2013). *Education, work and identity*. London: Bloomsbury.

Tough, A. (1967). *Learning without a teacher: Educational Research Series No. 3*. Toronto: Ontario Institute for Studies in Education.

Tough, A. (1979). *The adult's learning projects: A fresh approach to theory and practice in adult learning*. Toronto: Ontario Institute for Studies in Education.

Vickerstaff, S. A. (2003). Apprenticeships in the 'golden age': Were youth transitions really smooth and unproblematic back then? *Work, Employment and Society, 12*(2), 269-287.

Vickerstaff, S. A. (2007). 'I was just the boy around the place': What made apprenticeships successful? *Journal of Vocational Education and Training, 59*(3), 331-347.

Vroom, V. (1964). *Work and motivation*. New York: Wiley.

Vygotsky, L. S. (1978). *Mind in Society: The development of a higher psychological process*: Harvard University Press.

Watts, A. G. (2001). Donald Super's influence in the United Kingdom. *International Journal for Educational and Vocational Guidance, 1*, 77-84.

Wenger, E. (Ed.). (1998). *Communities of Practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.

Wheelahan, L., & Moodie, G. (2011). Rethinking skills in vocational education: From competencies to capabilities. Sydney, NSW: Board of Vocational Education and Training.

Whitehead, A. N. (1929). *The aims of education*. New York: Macmillian.

Wibrow, B. (2011). Employability skills: At a glance. Adelaide, SA: NCVER.

Woods, P. (1983). *Sociology and School*. London: Routledge & Keegan Paul.

Yasuka, K. (2014). Language, literacy and numeracy in VET teaching. In K. R. Brennen & L. Atkins (Eds.), *Teaching in the VET sector in Australia* (pp. 95-109). Macksville, NSW: David Barlow Publishing.

Yates, J. F. (2003). *Decision management: How to assure better decisions for your company*. San Francisco, CA: Jossey-Bass.

Yates, J. F., & Tschirhardt, M. D. (2006). Decision-making expertise. In K. A. Ericsson, N. Charness, P. F. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance*. Cambridge: Camdridge University Press.

Yiu, T. W., Cheung, S. O., Asce, A. M., & Siu, L. Y. (2012). Application of Bandura's self-efficacy theory to examining the choice of tactics in construction dispute negotiation. *Journal of Construction Engineering and Management, 138*(3).

Young, R., Colin, A. (2004) Introduction: Constructivism and social constructivism in the career field. *Journal of Vocational Behavior, 64, 373-388.*

Zigler, E. F., & Bishop-Josef, S. J. (2006). The cognitive child versus the whole child: Lessons from 40 years of Headstart. In D. G. Singer, K. Hirsh-Pasek, & R. M. Golinkoff (Eds.), *Play = Learning: How play motivates and enhances children's cognitive and social-emotional growth*: Oxford University Press.

Zimmerman, B. J. (1989). Models of self-regulated learning and academic achievement. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulated learning and academic achievement: Theory, research and practice*. New York: Springer-Verlag.

Zimmerman, B. J. (2010). Becoming a self-regulated learner: An overview. *Theory into practice, 41*(2), 64-70.

# Appendices

## Appendix A

University of Southern Queensland

Memorandum

**To:** Damien Pearce

**CC:** Dr Mark Dawson, Supervisor

**From:** Manager, Research Integrity and Governance

**Date:** 23 April 2013

**Re:** **Ethics application**

The Chair of the USQ Human Research Ethics Committee has assessed your revised ethics application and determined that your proposal meets the requirements of the *National Statement on Ethical Conduct in Human Research (2007)*. Your project has been endorsed and full ethics approval granted.

| | |
|---|---|
| Project Title | Self-directed learning and apprenticeships: a constructivist grounded study |
| Approval no. | H13REA049 |
| Expiry date | 28 February 2016 |
| HREC Decision | **Approved** |

The standard conditions of this approval are:

(a) conduct the project strictly in accordance with the proposal submitted and granted ethics approval, including any amendments made to the proposal required by the HREC

(b) advise (email: ethics@usq.edu.au) immediately of any complaints or other issues in relation to the project which may warrant review of the ethical approval of the project

(c) make submission for approval of amendments to the approved project before implementing such changes

(d) provide a 'progress report' for every year of approval

(e) provide a 'final report' when the project is complete

(f) advise in writing if the project has been discontinued.

**For (c) to (e) forms are available on the USQ ethics website: http://www.usq.edu.au/research/ethicsbio/human**
**For (d) and (e), diarise the applicable dates *now t*o ensure compliance with reporting requirements.**

Please note that failure to comply with the conditions of approval and the *National Statement (2007)* may result in withdrawal of approval for the project.

**You may now commence your project. I wish you all the best for the conduct of the project.**

If you have any further queries please do not hesitate to contact me on 4631 2690 or ethics@usq.edu.au

**Melissa McKain**

Office of Research & Higher Degrees

Canberra Institute of Technology
Workplace • Online • Campus | cit.edu.au

23 May 2013

Damien Pearce
PO Box 6205
KINGSTON
ACT 2604

Dear Damien

**Re: Request to conduct research at the Canberra Institute of Technology**

Your application to conduct research at the CIT for the project entitled '*Self-directed learning and apprenticeships: a constructivist grounded study'* has been considered.

Approval is granted for you to continue the project from today until the anticipated completion date stated in the application, 1/12/14.

Your approval reference number is 02/2013

The following general conditions apply to your approval. These conditions are in line with the *National Statement on Ethical Conduct in Research Involving Humans* (2007):

- The research is conducted in full accordance with the details outlined in the application and accompanying project documentation.
- You must report to the Manager, Quality and Innovation, CIT Education Excellence, and research participants any changes or events that may warrant review of the research application and why including proposed changes in scope, process or unforseen events. This information is to be supplied as soon as changes are known.
- At completion of the research, you will provide a report to the CIT via the Manager, Quality and Innovation, CIT Education Excellence. The report should include a description of how the project progressed against the aims and the outcome(s) including a description of how the results will be used.
- If for any reason the research is discontinued, you will advise the Manager, Quality and Innovation, CIT Education Excellence, in writing within two weeks.
- Where it is deemed that continuance of the research project will compromise participants' welfare, you will be requested to suspend the research until measures are put in place to protect participants or the research is withdrawn.
- If your project will not be completed by the expiry date stated in the application, you must apply in writing for an extension. This application should be made before the current approval expires with reasons for the request.
- You should advise the Manager, Quality and Innovation, CIT Education Excellence, of any change of contact details during the approval period including phone numbers and email address(es).

Any complaints received about your project will be handled in line with Chapter 5.6 of the National Statement on Ethical Conduct in Research Involving Humans (2007)



Canberra Institute of Technology | GPO Box 826, Canberra, 2601 Australia | T +(61) 02 6207 3188 | cit.edu.au
CIT Bruce | CIT Fyshwick | CIT Gungahlin | CIT Reid | CIT Tuggeranong | CIT Woden | ABN 432 737 96 990 | CRICOS No. 00001K

The Manager, Quality and Innovation, can be contacted through CIT Education Excellence on 6205 7814.

Yours Sincerely

William Nauenburg
A/g Director
CIT Education Excellence

Cc: Carolyn Grayson, Chair CIT Research Ethics Committee and Acting Executive Director–Academic
Glenn Carter, Director, CIT Building and Environment

# Appendix C: Permission to conduct research (ACT


14th March 2013

1800 454 095
02 6257 8466
office@actapprenticeships.com.au
3 Rosevear Place, (Po Box 361)
Dickson ACT 2602
ABN: 69 663 494 350

Damien Pearce
PO Box 6205
Kingston ACT 2604
pearcedp@gmail.com

Dear Damien,

ACT Apprenticeships is happy to give you permission to conduct a study within this organisation about the advancement of learning within our apprentices.

As discussed during our last meeting, I have agreed to approach up to 7 (seven) apprentices and their host employers to participate in this study. I understand that participation is strictly voluntary with the possibility of withdrawal from the study without any negative consequences.

I can also confirm that the apprentices will be called back from their host employers so the interviews can be conducted within our premises, away from workplace influences.

Regards,

Peter Andersen
General Manager

# Appendix D: Sample interview questions

**Apprentice Interview Questions** (to guide interviews)

**Initial Open-ended Questions**

- Tell me about how you became an apprentice.
- What do you like best about your job?
- How do you see your role within the workplace?
- How do you keep yourself motivated?
- What sort of decisions do you make when at work?
- What do you do if you make a mistake?
- When you need help at work where do you go?
- What do you do if you don't understand the help you were given?

**Intermediate Questions**

- What skills or expertise did you bring to the workplace?
- What other prior knowledge do you think employers are looking for in apprentices?
- How would you describe or identify yourself as a learner?
- How do you think you learn best?
- How do you deal with people when you don't understand what they mean or where are they coming from?
- Have you any ideas how learning could be advanced within apprenticeships?

I am particularly interested in the idea of self-directed learning. Basically, self-directed learning is the idea that individuals take initiative, with or without the help of others, to work out their learning needs.

- How involved are you in the decision making to improve the business?
- Give an example where you have taken initiative in the workplace? What was the outcome?
- Have you helped anyone learn in the workplace? What was involved? What did they learn?
- How do you help others to cope with major change?
- What is the best way to become more open to the views of others (like doing a job a different way)?
- How are you going to prepare yourself for the future? What are your plans?
- Do you think being a self-directed learner will help you in your future ambitions? Explain how?

**Final Questions:**

- How have you grown since you started your apprenticeship?
- From your learning experiences what advice would you give to others?
- Is there anything you wish to add that you not might have thought of during the interview?
- Have you been comfortable about this interview process?
- Is there anything that you would like to talk about that we haven't covered?

Adapted from: Charmaz (2006, p. 30)

**Host Employer Interview Questions** (to guide interviews)

**Initial Open-ended Questions**

- Tell me about what your apprenticeship was like.
- What did you like best about being an apprentice?

- How do you see your see the apprentice's role in the workplace?

- How do your apprentices keep motivated?

- How do you help your apprentices stay motivated?

- What sort of decisions do you want your apprentices to make at work? 1st, 2nd, 3rd and 4th year?

- What do you expect in the workplace when mistakes are made?

- When you don't understand something in the workplace where do you go for assistance?

**Intermediate Questions**

- What skills or expertise did you want apprentices to bring to the workplace? Do you find they bring those skills or expertise?

- How do think you learn best?

- How do you think apprentices learn best?

- How do you deal with people when you don't understand what they mean or where are they coming from?

- What do you think are the main differences between apprentices to today, and say when you did your apprenticeship?

- Have you any ideas how learning could be advanced within apprenticeships?

I am particularly interested in the idea of self-directed learning. Basically, self-directed learning is the idea that individuals take initiative, with or without the help of others, to work out their learning needs.

- What do you think the difference is between a newly qualified (novice) and expert tradesperson is?
- How do you involved apprentices decision making to improve the business?

- What do you think is the best way to help apprentices develop their trade skills?

- What is the best way to become more open to the views of others (like doing a job a different way)?

- How do you think apprentices should prepare themselves for the future?

- How do you conceptualise the relationship between apprentice and host employer?

**Final Questions:**

- How do you think apprentices grow during their apprenticeship?

- From your learning experiences what advice would you give to others?

- Is there anything you wish to add that you not might have thought of during the interview?

- Have you been comfortable about this interview process?

Adapted from: Charmaz (2006, p. 30)

**Teacher Interview Questions** (to guide interviews)

**Initial Open-ended Questions**

- Tell me about what your apprenticeship was like.
    - What was you best and worst experiences?

- What did you like best about being an apprentice?

- How do think you learn best?

- When you don't understand something in the workplace where do you go for assistance?

- How do you see your see the apprentice's role in the workplace?

- How do your apprentices keep motivated to learn?

- What do you expect in the learning environment mistakes are made?

**Intermediate Questions**

- What skills or expertise did you need apprentices to bring 'off the job' learning environment?
- What skills or expertise did you need apprentices to bring 'on the job' learning environment?

- How do you think apprentices learn best?

- How do you deal with people when you don't understand what they mean or where are they coming from?

- What do you think are the main differences between apprentices to today, and say when you did your apprenticeship?

- Have you any ideas how learning could be advanced within apprenticeships?

    - What is the most challenging part of your job?
    - How could your job be made easier?

I am particularly interested in the idea of self-directed learning. Basically, self-directed learning is the idea that individuals take initiative, with or without the help of others, to work out their learning needs.

- Have you seen this type of behavior in apprentices, and how do you believe these qualities develop in apprentices?
- What experiences are detrimental to the development of apprentices who could become self-directed learners and why do you believe they are detrimental?
- If you were to suggest strategies for the development of apprentices who are self directed learners, what would they include and why should they be included?
- How do you promote apprentices making decisions and taking responsibility for their learning at CIT?
- What do you think is the best way to help apprentices develop their trade skills and knowledge?

- What is the best way to become more open to the views of others (like doing a job a different way)?

- How do you think apprentices should prepare themselves for the future?

- How do you conceptualise the relationship between the apprentice, host employer and yourself?

- As a vocational teacher what does self-directed learning mean to you?
- There seems to always be an ongoing discussion what is “contemporary vocational pedagogy”. What do you think this means and how does it, or should it, impact your professional practice?

**Final Questions:**

- How do you think apprentices grow during their apprenticeship?

- Have you any comments or thoughts about the effectiveness of group training approaches to apprenticeships?

- From your learning experiences what advice would you give to others?

- Is there anything you wish to add that you not might have thought of during the interview?

- Have you been comfortable about this interview process?

Adapted from: Charmaz (2006, p. 30)

Charmaz, K. (2006). *Constructing Grounded Theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: SAGE Publications

# Appendix E: Participant letter of consent

**THE UNIVERSITY OF SOUTHERN QUEENSLAND**

**Doctoral Program in Education**

**LETTER OF CONSENT TO PARTICIPATE IN RESEARCH**

**Project Title:**

***"Self-directed Learning and Apprenticeships"***

**Purposes of the Study:**

The purpose of this research project is to develop a deep understanding of how the capacity for self-directed learning is advanced within apprenticeships.

**Non-participation Statement:**

Participation in this study is voluntary, and the participants who agree to be interviewed may refuse to participate or withdraw at any time without any negative consequences.

**Procedures:**

First, a face-to-face interview will be arranged and held with one participant at a time, and each interview is expected to last for approximately 1 hour. If required and mutually agreed, follow-up interviews may be arranged.

All interviews will be digitally recorded with contemporaneous notes being compiled by the researcher. In a timely fashion, the interviews will be transcribed and provided to each participant for validation and elaboration as required. The final report will be made available to participants upon completion.

**Confidentiality:**

The preservation of anonymity and confidentiality during this research project is of primary importance. Each participant, in consultation with the researcher, will be asked to nominate a chosen pseudonym. The pseudonym will be the only representation used to reflect the information and views obtained from the participants to ensure that no data can be linked back to individuals, to maintain confidentially.

Information that is provided will be stored to protect the confidentiality and identity of the participants by; (a) contemporaneous notes will be filed and locked in a storage container (such as a secure brief case); (b) recordings and transcripts will be stored on the researchers'

password protected personal note book; and, (c) information will be stored securely within the researchers residence for safe keeping.

**Potential Risks and Benefits:**

There are no apparent risks to study participants. The study provides an opportunity for participants to verbalise their thoughts, experiences and opinions about the advancement of self-directed learning within apprenticeships. This study will also give the participants the opportunity to reflect on their professional practice, workplace environment, and organisational culture.

Ultimately the benefit to the participant is two fold. Firstly it will provide an identification of emerging approaches to learning within apprenticeships that will facilitate on-going debate, reflection and benchmarking. Secondly, the development of a substantive theory about self-directed learning in apprenticeships will help to improve learning within apprenticeships into the future.

**Publication Statement:**

This study will be submitted to fulfil the requirement for a research dissertation for a professional doctoral program in education at the University of Southern Queensland. A whole or part of the study may be published in academic journals or books. It may also be used for professional presentations and educational purposes. Irrespective of a medium of presentation, the identity of the participants will be protected and confidentiality ensured.

READ THE FOLLOWING STATEMENTS CAREFULLY

**Participant Rights:**

1. I understand that informed consent is required of all persons participating in this study.

2. All procedures have been explained to me as well as any potential risks/discomforts and benefits.

3. All questions have been answered. I understand that I may direct my questions to the chief researcher, Damien Pearce, at pearcedp@gmail.com or +61 422 055 356.

4. I understand that if I wish to make a complaint about any aspect of the study I may do so by contacting the NHMRC Secretary, USQ Human Research Ethics Committee at +61 746 312 956.

5. I have been informed of my right to refuse to participate or to withdraw from this study at any time before or during the study. I may also refuse to answer any question.

6. All information that is obtained in connection with this study and that can identify me will remain confidential as far as possible. Information gained from this study that might identify me may be released to no one except the chief researcher, Damien Pearce. The results may be published in, professional journals, or educational presentations without identifying me by name.

**I HAVE READ THIS CONSENT FORM AND HAVE BEEN GIVEN THE OPPORTUNITY TO ASK QUESTIOINS, WHICH I HAVE RECEIVED ANSWERS FOR. I CONSENT TO PARTICIPATE IN THIS STUDY.**

**Study Participants (print name):**

**_____**

**Signature of Study Participant:**

**_____**

**Date:**
**_____**

----------DO NOT WRITE BELOW THIS LINE----------

THE SUBJECT HAS READ THIS FORM, AN EXPLANATION OF THE RESEARCH WAS GIVEN AND QUESTIONS FROM THE SUBJECT WERE ANSWERED TO THE SUBJECT'S SATISFACTION.

Chief Investigator (print name and title):

Damien Pearce

Signature of Chief Investigator:

_____

# Appendix F: Peer reviewed conference paper (abstract)

## Self-directed learning and apprenticeships: An emerging grounded study

AVETRA 17th Annual Conference, Surfers Paradise, Queensland Australia, 22-24 April 2014

*Damien Pearce, University of Southern Queensland, pearcedp@gmail.com*

### Abstract

This emerging doctoral research is concerned with apprenticeships within traditional trade areas that are employed by a Group Training Organisation (GTO) operating within the Australian Capital Territory and Southern New South Wales geographical regions. Using constructivist grounded theory, data collection and concurrent analysis has commenced, with the researcher using semi-structured interviews of apprentices, supervisors and vocational teachers to understand the processes associated with the development of self-directed learning by apprentices. This paper seeks to engage practitioners and researchers within the Vocational Education and Training (VET) community in identifying and discussing the concept of *finding value.*