Stolen knowledge: Student knowing in workplace practice

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The research reported in this article attends to the learning and knowing that students experience in workplace practice. The research enquiry is propelled by the theories of workplace learning and the recent 'practice turn' in the literatures of organisational studies that accommodate student learning that is impromptu and emergent in the workplace. This research makes a contribution by momentarily decoupling student learning in the workplace from purposeful educational perspectives, to better understand the unscripted knowledge that students acquire in practice. With stronger awareness of this alternate pedagogy, student experiences of work can be enfolded by greater understanding and authenticity in the academy. Using a grounded theory approach, students returning from internships were asked to discuss their learning experiences, what and how they learned. The data were analyzed for emerging categories and a conceptual framework titled *Student Knowing in Workplace Practice* is reported in this article.

Keywords: stolen knowledge; work-integrated learning; practice; experiential learning; situated learning; grounded theory

"Stolen knowledge" is learning acquired without teaching (Brown & Duguid 1996, p.47). It often takes place during participation in social workplace practice and is characterized by an uneven, unfinished series of circumstances and interactions (Brown & Duguid, 1996). During practice, understandings are constructed amid activity and without prior specification of expected learning. Brown and Duguid (1996) legitimized the need to steal practice knowledge arguing that it cannot be made explicit and most attempts to do so are problematic.

Tertiary educational institutions are often purposeful educators, and as certified learning providers, they establish strong associations between teaching and learning (Billett, 2001). Constructivist pedagogies are favoured in many circumstances, but usually in the service of defined learning outcomes and syllabi. The curriculum is set. Remaining centre-stage, tertiary institutions frequently include workplace experiences in the curriculum. Specific purposes, such as improving graduate employability (Ferns, Dawson, & Howitt, 2019) and allowing students to map theoretical knowledge to practice (Martin & Rees, 2019) are frequently proffered when workplace experiences are embedded in tertiary programs.

The learning that takes place in workplace practice and the learning that is designed by institutions of higher education have distinct cultures and theoretical perspectives (Kennedy, Billett, Gherardi, & Grealish, 2015). The academy increasingly recognizes the workplace as provider of pivotal pedagogical approaches for producing work-ready graduates and of learning experiences that cannot be achieved by educational institutions (Gherardi, 2015; Ferns et al., 2019). In this, a discord is established, tertiary institutions value and enable workplace learning for students, whilst wrapping it in the established ways of academic teaching. Kennedy et al's (2015) 'jostling' of educational cultures is at play.

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This research illuminates and conceptualizes the learning that higher education students experience when they enter a workplace practice, with an aim to alleviate the jostling cultures and discord between tertiary education and workplace practice. The study explores and theorizes the substance and nature of the actual learning that takes place when tertiary students enter a workplace practice, usually for a short and finite time. It offers a conceptual framework to describe the outcomes of this empirical study.

THEORETICAL BACKGROUND

To date, approaches to research in student workplace learning are largely framed from the perspective of the educating academy. They include: how best to assess workplace experiences against prescribed learning outcomes (Cooper, Orrell, & Bowden, 2010), the nature of employer evaluations (Nevison, Cormier, Pretti, & Drewery, 2018), the role of the academic and the host supervisor and the nature of that partnership (Choy & Delahaye, 2011), and the use of online technologies in work integrated learning (WIL) (McNamara & Brown, 2009).

The literatures of learning and knowing in workplace practice and the recent "practice turn" (Gherardi, 2015 p. 176) in the literatures of organisational studies provide alternate theory to illuminate student learning in the workplace. Preferring the term *knowing*, to describe the conception of knowledge as activity in workplace practice, Blackler (1995, p. 1021) described it as "mediated, situated, provisional, pragmatic and contested". For Gherardi (2006), learning and knowing are not separate; they are embedded in the flow of experiences in everyday practices and are part of human existence. Practice-based studies provide a counter to the extensive use of cognitivist and rational approaches to understanding workplace learning. Importantly, Cook and Brown (1999, p. 381) claim a "generative dance" between knowledge and knowing. Knowledge is a tool that brings discipline to knowing, and knowing-in-practice creates new knowledge.

In 2014, Higgs attended to the invisibles of practice, which she described as "deliberately or inherently undisclosed" and "hard to articulate" (p. 257), and which consisted of ways of knowing and thinking, norms, and discourses. Higgs (2014) suggested that the invisibles of practice were immeasurable and, therefore, were difficult to assess. Arguing that "assessment cannot be separated from learning" (p. 265), Higgs called for the re-interpretation of assessment in the academy so that the invisibles of practice could be included. Boud (2016) also deliberated on the assessment of the learning that occurs in workplace practice, particularly in light of the conceptualisation of practice as having an existence that cannot be deconstructed to identify an individual's contribution. In these musings, the pedagogy and traditions of university teaching intrude into an alternate and lesser-known pedagogy of workplace learning, one that does not give prominence to assessment. Gherardi (2015, p. 174) acknowledged that learning in practice "furnishes a form of knowledge different from that provided by formal education" and argued that until these differences are better known and theoretically specified "there is not awareness of the different productions of the two fields of educational practice" (p. 175).

Acknowledging the discord between cultures of education in the academy and in workplace practice, Kennedy et al. (2015) and Gherardi (2015) expanded education as a social practice to include government and professional associations. Professional associations attempt to specify the specific knowledge and skills of a profession and exert control by accrediting (or not) qualifications that are designed within the academy. In the name of quality, governments and associated agencies, set out to standardize and regulate the way in which tertiary education is practiced in any one nation. Gherardi (2015) argued that the four entities of academia, workplace practice, government and professional association have "jurisdiction over different domains of professional knowledge" (p. 179) and are

intertwined practices that give texture to education as epistemic object. Each of the four jostling educational cultures have influence and agency.

Boud (2016) acknowledged practice theory as a beneficial theoretical lens that has potential to enrich and extend understandings of student learning in the workplace, albeit in the service of deliberate course design that scaffolds a student into learning in practice. Conceptually, Billett (2015) explored a more meaningful integration of student workplace learning experiences and the academy's approaches to curriculum.

This research makes a contribution by momentarily decoupling student learning in the workplace from purposeful education perspectives, to better understand the stolen knowledge that students acquire in practice. It foregrounds student learning that cannot be predicted nor achieved by the academy, that is situated and acquired in workplace complexity and activity. In this way, it contributes empirical knowledge to calls for greater integration between learning in academy and learning in practice (Kennedy et al., 2015; Gherardi, 2015). This study aimed to illuminate tertiary student learning in practice and to grant it greater privilege by framing the following question: What and how do tertiary students learn from short term engagement in workplace practice?

RESEARCH DESIGN

The design of this investigation heeds Brown and Duguid's (1996) claim that "to understand learning and what is learned in any interaction, you have to investigate from the point of view of that learning". Students who had experienced learning in situated practice were the source of the data that informed the research outcomes. The methodology of constructivist grounded theory, which promotes social research as a process of conceptualisation from data and outlines a systematic and defined procedure for collecting and analysing data, was employed in this study. Grounded theory is useful for revealing the unrecognized and establishing patterns; it emphasizes understanding (Charmaz, 2006). The realities of student learning in practice is relatively unexamined; the insights, subtleties and realities of emergent student learning in practice are well fitted to the methodology of grounded theory (Bytheway, 2018). Theoretical outcomes of this study are presented as a framework, constructed from the concepts and constructs that emerged from the analysis of the data (Figure 1).

This research problem was not amenable to quantification. A qualitative approach was taken to enable a greater understanding of impromptu student learning and knowing in workplace practice, and that data was sought in discourse with students when they return from practice. The research is not disciplinary based; rather it includes students who are entering a workplace as part of their course of study in any field of education. This approach was approved by the University of Canberra's Human Research Ethics Committee with an approval number, HREC 17-177.

Data were collected at three Australian sites; the University of Canberra, the University of Wollongong and Flinders University, and was acquired from tertiary undergraduate and postgraduate students on their return from a workplace experience that is a formal component of their chosen course of study. The timing for data collection was critical in this research; it was important to capture the thoughts and perceptions of student soon after their return from the workplace when the experiences were recent, and reflection and reporting were more effective.

Focus groups and interviews were the methods of data collection. Focus groups of two to four students were formed in the early stages of the research, and over the course of one and a half hours, the students were prompted to reflect upon and interpret their learning in the workplace. Once a preliminary

analysis of the data was in place, single students were interviewed to confirm and enrich the emergent conceptual framework. The data were digitally recorded and subsequently transcribed by a professional transcription service. In "a continuous interplay between analysis and data collection" (Strauss and Corbin 1998, p. 156), data was collected and analysed in phases that are marked by teaching semesters.

Phase 1: Six focus groups, across two universities, were held in the first phase of the study and the data were coded using the software NVivo as a tool. All data were carefully open coded on a phrase or incident basis to reveal its analytic import (Charmaz, 2006, p. 42). Once complete, the researchers identified the preliminary categories and their relationships.

Phase 2: Four interviews with individual students were conducted at a third university and the analysis shifted to a focused coding phase in which data was compared to the emerging conceptual pattern to inform its development. The focused codes that had overriding significance were retained as categories.

Phase 3: During this phase the researchers were working with a maturing conceptual framework. Three more interviews were conducted to reinforce and enrich the patterns that had been discovered in the data and to confirm theoretical saturation, the point at which the collection of new data can cease. Charmaz (2006, p. 113-114) pointed out that "categories are saturated when gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of these core theoretical categories".

FINDINGS

Five major constructs gave structure to the conceptual framework that emerged from analysis of data: (1) Working, (2) Understanding Self, 3) Learning, and (4) Communicating, and (5) Embracing Multidisciplinarity. Each of these constructs and the way in which data has informed each construct is discussed in this section. Throughout this article, pseudonyms are utilized when data, provided by participants, are used to illustrate conceptualisations and inform the reader.

1) Working

Work and working are central to the way humans exist and organize their world. Cairns and Malloch (2011, p. 6) viewed work "as purposive effort by an individual to initiate activity or respond to an issue or problem in a range of situations for some perceived (by them) productive end". Learning to work and adjusting to specific workplace cultures are prominent preoccupations of university students. The cultures and norms of workplaces often required interpretation and adaptation by individual students. For one participant, entering the workplace of an Australian Embassy of a Middle Eastern nation, there was a significant cultural difference that was difficult to adopt:

> I had trouble getting into the new routine, everyone that works there is from the Middle East, they have very different styles of working, just whole afternoons talking about history and culture and things like that, but to them, that was still considered a really productive work day (Erin).

Another student who entered a sensitive social work practice was confronted with the reality that confidentiality did not exist for any clients. Conversations about each client were held in open forum of all who worked in the practice. This was at odds with her expectations and what she had been taught at university. Dianne reports: "confidentiality, it was really quite obvious to me quickly, that it didn't

exist. They would say 'what happens in here stays in here' - there was no protocol for informed consent or confidentiality, which I thought was weird".

The cultures and norms of workplace practices are often well established when students arrive and student's prior expectations and academic learning about the characteristics of work sometimes diverge from the reality. A considerable learning challenge for students is to relinquish their pre-conceptions.

Research participants expressed great concern about choosing when to adopt a formal or informal stance in the workplace. They grappled with the right way to dress, interact and converse. Having a set of formal and professional standards in their mind, students were confronted with workplace practices that celebrated social interaction and enjoyment in the workplace. This was foreign to students' expectations and required them to quickly reconsider the formality of work.

> There were people in shirts and shorts without shoes on, every Friday they'd have beer and they'd come along and give you a big Stein and say "here you go, it's Friday!" They'd do pizza run, Maccas run, all sorts of things that you don't associate with a professional workplace (Simon).

Caza and Creary (2016) considered the construction of a professional identity by an individual. They described "the increasing complexity and plurality of professional work roles" (p. 260) and suggested that the use of profession is now best served as adjective rather than noun. An individual's professional identity is actively constructed by the individual in social interaction with others in the workplace; it is the way in which individuals assign meaning to themselves. An individual's professional identity subsequently directs their behaviours, attitudes and decision-making (Caza & Creary, 2016).

Students in this study verbalized their shaping of a professional identity. Gayle reported the changes in her self-identification as a social worker. Prior to workplace learning, her professional identity was garnered by the opinions of others about her personality and how it might serve her as a social worker. In her comment below, Gayle signals that her professional identify has changed by her interactions with her supervisor, who has 'softened her'. Sophie has realized that her ability to be a tough person will not be part of her professional identity when she interacts with clients and acknowledges that it was her workplace socialization and learning that has brought this about.

> She's softened me, a lot of people thought when I went into social work, "you'd be great a social worker because you're really nice - you can also be a bit of a tough person". But I realized when you're one-on-one with clients there's no space for tough love at all (Gayle).

Gayle also realizes that her behaviour in life and at university will not serve her professional identity. From her social interactions in workplace contexts, she learns that she must shift away from her irritating and provocative behaviours as she constructs her identity as a professional, noting that it would not be possible to learn that at university: "So I realized I had to pull back a lot on how much of a smartarse I can be, which is a good thing to learn. You don't learn that in uni, you can be a smartarse in uni" (Gayle).

Students expressed their sense of professional belonging in the workplace and reported that they quickly began to feel like members of the practice, identifying as practitioner rather than student. They had become Lave and Wenger's (1991) "peripheral practitioner", an acknowledged novice, but someone who belonged to the practice. Steve describes this sense of professional belonging:

> They openly asked me about a specific advertisement idea and that made me feel part of the group and easier to be one of them. I am part of the team, rather than a fly in, fly out person. I liked it.(Steve)

However, there were exceptions to this positive sense of belonging and some students distinctly identified as tertiary education students throughout their workplace experience. Simon describes a workplace attitude that did not allow him a place in the practice, and to a large extent, blocked his development of a professional identity: "I always felt like a student, self-aware I was a student and was never like that mindset of 'I'm a worker here'. It was 'you're a student, an intern, do this, get out' sort of thing" (Simon).

When research participants were involved in producing artefacts there was much for them to learn about the ownership of that product. For some, there was a strong sense that the objects that they produced would bear their name and their reputation. Again, their professional identity was under construction in their concern about the enduring outcome of their participation in practice: "It needs to look good and you don't want your name on something, be remembered, like wishing I'd made something different" (Jeff).

For another student there was a need to let go of his sense of ownership. This student was accustomed to designing for himself at university; a situation in which he could be pleased with the output of his work. A difficult but necessary conclusion was drawn at work – that the client was the person who dictated the features of the final product.

> I had to detach myself and say this isn't for me, this is for the agencies' vision, I'm writing for their plan, so I need to change. So I need to just get over myself thinking "this is mine, they can't go changing it" (Simon).

Working with clients is a significant learning experience and a very different context to formal study at university. Clients have firm opinions and expectations that at times run counter to students' developing expertise.

2) Understanding Self

The self is an individual person as the object of his or her own reflective consciousness and is developed through social interaction, a product of sociocultural environments (Markus & Cross, 1990). The active engagement of the self may reject and disregard some social feedback whilst accepting and integrating other messaging from social interaction (Shrauger & Schoeneman, 1979). The rich, social context of work brought up challenges that provoked a significant amount of self-reflection for most students. Situations not before encountered were often formidable and exacting. One research participant in a primary school environment was given sole responsibility for a few students, when one student became violent to another, inflicting minor injuries. With no idea how to manage the incident that had occurred, the student reported a hiatus of not knowing and not being confident, before his trust in his own ability was strengthened and expanded:

> I spent a few weeks stuck in that cloud of not knowing if I was doing the right thing and not having that confidence. Now I am feeling more self-confident and trusting my own ability and knowing how to deal with the challenges that do come up (John).

Another student's reflection about herself followed a physical reaction to a stressful situation. She began shaking to the extent that she needed to sit down. She reflects and theorizes about what has happened to her and clearly has a newly acquired understanding of self:

> I didn't know I had triggers . . . so, I knew I had triggers but didn't know what they were. I learnt what they were and then I learnt how to cope with them because I got triggered really badly by this one incident and it sort of came out of nowhere (Gayle).

Many participants recounted the process of discovering more about the self and a corresponding development of confidence and resilience over the time that they were in the workplace. They were not the person that they were when they commenced. From a very tentative first few weeks and with a self-reported lack of confidence to be in the workplace, one reflective student recognizes that she was affected by a previous work setting that was untenable for her and from which she withdrew. She has pinpointed the social interactions that have impinged on her self-confidence and from which she is still recovering: "My self-confidence at the very beginning was low because I'd pulled out of a previous placement… So, I was becoming completely burdened by all that. It makes me want to cry when I think about it" (Cathy).

Many students of workplace learning feel overwhelmed on entry into practice. Preparation for workplace learning is ideally attended to by tertiary institutions (Horstmanshof & Moore, 2016) and yet it does not meet the needs of all students and workplace contexts. A student of journalism describes "being thrown in the deep end". She was told one morning at work that she was going out on her own to cover a public event that must be broadcast at 6pm that day. She reports: "I remember going into the bathroom, calling my partner - I got really upset, I was so anxious about going out on my own. So, it was really, really terrifying" (Alice). Another student reports significant bouts of distress and not being able to cope: "There were times when I was really overwhelmed, I was really overwhelmed, I started crying on placement" (Penny). These strong experiences and reactions suggest that some students in the workplace do not have the capability to self-reflect and to build the self from social engagement at work. Many may need support mechanisms to make sense of what is happening to them and to build positive conceptions of the self.

The workplace context provided students with an authentic experience of conflict and the opportunity to attempt to resolve workplace tensions. Research participants spoke of a range of conflict situations from manageable to out-of-control. One student was at odds with his supervisor because he perceived that he was being asked to do too much work. "He expected me to do things simply because he wouldn't want to do them" (Simon). Simon attempted to resolve this situation by proposing and seeking agreement from his supervisor for a documented division of work on each project saying "Hey, there's this four-pronged task, which two bits are you going to take"? He tried to make the relationship work as best he could, noting that it was not something he was experienced in. "I guess I had to wing it in a way" (Simon). With some success, Simon had managed the discordant situation in the interest of making the relationship work.

One research participant reflected on a severe conflict situation, which was not successfully resolved and left her feeling bewildered. Her supervisor and the manager above her had ongoing antipathy and it came to a head at a staff meeting.

> It just totally blew up and it just was slamming doors in faces, yelling, swearing. My supervisor was in tears and everybody was in shock. And she had used every single conflict management strategy that we were taught at university and it still didn't work (Meredith).

Meredith was shaken by that "one person that scared the living daylights out of you". Her reflection of this social environment was that it was extreme and that she was not equipped with any theoretical knowledge that she could draw on. She was still musing about the situation and its possible reoccurrence: "You never know when you're going to come across that type of person" (Meredith). This incident suggests that tertiary students that enter the workplace are not fully briefed on the range of mental health issues that they may encounter and when to accept that traditional conflict resolution techniques may not always apply.

3) Learning

Students apply theory and skills that they learn at university in the workplace. Most students reported that the application of knowledge learned at university is accompanied by new learning. Learning in practice is about applying knowledge in the real world and that was accompanied by new realizations: "It was bringing all the stuff we learn at uni and putting it into practice and working with the client. Because a role play is not the same as working with someone who's in psychosis" (Sonia).

In stark contrast to the workplace, university was described as structured and scaffolded, with clear guidelines. Assignments that were given seven weeks to produce, shifted to seven hours in the workplace. In the workplace "you need to figure out what you're doing and figure it out quickly. It was a really valuable skill how to think on my feet and how to get on with the task without really clear instructions" (Alice). In other cases of not knowing in the workplace, Google and YouTube were cited as sources of information that student relied upon to the gaps in their objective knowledge.

Students are aware of an extension to their university gained knowledge. They had learned the facts, legislation and policy surrounding many aspects of their chosen profession but remained quite unable to put it into practice. Working alongside expert practitioners, students learn the heuristics of practice. Many of the tips and techniques of practice are rarely known or discussed in the academic classroom. They are passed from expert-in-practice to novice entering that practice. Lawrence, commencing practice in a primary school, was very conscious of the legislation and reporting processes around child abuse in schools but was flummoxed when small children would come to him and give him a hug. His supervisor's advice was to give a child a quick hug and then break it off. In the playground the advice was more specific: "Wh en children come towards your hip, you can give them a hug on the side, rather than . . . front on . . . the side hug if you like" (Lawrence). When a child attempted to sit on Lawrence's lap, he was encouraged to tell them that it was against the rules, "and children get rules, they don't tend to question and that helped a lot "(Lawrence).

A much deeper understanding of theory is gained by students at work. A social work student participated in a family case conference, "everyone was there, every agency, and I got to meet mum, nan, grandpa and her siblings - you could just see it all broken down in front of you. And I really understood" (Alison). The fullness of the situation, and the attendance of all who were involved, provided a powerful realization and a profound personal learning experience.

Students have a sense of personalizing theory in the experience of work. Self-care was a theory learned at university, but John reported that it must be personal to be effectively practiced. "It's got to come from within, and what works for one doesn't work for another" (John). Another participant enacted the reflective practice learned at university to "take a step back and shut the noise off and focus" (Lawrence). He spent time, thinking about why people are doing things, not just reacting.

Students experience gaps in theoretical knowledge, aspects of not knowing, and needing to have learned more at university. For one participant joining practice in a school, learning about autism and the associated behavioural difficulties would have supported his practice to a much greater extent. For another student: "We were never prepared to deal with behaviour management, working through the protective practices. We never learned about protective practices in University" (Penny).

Students are aware of the ways in which they learn in workplace practice. Observing practice and shadowing a supervisor are prominent means of learning. Typical of the research participants, this student observes closely: "He allowed me to attend assessments with clients. And I was able to watch obviously open body language, all the stuff we learn about counselling, how he could redirect the conversation back" (Alison). Another student who was uncomfortable in talking to clients constructed an alternate stance, based on observing his supervisor: "he just spoke to them like they're human beings, we're all people, it is good to be formal, but not like you're speaking to the Queen" (Steve).

4) Communicating

Communicating was a great concern for students in workplace practice. Many of them talked about the importance of communication in the workplace as if it had been learned from textbooks. At a deeper level however, students were confronted with a practice discourse that was unfamiliar to them and challenged their communication with colleagues. Sonia describes this barrier and how she would write down a few words to learn later. "The social worker there talks like a textbook, I didn't know what he was saying half the time. But I did write down a few words" (Sonia).

In an interdisciplinary team in a hospital setting, one student described a regular Monday morning handover. The practice discourse of nurses was very unfamiliar to her and she found herself constantly asking them to explain their language. Medical jargon is assumed knowledge in a hospital and students have much to learn. Sonia reports: "I learned a lot of acronyms. BIBA, Brought In By Ambulance, in the electronic medical records you've got to read what everyone's written so you learn".

Conversely, one graphic design student found himself to be the only person with graphic design skills and knowledge in the workplace. It was his challenge to communicate graphic design to those around him. It was particularly difficult for him to bounce ideas off his colleagues and gain constructive feedback. Of necessity, he devised a way of creating mood boards of different images and particular styles; "then they were able to pick it out and go 'I like this one'" (Steve).

Students reported an unease in some of the informal discourse that they encountered. Penny's values were challenged in a school setting when a teacher spoke about a girl who was from a low socioeconomic family. Her teacher walked into the staffroom and said: "Oh my God, blah-blah-blah smells like wee today. It's disgusting. And I just thought, you've just said her name, you've just said her name and put her down in front of all these teachers" (Penny).

Lawrence discerned that a form of humour was taking place when a teacher said "Oh, they need to get that crazy girl on medication". He said that obviously he would not laugh at that! Yet in dialogue with the researcher he attempted a similar form of humour saying: "So like one of the children stole a car, and we got a bit of mileage out of that. There's another pun". Lawrence had entered the discourse of practitioners and was using humour in discussing students.

Of great concern to students in workplace learning situations is the number of questions that they want to ask. "I asked a million trillion questions" said Sonia. Students are constantly encountering situations

that required an explanation for their musing and subsequent learning. Yet they were aware that they could not be constantly questioning busy practitioners and they strategized to gain answers: "You don't want to be annoying in the workplace" (Erin).

5) Embracing Multidisciplinarity

Students entering workplace practice often stepped into a multidisciplinary team and way of working. Great value is given to working in a multidisciplinary team, being able to communicate with others with different perspectives, and arrive at solutions. One student found "it really helpful that no-one made a decision on their own" (Alison).

One communication student, focused on science communication in the workplace, is strongly aware that his publications were dependent on his interactions with "the science people" (Simon). He would ask them to read his draft releases to the public to gain their insight and feedback and he noted a reliance on them. "I was dependent on them. I think it was a more indirect dependence on them. It did work (Simon)". Interdisciplinary collaboration was in stark contrast to university which mostly grouped same-discipline students for their interactions. One student expressed this homogenous interplay: "I feel like I've been in a bubble for three years working with, in social work, you're surrounded by a lot of people with similar ideas and similar ways of thinking" (Lawrence).

Students quickly realize the value of multiple expertise, seeing better workplace outcomes as a result. One student was pro-active in her engagement of multiple perspectives when attempting to manage a boy with severe autism in a school setting. She initiated the development of a behaviour management plan, joining her blossoming expertise in social work with that of the classroom teacher and the school's occupational therapist who watched the boy "to see things that were affecting him, see when he becomes heightened, which was most of the time out in the yard" (Penny). Armed with three-pronged perspectives, the team developed strategies for the boy for his management in the classroom and in the yard. "I think that the interaction that we had, we determined better outcomes for him" (Penny).

Another research participant recognized that multiple and varied contributions were essential in the workplace that he attended. He also recognized the shape of the contributing team, describing it as a chain. Sequential tasks were needed to reach an end goal.

Interdisciplinary teams are practices that combine multiple disciplines and various practice norms. Whilst recognizing the benefits of working with allied practices, students could identify collision points in beliefs and values. One social work student in a school setting noted that her supervisor, the wellbeing officer, had a very different approach to wellbeing than social workers. The emphasis was more on discipline. The student described it as a clash of values. Another student experienced a fundamental clash of belief and approach to service provision from another professional group:

> In the hospital, our beliefs are different to theirs. It was a challenge with the nursing staff. I could see the differences. In the medical model they're the professional and they're the client - whereas social workers try to avoid that as much as possible (Gayle).

DISCUSSION

Late in the analytical work of this study, an integrating, generic construct, *Student Knowing in Workplace Practice,* was identified as the core construct of the emergent conceptual framework (Charmaz, 2006, p. 139). *Student Knowing in Workplace Practice* provides an assembling concept for the framework reported

in this article. One insightful student who has worked in various contexts, reveals her knowing of work from what she had learned during previous workplace practice. "You forget what you know quite often" (Cathy). She uses her embodied, generic knowing of workplace practice and incorporates it into a new situation. "I can't necessarily tell you I'm doing it because I'm just doing it" (Cathy).

With the inclusion of this overarching construct, a conceptual framework is presented diagrammatically. Figure 1 is constructed without firm boundaries, to depict Charmaz's (2006, p. 126) "emergent, multiple realities; indeterminacy; facts and values as linked; truth as provisional; and social life as processual". The permeable boundaries of the diagram reflect the unfixed, indeterminate and personal learning that occurs during workplace practice and allow interplay between nominated constructs.

Using this theoretical conception of student knowing in the workplace (Figure 1), it is relevant to return to the notion of stolen knowledge, which is used in this study to describe student workplace learning without purposeful teaching. The conceptual framework reveals much of the knowing that is stolen when higher education students enter workplace practice. It reveals that students learn extensively about themselves and their developing professional identity. Students come to know of the resilience that they acquire in the workplace. They learn how theory applies to them, and that theory isn't quite known until they insert themselves into its path. Students learn tricks of the trade from workplace supervisors; heuristics that make work easier to enact. Importantly, a practice discourse is revealed to the student, not by instruction, but by the immediate need to understand the language that surrounds and sometimes bombards them. Students learn about the shape and interactivities of practice especially the value of having multidisciplinary perspectives to reflect upon. They discover that the benefits of multidisciplinary thinking are accompanied by discord between practice approaches and discourses, and students learn to accommodate difference and multiplicity. They learn that they must be pro-active in acquiring codifiable knowledge that is not known to them, consulting Google and YouTube, and questioning their expert colleagues.

Having established that practice knowledge and ways of knowing are stolen in practice, it is illuminating to reflect on how they are obtained. Learning is not designed, nor specified in advance of the students' immersion in the workplace. Rather, learning is provoked during the activity of workplace practice. The situated curriculum of practice is impromptu and individualistic; not every student acquires the same knowledge and skills at the conclusion of their workplace experience. This supports Gherardi's (2015, p. 175) claim that whilst tertiary teachers provide opportunity for many students to experience workplace learning, "that experience is personal and unique: that is, it is a personal way of knowing".

This research confirms that much of the knowing and learning of practice must be stolen. It must be spontaneously acquired when students rub shoulders with experienced practitioners. Building confidence as a practitioner must take place in the vagaries of workplace practice. Professionalism and its realities, taking care of the self at work, and practice discourses cannot be learned in a classroom. The learning that students acquire in practice cannot be provisioned by the academy.

Government regulation of tertiary education is significant in many countries. In Australia, the prescription of learning outcomes and assessment is part of threshold standards for higher education provision (Australian Government, 2015). Little flexibility is given for undefined learning. Whilst there is no single prescriptive model for the provision of WIL in the curriculum, there is potential for

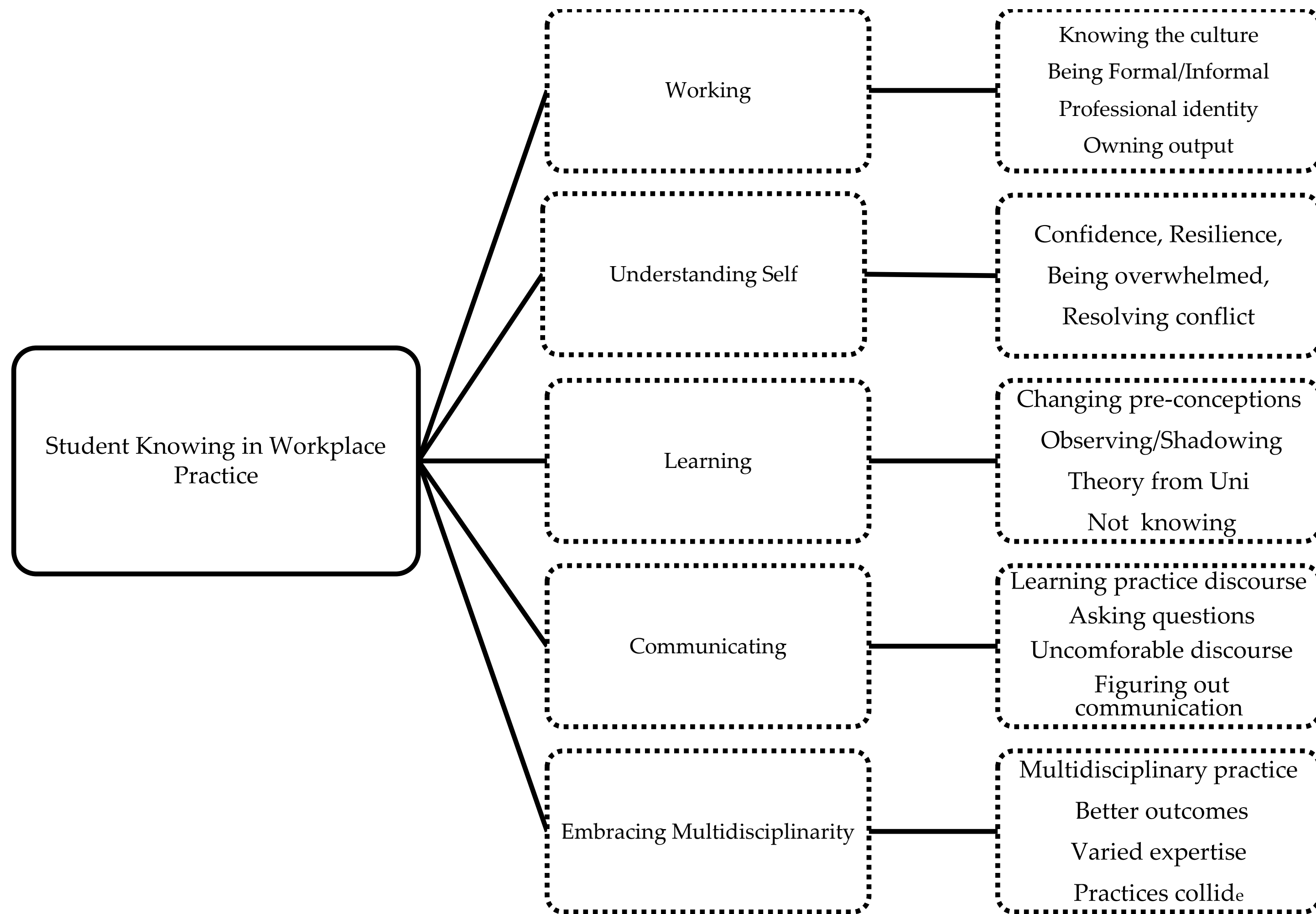

Figure 1: The conceptual framework of *Student Knowing in Workplace Practice*

academic traditions and actions to inappropriately overlay the reality of what occurs when students enter workplace practice. Kennedy et al.'s (2015) "jostling cultures" that surround higher education students who are learning in workplace practice are discernible in the findings of this study. *Student Knowing in Workplace Practice,* depicted in Figure 1, provides useful, bridging concepts and new knowledge to underpin meaningful collaborations between industry practitioners and tertiary educators, which may allay any discord between the two educational cultures.

Doll (1986, p. 10) challenged the academy in its teaching practices and warned of a complex world that would not be served by a "measured curriculum". The world of employment that tertiary graduates enter is unfamiliar, volatile and indeterminate (Doll, 1986). It is important to note that data for this research was collected when students had completed a period of time in workplace practice and their formal assessment had concluded. Conversations with students, via interviews and focus groups, took place away from the *measured curriculum*, granting permission for the student to be authentic in telling their story. Vulnerable, individualistic, and genuine accounts of learning in workplace practice were revealed. Student learning in the workplace is more suited to Doll's (1986) "transformative curriculum", one that acknowledges and accommodates the complex, the indeterminate, and the volatile and conceptualizes student learning as the transformation of an individual's understandings.

Furthermore, students, who are well versed in university standards, prescriptive curriculum, and assessment, are not always supported by the academy to relate and reflect upon the underbelly of their learning in practice. In revealing the situated, indeterminate curriculum of practice-based learning, this study paves the way for renewed approaches by the academy, approaches that step away from a curriculum of content and assessment, and allow students to reflect on their genuine and individual learning in practice. Gherardi (2015, p. 4) makes this call, writing "there are a range of cultural practices that need to change for the provision and integration of workplace-based experiences to progress".

There is opportunity in these research findings to acknowledge the nature of learning in the situated curriculum of practice and to use it to strengthen the bridge between actual learning in the workplace and the educational practices that surround WIL in the academy. However, the research reported in this article is limited by not including the voices of educators and practitioners as data. Future research that gains these perspectives, will yield greater awareness in teacher, student and practitioner of various ways of learning and knowing, and discontinuity between learning at university and in workplace practice may be smoothed.

CONCLUSION

This research advances understandings of tertiary student learning in workplace practice by approaching it from an alternative perspective; from a stance of knowing and learning in practice, rather than purposeful academic education. It finds that student learning is situated, tacit and emergent, and cannot be prescribed in advance. The conceptual framework reported in this article (Figure 1) provides a stepping-stone from which a richer and more cohesive appreciation of WIL can continue to develop.

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REFERENCES

Australian Government (2015). Higher education standards framework (Threshold standards). Retrieved from https://www.legislation.gov.au/Details/F2015L01639

Billett, S. (2001). Guided learning at work. In: D. Boud & J. Garrick (Eds.). *Understanding learning at work* (pp. 151-164). New York, NY: Routledge.

Billett, S. (2015). *Integrating practice-based learning experiences into higher education programs*. Dordrecht, The Netherlands: Springer.

Blackler, F. (1995). Knowledge, knowledge work and organizations: An overview and interpretation, *Organization Studies*, *16*(6), 1021-1046.

Boud, D. (2016). Taking professional practice seriously: Implications for deliberate course design. In: Trede, F. and McEwan, C. (Eds.), *Educating the deliberate professional* (pp. 157- 225). Dordrecht, Netherlands: Springer.

Brown, J. S., & Duguid, P. (1996), Stolen knowledge. In: H. McLellan (Ed.), *Situated learning perspectives* (pp. 47-57). Englewood Cliffs, NJ: Educational Technology Publications.

Bytheway, J. (2018). Using grounded theory to explore learners' perspectives of workplace learning. *International Journal of Work-Integrated Learning*, *19*(3), 249-259.

Cairns, L., & Malloch, M. (2011). Theories of work, place and learning: New directions. In: M. Malloch, L. Cairns, K. Evans, & B. N. O'Connor (Eds.), *The Sage handbook of workplace learning* (pp. 3 – 31). London, UK: Sage Publications.

Caza, B. B., & Creary, S. J. (2016). The construction of professional identity. In: A. Wilkinson, D. Hislop, & C. Coupland (Eds.), *Perspectives on contemporary professional work: Challenges and experiences* (pp. 259-285). Cheltenham, UK: Edward Elgar Publishing.

Charmaz, K. (2006). *Constructing grounded theory*. London, UK: Sage.

Choy, S., & Delahaye, B. (2011). Partnerships between universities and workplaces: Some challenges for work-integrated learning. *Studies in Continuing Education*, *33*(2), pp. 157-172.

Cook, S., & Brown, J.S. (1999). Bridging epistemologies: The generative dance between organizational knowledge and organizational knowing, *Organization Science, 10*(4), 381-400.

Cooper, L., Orrell, J., & Bowden, M. (2010). *Work integrated learning: A guide to effective practice*. New York, NY: Routledge.

Doll, W. (1986.) Prigogine: A new sense of order, a new curriculum. *Theory into Practice*, *25*(1), 10-16.

Ferns, S., Dawson, V., & C Howitt, C. (2019). A collaborative framework for enhancing graduate employability. *International Journal of Work-Integrated Learning, 20*(2), 99-111.

Gherardi, S. (2006). *Organizational knowledge: The texture of workplace learning*. Malden, MA: Blackwell Publishing.

Gherardi, S. (2015). Conclusions: Towards an understanding of education as a social practice. In: M. Kennedy, S. Billett, S. Gherardi, & L. Grealish (Eds.), *Practice-based Learning in higher education: jostling cultures* (pp. 173-183). Dordrecht, The Netherlands: Springer.

Higgs, J. (2014). Assessing the immeasurables of practice. *Asia-Pacific Journal of Cooperative Education, 15*(3), 253-267.

Horstmanshof, L., & Moore, K. (2016). Understanding the needs of all the stakeholders: Issues of training and preparation for health work students and their clinical educators. *Asia-Pacific Journal of Cooperative Education, 17*(2), 93-100.

Kennedy, M., Billett, S., Gherardi, S., & Grealish, L. (2015). Practice-based learning in higher education: Jostling cultures. In: M. Kennedy, S. Billett, S. Gherardi ,& L. Grealish (Eds.), *Practice-based learning in higher education: jostling cultures* (pp. 1-14). Dordrecht, The Netherlands: Springer.

Lave, J., & Wenger, E. (1991.) *Situated learning: legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.

Markus, H., & Cross, S. (1990). The interpersonal self. In: L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 576-608). New York, NY: The Guilford Press.

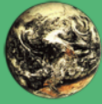
Martin, A., & Rees, M. (2019). Student insights: The added value of work-integrated learning. *International Journal of Work-Integrated Learning, 20*(2), 189-199.

McNamara, J., & Brown, C. (2009). Assessment of online discussion in work-integrated learning. *Campus-Wide Information Systems*, *26*(5), 413-426.

Nevison, C., Cormier, L., Pretti, T. J., & Drewery, D. (2018). The influence of values on supervisors' satisfaction with coop student employees. *International Journal of Work-Integrated Learning, 19*(1), 1-11.

Shrauger, J. S., & Schoeneman, T. J. (1979). Symbolic interactionist view of self-concept: through the looking glass darkly. *Psychological Bulletin*, *86*(3), 549-573.

Strauss, A., & Corbin, J. (1998). Grounded theory methodology. In: N. Denzin & Y. Lincoln (Eds.), *Strategies of Qualitative Inquiry* (pp. 549-573). Thousand Oaks, CA: Sage.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About the Journal

The International Journal of Work-Integrated Learning (IJWIL) publishes double-blind peer-reviewed original research and topical issues dealing with Work-Integrated Learning (WIL). IJWIL first published in 2000 under the name of Asia-Pacific Journal of Cooperative Education (APJCE). Since then the readership and authorship has become more international and terminology usage in the literature has favored the broader term of WIL, in 2018 the journal name was changed to the International Journal of Work-Integrated Learning.

In this Journal, WIL is defined as "*an educational approach that uses relevant work-based experiences to allow students to integrate theory with the meaningful practice of work as an intentional component of the curriculum*". Defining elements of this educational approach requires that students engage in authentic and meaningful work-related task, and must involve three stakeholders; the student, the university, and the workplace. Examples of practice include off-campus, workplace immersion activities such as work placements, internships, practicum, service learning, and cooperative education (Co-op), and on-campus activities such as work-related projects/competitions, entrepreneurships, student-led enterprise, etc. WIL is related to, but not the same as, the fields of experiential learning, work-based learning, and vocational education and training.

The Journal's main aim is to enable specialists working in WIL to disseminate research findings and share knowledge to the benefit of institutions, students, co-op/WIL practitioners, and researchers. The Journal desires to encourage quality research and explorative critical discussion that leads to the advancement of effective practices, development of further understanding of WIL, and promote further research.

The Journal is financially supported by the New Zealand Association of Cooperative Education (NZACE), www.nzace.ac.nz.

Types of Manuscripts Sought by the Journal

Types of manuscripts sought by IJWIL is primarily of two forms; 1) *research publications* describing research into aspects of work-integrated learning and, 2) *topical discussion* articles that review relevant literature and provide critical explorative discussion around a topical issue. The journal will, on occasions, consider best practice submissions.

Research publications should contain; an introduction that describes relevant literature and sets the context of the inquiry. A detailed description and justification for the methodology employed. A description of the research findings - tabulated as appropriate, a discussion of the importance of the findings including their significance to current established literature, implications for practitioners and researchers, whilst remaining mindful of the limitations of the data. And a conclusion preferably including suggestions for further research.

Topical discussion articles should contain a clear statement of the topic or issue under discussion, reference to relevant literature, critical and scholarly discussion on the importance of the issues, critical insights to how to advance the issue further, and implications for other researchers and practitioners.

Best practice and program description papers. On occasions, the Journal also seeks manuscripts describing a practice of WIL as an example of best practice, however, only if it presents a particularly unique or innovative practice or was situated in an unusual context. There must be a clear contribution of new knowledge to the established literature. Manuscripts describing what is essentially 'typical', 'common' or 'known' practices will be encouraged to rewrite the focus of the manuscript to a significant educational issue or will be encouraged to publish their work via another avenue that seeks such content.

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