‘Better for the students and easier for us’: Factors shaping vocational educators’ perceptions of e-Learning

A thesis submitted in fulfilment of the requirements for the degree of Master of Education (Research)

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DECLARATION

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Kate Michelle Mitchell
10th December, 2016
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Last but not least, I would like to thank my family for instilling in me a love of research, my partner Rodney for having the courage to go on this journey with me, and the professional colleagues across multiple sites for providing me with time and space when needed to finalise my work.
# TABLE OF CONTENTS

Declaration .................................................................................................................. ii

Acknowledgements .................................................................................................. iii

Table of Contents ...................................................................................................... iv

List of Figures ............................................................................................................. x

List of Tables ............................................................................................................. xi

Acronyms .................................................................................................................... xii

Abstract ...................................................................................................................... xiii

1. Introduction .......................................................................................................... 1

1.1 e-Learning and policy in the VET environment .................................................. 1

1.2 Framing the study - defining the problem .......................................................... 3

1.2 Aims and scope of the study .............................................................................. 5

1.3 Outline of the study ........................................................................................... 6

2. Literature review – The state of play .................................................................... 8

2.1 VET background and context .......................................................................... 8

Market drivers and external pressures ....................................................................... 10

2.2 e-Learning in the VET Sector ........................................................................... 12
Defining e-Learning ................................................................. 13

2.3 Teaching and learning considerations ........................................ 15

2.4 Factors and barriers to technology use ........................................ 18

Models and frameworks ................................................................ 20

External factors ............................................................................. 24

Individual or personal factors ....................................................... 27

Teacher motivations, beliefs and attitudes ....................................... 28

2.5 Summary .................................................................................. 29

3. Methodology ............................................................................. 31

3.1 Theoretical Framework .............................................................. 32

Narrative Inquiry ......................................................................... 32

3.2 Site and sampling .................................................................... 34

3.3 Data collection ......................................................................... 36

3.4 Data analysis ........................................................................... 38

Ethical considerations .................................................................. 40

Considerations and limitations ..................................................... 42

3.5 Summary .................................................................................. 44

4. Findings .................................................................................... 45

4.1 The participants and their choice of e-Learning technologies ........... 45

Peter ............................................................................................ 45

Belinda .......................................................................................... 46

Mary ............................................................................................ 46
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary of participants’ choice of e-Learning technologies</td>
<td>48</td>
</tr>
<tr>
<td>4.2 VET learner backgrounds, demographics and motivations to study</td>
<td>49</td>
</tr>
<tr>
<td>4.3 Analyses of the data</td>
<td>51</td>
</tr>
<tr>
<td>4.4 Individual factors</td>
<td>51</td>
</tr>
<tr>
<td>Past experience with ICT and e-Learning</td>
<td>51</td>
</tr>
<tr>
<td>e-Learning confidence/self-efficacy</td>
<td>52</td>
</tr>
<tr>
<td>Individual motivations</td>
<td>53</td>
</tr>
<tr>
<td>Summary</td>
<td>57</td>
</tr>
<tr>
<td>4.5 Pedagogical factors</td>
<td>58</td>
</tr>
<tr>
<td>Motivations</td>
<td>58</td>
</tr>
<tr>
<td>Concerns</td>
<td>61</td>
</tr>
<tr>
<td>Summary</td>
<td>67</td>
</tr>
<tr>
<td>4.6 Institutional factors</td>
<td>67</td>
</tr>
<tr>
<td>Technological infrastructure and resourcing</td>
<td>68</td>
</tr>
<tr>
<td>Institutional and administrative leadership and support</td>
<td>73</td>
</tr>
<tr>
<td>Professional development, training and support</td>
<td>76</td>
</tr>
<tr>
<td>Collegiate practice</td>
<td>82</td>
</tr>
<tr>
<td>e-Learning support for learners</td>
<td>83</td>
</tr>
</tbody>
</table>
Time allocation ........................................................................................................ 84
Summary.................................................................................................................. 85

4.7 External factors .................................................................................................. 85
VET auditing and reporting requirements .................................................................. 86
VET unit and training package changes .................................................................... 87
Summary.................................................................................................................. 88

4.8 Summary ............................................................................................................ 88

5. Discussion ........................................................................................................... 90

5.1 Institutional factors .......................................................................................... 90
Technology infrastructure, technical and user experience factors ....................... 91
Training, pedagogical and technical support .......................................................... 95
Management and administrative support and time allocation ............................. 98

5.2 Individual factors ............................................................................................ 100
Opportunistic motivators and inhibitors .................................................................. 100
Pragmatic motivators and inhibitors ...................................................................... 102
Personal motivators and inhibitors ...................................................................... 104

5.3 Pedagogical factors .......................................................................................... 107
Pedagogical motivators ......................................................................................... 108
Pedagogical concerns ......................................................................................... 109

5.4 External factors ............................................................................................... 111
Learners’ off campus access to technology ............................................................. 111
VET auditing and reporting requirements ............................................................. 112
Training package changes ........................................................................................................ 113

5.5 A revised framework ........................................................................................................ 114

6. Conclusion and recommendations ...................................................................................... 116

Implications for VET teachers ................................................................................................. 117
Implications for institutions ..................................................................................................... 117
Implications for policy makers ................................................................................................. 118
Implications for further research ............................................................................................ 119
Final thoughts .......................................................................................................................... 120

References .................................................................................................................................. 121

Appendix – Interview Questions .............................................................................................. 137

Phase 1 Interview (Introductory / scene setting) – structured and semi-structured questioning .................................................................................................................. 137

Personal and teaching background ............................................................................................. 137
Baseline / demographics and understandings of e-Learning .................................................... 137
Learners and teaching style ........................................................................................................ 138
Technology confidence, understandings, beliefs and use ......................................................... 138

Phase 2 / 3 Interviews (further discussion regarding practice, follow ups) .................................. 138

Key categories: ........................................................................................................................ 138
Current use / practice and hopes for future ................................................................................ 138
Learners, learning styles, understanding learners and tailoring to their needs ....................... 139
Teaching style, teaching philosophy .......................................................................................... 139
Curriculum / course design ....................................................................................................... 139
Challenges, factors. Space/place, timing, and other factors ........................................ 139

Hopes for future ................................................................................................................... 140
LIST OF FIGURES

Figure 1: TPACK Framework .......................................................... 19
Figure 2: Technology Acceptance Model ........................................ 21
Figure 3: Factors influencing academics’ development of e-Learning environments. .................. 23
Figure 4: VET teachers’ intentions, adoption and integration decisions for incorporating e-Learning technologies................................................................. 115
LIST OF TABLES

Table 1: Participants’ choice of e-Learning technologies.............................................................. 48
# ACRONYMS

Acronyms unless otherwise stated have been sourced from Velg Training. (2013). VET terminology and acronyms. Retrieved from velgtraining.com.

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFLF</td>
<td>Australian Flexible Learning Framework</td>
</tr>
<tr>
<td>AQF</td>
<td>Australian Qualifications Framework</td>
</tr>
<tr>
<td>AQTF</td>
<td>Australian Quality Training Framework</td>
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<tr>
<td>CBT</td>
<td>Competency Based Training</td>
</tr>
<tr>
<td>EAL</td>
<td>English as an Additional Language</td>
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<tr>
<td>ESL</td>
<td>English as a Second Language</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology (Doornekamp, 2002)</td>
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<tr>
<td>FLAG</td>
<td>Flexible Learning Advisory Group</td>
</tr>
<tr>
<td>LLN</td>
<td>Language Literacy and Numeracy</td>
</tr>
<tr>
<td>LLS</td>
<td>Literacy and Numeracy Skills</td>
</tr>
<tr>
<td>LOTE</td>
<td>Languages Other Than English</td>
</tr>
<tr>
<td>RPL</td>
<td>Recognition of Prior Learning</td>
</tr>
<tr>
<td>RTO</td>
<td>Registered Training Organisation</td>
</tr>
<tr>
<td>TAA</td>
<td>Training and Assessment</td>
</tr>
<tr>
<td>TAFE</td>
<td>Technical and Further Education</td>
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<tr>
<td>VET</td>
<td>Vocational Education and Training</td>
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<tr>
<td>VETiS</td>
<td>Vocational Education and Training in Schools</td>
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</tbody>
</table>
ABSTRACT

Keywords: e-Learning, ICT, education, factors, beliefs, attitudes, teachers, vocational, vocational
education, training, VET.

Much of the discussion and policy about the vocational education (VET) sector, recently and over the
last decade, have prioritised the need for flexible delivery, competition and innovation, with e-
Learning typically framed as a key strategy to support this directive. However, questions remain
regarding the uptake, quality and actual practice undertaken by teachers and institutions to integrate e-
Learning into teaching delivery, particularly within the VET context.

This research study explored key factors and considerations that shape adoption and sustained
practice for seven VET teachers when integrating e-Learning. The study also explored factors that
shaped VET teachers’ ability to implement e-Learning with learners. Semi-structured and open
interviews that allowed the teachers’ voice and narrative to be present and to tease out perceptions
over time have been an important part of this approach.

The key findings from this study identified factors related to technology, learners, institutional
structures and support, and VET teachers’ own values and beliefs that shaped their practice – both in
their technology adoption and their technological and teaching decisions when integrating e-Learning.
In particular, beliefs and assumptions about their learners, and attitudes related to the roles of the
teacher and of the technology to support learners, seemed to shape these teachers’ e-Learning
decisions. These factors may provide the stimulus for further considerations for policy makers and
institutions when setting up policies, systems and professional development approaches. The study
highlights that there are also gaps and further opportunities for research into VET teachers’ beliefs
and the ways these shape e-Learning integration and sustained practice.
1. INTRODUCTION

1.1 e-Learning and policy in the VET environment

Over the past decade, there has been an ever-increasing push to incorporate technology within educational practice, including within the vocational education and training (VET) sector. Historically, VET has been expected to support Commonwealth government economic and social directives (Bowman & McKenna, 2016; Ryan, 2011). A longstanding discourse within VET policy has been the need for VET to become or remain ‘flexible’ and ‘responsive’, typically to better respond to industry and learner needs (Bowman & McKenna, 2016). Particularly from the late 1990s and early 2000s, Commonwealth and state government policies have increasingly argued that flexibility and innovation is needed within the VET sector to support a changing economy and to respond to 21st Century contexts. This is evident across strategies for VET such as 1998-2003 A Bridge to the Future (Moran, 1998) and the 2004-2010 Shaping our Future strategy (Australian National Training Authority, 2003). Several Commonwealth and state government policies and publications including these strategies (Australian National Training Authority, 2000, 2003; Kosky & Department of Education and Training Victoria, 2002) have highlighted the opportunity and importance of technology in supporting such objectives.

Robertson (2009) reports that varying terms and pedagogical approaches related to e-Learning have been utilised in Australia and referred to across different VET policy and strategy documents. Past VET policy and research documents have used a number of terms such as “flexible delivery” (Australian National Training Authority & Flexible Learning Advisory Group, 2001), “flexible learning” (EdNA VET Advisory Group, 2000), “e-Learning” (Commonwealth of Australia, 2012; I & J Management Services & Australian Flexible Learning Framework, 2005a) “online learning” (National Centre for Vocational Education Research, 2003) and “online delivery”. While terms at times differ, a common theme among them has been a focus of providing flexibility and greater choice for learners of “when, where and how they learn” (Naidu & National Centre for Vocational
e-Learning has been a particular focus and term used in more recent years, through such government initiatives as the Australian Flexible Learning Framework (Australian National Training Authority, 2000) and National VET e-Learning Strategy (Commonwealth of Australia, 2012). e-Learning is defined within some of the literature as a form of delivery that “uses electronic media to deliver flexible VET” (Jasinski, 2007, p. 17), via access to online or distance activities and course components. e-Learning is typically through an online or blended (combination of online and face to face) delivery model (Australian Flexible Learning Framework, 2003; Jasinski, 2007; Smith & Grace, 2011), with blended delivery the more common of the two (National Centre for Vocational Education Research, 2003).

The Australian Flexible Learning Framework (Australian National Training Authority, 2000; Flexible Learning Advisory Group, 2004, 2007) sought to increase e-Learning uptake (often referred to within the literature as ‘adoption’) within the Australian VET sector, in order to meet perceived challenges of the economy and to flexibly support the needs of learners and employers. As part of these initiatives, the Commonwealth also invested significant funds and support mechanisms (Flexible Learning Advisory Group, 2007) in order to encourage and effectively ‘mainstream’ teachers’ and institutions’ use of e-Learning technologies. Other market drivers such as increased sector competition and expectations from learners and industry are also likely to be driving a push toward more e-Learning (Goozee, 2001; R. Harris, Simons, & Clayton, 2005).

Despite policy and funding initiatives that have targeted e-Learning, and regardless of some incremental increases in e-Learning adoption within VET over time (I & J Management Services & Australian Flexible Learning Framework, 2011), some studies such as by Walsh, Lemon, Black, Mangan and Colin (2011) still suggest there has been uneven e-Learning adoption and use in the sector. Lack of consistency spans the extent of e-Learning adoption across teachers and institutions, and also the ways it is used, i.e., the type of educational practice or ‘integration’ (Jasinski, 2007). While Walsh et al. (2011) highlight uneven e-Learning use in the sector (including disparity in scale, frequency and type of e-Learning use), the reasons for inconsistent e-Learning adoption and integration in VET appear to be under-researched and therefore unclear.

The most recent National VET e-Learning Strategy 2012-2015 (Commonwealth of Australia, 2012) continued to prioritise e-Learning within VET, though with shifted priorities and focus. Unlike previous flexible learning frameworks, the strategy no longer focused on adoption, moving away from building an awareness of e-Learning and encouraging adoption, to a more long-term ‘status quo’ or ‘business as usual’ model of sustained use. The change in tone and policy direction could be interpreted as one that assumed the work of adoption had been completed. Support was also limited; the government did not offer the same breadth of support or funding for teachers and institutions,
instead it focused on industry, and did not actively continue to develop centralised e-Learning modules or purchasable resources but encouraged institutions to create and share their own via a strategy website [http://flexible-Learning.net.au]. Research output related to e-Learning also slowed post-2013, potentially due to decreased funding support. Since the end of 2015 the strategy has ended, and its supporting website appears to have been decommissioned. The closure of the strategy without a new replacement strategy, and subsequent decommissioning of the supporting website would suggest that teachers and institutions are now on their own.

VET continues to be managed by both state and Commonwealth governments, which arguably also raises uncertainties over ownership and funding. These factors have continued to raise questions regarding the purpose of vocational education and the future and stability of the sector as a whole (Beddie & Curtin, 2010). As such, VET institutions and teachers have been placed under increasing pressure to incorporate e-Learning or flexible learning delivery options to meet the needs and expectations of the Commonwealth government, learners, market and industry (Goozee, 2001; Keating, 1994; Misko & Robinson, 2000) and to respond to changing needs for the 21st Century (Australian National Training Authority, 2003; Misko & Robinson, 2000; Moran, 1998; Robinson, 1999), while working within a climate of funding uncertainty and continual change. Exploring how teachers utilise e-Learning and factors and motivations that support and hinder their practice is important to inform ways in which institutions and policy makers can best support teachers to use e-Learning not just to adopt but to ensure quality, sustained and integrated e-Learning practices. There is an even greater rationale for research and recommendations that illuminate these issues now, at a point where the National VET e-Learning Strategy has ended and no new strategy has replaced or superseded it. VET provider institutions will need to understand the best ways to implement and support e-Learning, in order to remain increasingly agile and efficient to ensure their place within an open market.

1.2 Framing the study - defining the problem

My interest in undertaking this study stems from my personal and professional experiences working within the VET sector and with VET teachers. I have worked as a VET teacher both in TAFE institutes and VET in Schools (VETiS), and in roles supporting VET teaching staff to utilise technology, e-Learning and blended learning within their practice. Within these roles, I have witnessed teachers’ challenges to incorporate technology within their practice, and gained an understanding of some of the pressures placed on VET teachers to utilise e-Learning technologies. These pressures have included factors at an individual, institutional and broader level, but particularly
pressures from the institution and from learners - which has resulted in teachers managing a number of complexities in their day-to-day teaching practice.

Having worked in a training and support capacity, formally and informally, across a number of institutions and sectors, I was also driven by questions of how to best design pedagogical and technical support models to increase e-Learning adoption and good practice. I was concerned that current support models and training sequences I had either witnessed or had created and delivered were in actuality inefficient or ineffective. I also felt however, the current literature did not provide enough clarity on what models could best support teachers or adequately explore how various pressures and competing factors could also influence teachers readiness to use e-Learning and their ability to access and effectively utilise training and professional development activities. These concerns became the basis of this study.

This study aims to provide deeper understanding of the complexities and realities that affect teachers’ use of e-Learning, and what this means for them in practice. For this study, I undertook a series of qualitative interviews with seven VET teachers working for a dual-sector (VET and Higher Education) TAFE institution to explore how they were using e-Learning in their teaching practice, in order to gain an understanding of what choices teachers are making in their technology use and why, including what perceptions, factors and barriers may be at play.

Existing studies that explore and expose VET teachers’ e-Learning adoption and practice recognise gaps in e-Learning practice. Studies, such as those by Bliuc, Casey, Bachfischer, Goodyear and Ellis (2012) and Walsh, Lemon, Black, Mangan and Colin (2011) have highlighted the need for further research, particularly in investigating what teachers are actually doing in their practice, and how perceptions inform their practice. Walsh, et al. (2011) have also highlighted inconsistencies in e-Learning adoption and use within the sector, and while they identified issues of e-Learning adoption and teachers’ perceptions of technology, they focused mainly upon learners’ needs and experiences and effects of inconsistent adoption for learners.

Past research in the VET sector, such as Walsh (2011), have often been confined to larger-scale quantitative surveys that do not provide a clear picture of the ‘why’ and ‘how’ teachers engage with e-Learning. Qualitative studies that have explored VET teacher’s perceptions and use have often focused on a specific select group within the VET sector such as ESL teachers (Australian Flexible Learning Framework, 2003) or have focused on innovative pilots or good practice case studies (Jasinski, 2007) which are not necessarily indicative of mainstream or sector-wide practice. Other literature which have investigated internal and external factors impacting teachers’ e-Learning use more broadly are largely outside of the VET context, instead they focused upon teaching in schools (Baek, Jung, & Kim, 2008; Ertmer, 1999; Pelgrum, 2001; Smarkola, 2008; Somekh, 2008; Twining, 2001; Voogt, 2010), or the higher education context (Birch & Burnett, 2009; Birch & Sankey, 2008; Bruner, 2007; Carr & Fraser, 2014; Miller, Martineau, & Clark, 2000). These studies have uncovered
a range of factors that positively and negatively influence teaching staff in their choices to engage with and utilise e-Learning, and as such should be reviewed and evaluated within the VET context. These factors are further detailed and discussed within Chapter 2.

Noting these gaps, there are still questions regarding why and how teachers intend to use e-Learning, and the ways in which they adopt and continue to utilise e-Learning within their practice. There is also a need to understand what e-Learning use looks like across the VET sector and the various factors and challenges teachers are facing when implementing e-Learning.

The current literature does not necessarily capture the full range of perceptions and factors affecting teachers’ e-Learning use or recognise or give ample weight to the practitioner’s voice. This is concerning as much of the VET policy documentation also removes teachers from the discourse, to focus on the ‘client’ – i.e., consumer/learner and industry/employer users of VET. VET teachers’ needs and perspectives are therefore often invisible or minimised within both policy and research literature. While this study only goes part of the way to address this problem, it does highlight the complexities in this space and has brought a more nuanced perspective to the problem.

1.2 Aims and scope of the study

This study explored the gaps in the literature through a qualitative study with a small group of VET practitioners placed within the one TAFE site, who, between them, showed some variety within their background and practice. Seven VET teachers were interviewed regarding their current use of e-Learning within their teaching practice; including current understandings and use of technology, what issues they experienced, and how they felt the use of e-Learning had impacted them and their learners, specifically in relation to learner engagement. The main research question of the study therefore is:

How does the use of e-Learning influence VET teachers’ perceptions and decisions about their teaching practice?

To investigate how e-Learning influences VET teachers and their perceptions, decisions and beliefs in practice, the following sub-set questions were developed:

- What perceptions and challenges are VET teachers experiencing when adopting, utilising and sustaining e-Learning technologies within their teaching practice?
- What factors shape VET teachers’ and learners’ experiences when adopting and using e-Learning?
- How do these factors and experiences shape teachers’ decisions and behaviours when using e-Learning in educational contexts?
I used an emergent approach based upon a narrative enquiry framework. Open and semi-structured questioning allowed participants to describe their experiences, giving weight to their own voice. This allowed me to explore how both internal and external factors affected their motivations and use of e-Learning, to form a collegial relationship with the participants, to establish trust, and to recognise my role within the process - as in some instances, I had a professional working relationship with the participants.

Teachers may be coming from a range of motivations and perspectives, which are likely to impact their decision-making in regard to implementing and using e-Learning. It is important to explore the extent and ways these factors affect teachers’ decisions, and the impact these have on limiting and hindering, and conversely, on motivating and improving teachers’ practice. Understanding what teachers are currently doing within their practice, including a range of perceptions and activities being undertaken and broader depth to the considerations teachers make in determining their use of e-Learning technologies, provides opportunities to better understand how we may approach support and policy frameworks and professional development within the VET sector. Research into how teachers utilise e-Learning and how this affects their perceptions and practice is also important for understanding what good practice e-Learning and support models might and should look like. This research is intended to add to the existing body of literature and provides considerations for VET researchers, institutions and policy makers particularly in relation to future curriculum or support frameworks that best meet institutional, practitioner and learner needs at an individual and institutional level.

1.3 Outline of the study

This thesis contains six chapters detailing the background, findings and discussion of the study. Chapter 1 introduces the need for the study and the development of the research question. Chapter 2 reviews the relevant research literature around e-Learning and the VET context, including key models and frameworks that have underpinned other studies. The chapter also introduces and discusses e-Learning definitions, technical and pedagogical considerations that potentially have shaped VET teachers’ perspectives and experiences across educational contexts.

Chapter 3 describes the methodology adopted by this study. It explains the rationale behind the choice of narrative enquiry to capture the participant voice and their rich descriptions that would strengthen the data and allow for thematic data analyses.

Chapter 4 presents the key findings from the study while Chapter 5 discusses what these key findings mean in practice when dealing with VET professional development, infrastructure and support within institutional settings. A revised framework to consider VET teachers’ decision-making
processes and the factors and tensions that may influence or disrupt these decisions is also offered, based on the findings of this study.

Finally, Chapter 6 offers a summary of the study along with key recommendations and considerations for supporting and encouraging adoption and sustained e-Learning practice in VET, particularly for managers and institutions, but where possible for others more broadly, such as policy makers and researchers in the VET space.
2. LITERATURE REVIEW – THE STATE OF PLAY

This chapter provides a critical examination of relevant policy and the research literature in regard to e-Learning and the VET sector. The chapter begins by providing a background context to the VET landscape, and then presents the current literature around e-Learning, both generally and within the VET context. It also discusses factors relevant to VET teachers and learners that are likely to affect their adoption and use of e-Learning in practice.

2.1 VET background and context

Unlike universities, which are autonomous institutions, most TAFE systems originated and developed as parts of government departments. This has meant that as well as being educational institutions, they have had to operate within a public administration framework. As a result, over the past twenty years, TAFE has been expected to implement both Commonwealth Government and State Government economic, social justice and education policies. (Goozee, 2001, p. 8)

The VET sector has undergone periods of fluctuation and stress over several decades, with funding and responsibility tensions between the Commonwealth and States and Territories, and a range of regulation and policy reform changes to the sector (Goozee, 2001; Ryan, 2011). The past two decades in particular have brought major changes to VET both from an economic and from a policy perspective (Goozee, 2001; Hermann, 1982; Ryan, 2011) and these changes have heavily influenced the current VET landscape. There has been increasing pressure for VET providers to meet a range of stakeholder needs and to work within a competitive, open market, with a market-based approach and terms such as ‘efficient’ and ‘responsive’ beginning to surface from the early 1990s (Ryan, 2011). A range of policies from the 1990s onwards including Commonwealth strategies such as Working Nation (Keating, 1994) Towards a skilled Australia (Australian National Training Authority, 1994) A Bridge to the Future (Moran, 1998) and Shaping our Future (Australian National Training Authority, 2003) as well state policy such as Victoria’s Knowledge and Skills for the Information Economy
VOCATIONAL EDUCATORS’ PERCEPTIONS OF E-LEARNING

(Kosky & Department of Education and Training Victoria, 2002) have argued for VET to be more responsive to industry, economy, market and learner needs. Common language and discourse within government policy has positioned the need for VET to be ‘flexible’ and ‘responsive’ (Bowman & McKenna, 2016; Robertson, 2009) and more increasingly, ‘efficient’ (Bowman & McKenna, 2016). Typically in this context, Commonwealth government policy frames flexibility and responsiveness toward ‘clients’, in other words, “users of the services” (Australian National Training Authority, 2003, p. 3). However, as Ryan (2011) illustrates, there has often been a lack of clarity on this term, as bodies such as the Australian National Training Authority (ANTA) have used the term to refer to both businesses and individuals, and there have been mixed messages about who is the ‘central client’ (Ryan, 2011). Bowman (2016) reports that VET has been expected to “respond to industry and individual and community needs, all within a nationally agreed system to achieve portability of VET skills across the nation and therefore labour mobility” (2016, p. 8). Arguably, this has meant serving mixed masters within a complex framework.

Government strategies have argued for flexible learning in VET, in order to be 'flexible', 'responsive' and 'innovative' and to prepare learners for a ‘knowledge economy’ complete with a range of 21st Century skills, such as literacy and numeracy skills, lifelong learning skills, employability skills and other 21st Century ‘soft skills’ (Australian National Training Authority, 2003). Commonwealth policies and initiatives have placed a strong emphasis on the role of e-Learning to help achieve these objectives, through strategies such as the Australian Flexible Learning Framework (Australian National Training Authority, 2000; Flexible Learning Advisory Group, 2004, 2007) and VET e-Learning Strategy (Commonwealth of Australia, 2012) which introduced e-Learning policy directives, funding investment and a range of supporting research and resources.

However, some researchers (Guthrie & Clayton, 2010; Robertson, 2008) argue there are tensions between intended government objectives and the outcomes of reforms in enabling providers to meet these flexibility and responsiveness aims. The ‘user choice’ (where students can ‘step in and out’ from various providers as they please) and competency based training models put increased pressure on VET and TAFE institutes by potentially limiting their ability to be flexible, innovative and responsive to industry and changing labour markets; a position that is at odds with Commonwealth strategies and policy measures that typically focus on the need for providers to be flexible and innovative (Guthrie & Clayton, 2010; Robertson, 2008).

Goozee (2001) captured these tensions in practice and pre-empted the current state of affairs when reflecting upon the future of VET in her 2001 report, ‘The development of TAFE in Australia’. While Goozee’s sentiments were captured in 2001, they continue to be relevant to the current context:

*This is putting greater pressure on TAFE institutes to try to maintain quality while demand is increasing and government funding is diminishing. There are also policy tensions, with TAFE
The background provided above helps to set the scene for the context that VET teachers are working in. It is clear that the VET sector has had to respond to a number of shifting priorities and ‘client’ needs, with an increased emphasis on VET to be ‘flexible’ and ‘responsive’ in a number of ways while often working within an uncertain framework including uncertain funding. These shifting factors and the pressure and tension they place upon the sector are likely to either directly or indirectly affect VET practitioners (teachers and managers) in their day-to-day lives. They may also have an effect on teachers’ abilities to effectively adopt and implement e-Learning, and/or shape their decisions in direct or subtle ways.

**Market drivers and external pressures**

It has not only been Commonwealth and state governments that have pushed the need for flexible delivery in VET. A number of market drivers have also placed pressure on institutions but also upon VET teachers, some as a result of government policy and reforms, and some due to the changing expectations of learners, employers and institutions.

There has been an increasing demand for flexibility from what the Commonwealth would deem ‘clients’; in other words, “users of the services” (Australian National Training Authority, 2003, p. 3), which includes both industry and individuals. Learners are now experiencing greater choice in where and how they study, and they are experiencing increasing costs involved when undertaking further education. As a result they are expecting more flexibility and value for money from educational providers. Technology is playing a prominent role in the personal lives of young people, and they increasingly want this to be mirrored in their educational lives (Walsh et al., 2011). A large majority of learners indicated that they would like at least some e-Learning in their educational course (I & J Management Services & Australian Flexible Learning Framework, 2011). Learners value the role that technology can play in allowing for flexible delivery, as well as other perceived learning and equity benefits (I & J Management Services & Australian Flexible Learning Framework, 2009, 2011; National Centre for Vocational Education Research, 2003; Walsh et al., 2011). The increased use of technology is not only expected from learners but is expected to play an increasingly ubiquitous role in the workforce. Jobs of the future are likely to demand transferable skills or ‘enterprise’ skills - with digital literacy skills being particularly important, and increasingly expected from or asked for by employers (AlphaBeta, 2016). Digital literacy is, as such, a key skill for future work ready roles.

Some institutional providers have also mandated technology use via institutional strategies or minimum online presence policies (Inglis, 2007; Louka, 2008; Wills & Bowles, 2009). This has led to
new directives and extrinsic motivations for teaching staff to incorporate e-Learning. Institutions across the tertiary sector, including TAFEs, private providers, dual-sector providers, and also Higher Education providers, are continuing to introduce policies or guidelines for minimum online practice or to encourage a more blended approach. While reports have shown clear gaps in institutional readiness, there has been an overall upward trend of VET providers developing e-Learning strategies (Flexible Learning Advisory Group, 2013; I & J Management Services & Australian Flexible Learning Framework, 2011), and it is expected that more will continue to do so. There also appears to be more pressure globally to use ICT to move from the industrial age to the information age (Twining, 2001).

A number of market drivers more broadly are also shaping the VET sector as a whole. Guthrie, Perkins and Nguyen (2006) provided a summary of market drivers affecting VET. While they focussed upon Western Australia (and as such some of these drivers are specific to that locale), they highlight several drivers that are likely to affect VET teachers nationwide, including ‘the growth of the knowledge economy and rapidly changing technologies’, ‘increasing customer sophistication’, an ageing workforce with employees remaining in the workforce longer, and a need to cater to a diverse cohort with diverse cultural values, accessibility and disability considerations, including attracting or retaining those from disadvantaged or underrepresented groups, such as Indigenous Australians. These drivers are not only broad factors for the sector but ones that are likely to place pressure upon teachers to increasingly incorporate e-Learning, flexible delivery, and other 21st Century technologies. This is because many of these VET learners may be juggling study alongside work, family or other community/cultural commitments, may be located remotely, or may be physically unable or prefer not to attend face-to-face training.

Moynaugh and Worsley (2003, as cited in Chappell & Hawke, 2008) also highlighted key drivers for change across the sector, which included:

- technological developments;
- consumerism;
- staff shortages;
- engaging more learners; and,
- competition.

Chappell and Hawke (2008) discuss that consumerism, engaging more learners, staff shortages and technological developments in particular will push further expectations for VET providers to remain competitive and productive, and to incorporate more ICT into their programs.

In summary, there are many drivers leading the push to incorporate more flexible delivery within VET, which, in more recent years has meant looking to technology, and more specifically, e-Learning, to help deliver these aims.
2.2 e-Learning in the VET Sector

To support the Commonwealth objective of increased flexible delivery across the VET sector, a number of initiatives were developed from 2000 to 2015. These included rolling strategies from the Australian Flexible Learning Framework in the early and mid 2000s (Australian National Training Authority, 2000; Flexible Learning Advisory Group, 2004, 2007) to what later became the National VET e-Learning Strategy from 2012 (Commonwealth of Australia, 2012). These initiatives aimed to ensure a greater percentage of e-Learning up-take (Australian National Training Authority, 2001) and innovative and sustained use across the VET sector.

The initial vision of the Australian Flexible Learning Framework was, at least in part, to place Australia as a global leader in the new ‘information economy’, to support individuals and industry to develop skills and strategies needed for this new economy, and to develop innovation and a more market-driven response capability within the VET sector (Australian National Training Authority, 2000; EdNA VET Advisory Group, 2000). Key priorities of the first strategy included accelerated up-take of flexible delivery modes’ and “applying new technologies” (Australian National Training Authority, 2001, p. 2). This initiative included huge increases in spending across infrastructure, projects, research and professional development for staff. Approximately $15 million each year over an 8 year period from the year 2000 was allocated, with $43 million invested in staff capability and professional development projects over a similar period (Flexible Learning Advisory Group, 2007). $6.85 million was invested in the ‘Creative capable people’ goal (which targeted professional development) in the first year of the strategy alone (EdNA VET Advisory Group, 2000).

Subsequent strategies moved from a focus on building staff professional development and skills, to e-Learning “integration” (Flexible Learning Advisory Group, 2007, p. 2). More recent objectives under the National VET e-Learning Strategy (Commonwealth of Australia, 2012) have focused efforts on sustainable and good practice or innovative use. The strategy moved away from “capability building” (Commonwealth of Australia, 2012, p. 3) teachers and practitioners to instead supporting industry, with the objective “support e-Learning up-take” (Commonwealth of Australia, 2012, p. 3) limited to instead maintaining existing resources on the flexible-Learning.net.au website. This direction is perhaps indicative of the argument from Jasinski (2007) that literature has moved from questions of technology adoption, to technology integration or sustained use. Belland (2009) reports that different interpretations exist for the term technology integration, ranging from more efficient administration and use to using technology for learning and teaching purposes, but offers a more holistic definition that an “innovation is not adopted until the social system’s functioning and structure is changed in a sustainable way” (p. 354). Jasinski (2007) also refers to integration and sustained use, though aligns such terms to ‘embedded’ practice and ‘embedding e-Learning innovation’ which she describes as “the final stage of an innovation process”, (p. 1) thereby linking
the term to Rogers’ ‘diffusion of innovations’ (Rogers, 1983). Jasinski (2007) notes embedding is a culmination of a critical mass of acceptance across individuals and the organisation and involves a “commitment to sustainable practice” and “systemic, but not necessarily systematic, change” (p. 39).

However, a concept of integration or sustained use by its nature, assumes that adoption has already occurred. The research, while limited, suggests this may not be the case. While there appears to have been a steady ‘mainstreaming’ of e-Learning and technology use across the sector, there are still a number of those who are yet to adopt. As of 2006, the Australian Flexible Learning Framework’s annual e-Learning benchmarking survey reported almost half of the number of VET institutions or registered training organisations (RTOs) surveyed were not using e-Learning. This was the same number as the previous year; with growth primarily coming from “those RTOs that were previously delivering e-Learning now doing more” (I & J Management Services & Australian Flexible Learning Framework, 2006, p. 3). This was still a rising concern in 2009 (I & J Management Services & Australian Flexible Learning Framework, 2009) with continued adoption concerns and division across institutions noted in 2011 (I & J Management Services & Australian Flexible Learning Framework, 2011, p. 3) just prior to the release of the adoption-deprioritised National VET e-Learning Strategy in 2012. Recent VET reports (Bliuc et al., 2012; Walsh et al., 2011) have found uneven knowledge and inconsistent technology uptake within the sector, with a wide variety of understandings and practice taking place (Australian Flexible Learning Framework, 2003; Walsh et al., 2011). There was continued “plateauing” of e-Learning uptake at just under 50% in 2013 (Flexible Learning Advisory Group, 2013, p. 4). These reports suggest division and disparity across the sector as those providers and teachers previously using e-Learning were increasing their uptake, while those who were previously not engaging with e-Learning continued to do so, and highlights that the work of e-Learning uptake and ‘mainstreaming’ has not been realised. These are issues that both researchers and policy makers alike should seek to understand more fully.

**Defining e-Learning**

In the context of this study, ‘e-Learning’ is used broadly to refer to technology and online elements for online, blended or complementary delivery. The term is widely used in key strategic documents such as the VET e-Learning Strategy (Commonwealth of Australia, 2012); and therefore the subjects participating in the study were likely to have some exposure to this particular term. Jasinski (2007) provided a broad definition that included using web-mediated and/or multimedia resources for learning and teaching purposes, whether they be in the classroom, at work or at home, but “does not include email dissemination of course information, email communication between a teacher/trainer and learner on a single learning issue, or online administration of learning activities” (p. 17). This definition is in line with definitions provided in the 2013 Flexible Learning Advisory Group benchmarking survey (Flexible Learning Advisory Group, 2013). I agree that when defining e-
Learning, learning activities should include learners and be more involved than merely email communications. However, I strongly believe that as a part of managing e-Learning for teachers, ‘online administration’ would also be a key component when considering teachers’ effective integration of e-Learning, particularly in light of Belland’s (2009) recognition of the breadth of the term which may include administrative elements.

According to two sources (Australian Flexible Learning Framework, 2003; Jasinski, 2007) e-Learning within the VET sector can span several modes from: ‘web in the classroom’ internet-mediated classroom communication; to fully online delivery modes; or more typically, a ‘blended mode’ - using technology and online components in addition to face-to-face delivery.

The original Australian Flexible Learning Framework strategy document (Australian National Training Authority, 2000) was framed using the term ‘flexible learning’. This was a simple renaming of the previously used term, ‘flexible delivery’ (Robertson, 2009). The Flexible Learning Advisory Group (FLAG) in 2001-2002 defined ‘flexible learning’ as such:

*Flexible learning is an approach rather than a system or technique. It is based on the skill needs and delivery requirements of clients, not the interests of trainers or providers; it gives clients as much control as possible over what and when and where and how they learn; it makes use of the delivery methods most useful for the clients, especially, but not only, online technologies.* (Flexible Learning Advisory Group & Australian National Training Authority, 2002, p. 82)

The use of ‘flexible learning’ as an historic term suggests that the current driver for incorporating e-Learning is perhaps from a learner/client flexibility standpoint, rather than a learning and teaching one. Several researchers are somewhat critical of this definition. Bliuc et al. (2012), discussed what they categorised as more simplistic responses by teachers regarding conceptions of blended learning, as being:

*... responses which describe approaches mostly focused on how to meet students’ practical needs. They do not include references to student learning needs... as the underlying intentions are to facilitate the learning process rather than improve the quality of student learning (Bliuc et al., 2012, p. 247).*

A similar criticism of the term flexible learning is echoed by Robertson (2009) who suggested that online learning, e-Learning and blended learning terms used within policy contexts are merely refinements, rather than dramatic changes, to the original framing of ‘flexible delivery’ (Robertson, 2009, p. 106); and that the term ‘flexible delivery’ itself carries a connotation that face-to-face teaching is therefore ‘inflexible’, which oversimplifies and undervalues the role that face-to-face
teaching plays within a pedagogical framework. The definition by FLAG above highlights a common thread of the Commonwealth strategy documents to prioritise needs and expectations of industry and learners as key drivers for reforms in the sector, with minimal references to either learning theories or methodologies or the role of the practitioner within the policy literature.

Subsequent strategy documents (I & J Management Services & Australian Flexible Learning Framework, 2005b, 2011) became increasingly narrower in their acceptance of what defined ‘flexible learning’; moving even further toward an ‘e-Learning’ strategy. This is evident by the most recent e-Learning Strategy (Commonwealth of Australia, 2012) which has replaced the term ‘flexible learning’ from the title altogether in favour of the term ‘e-Learning’. Despite a history of strategy documents seemingly referring to e-Learning as a continuation of flexible learning (itself a refinement of flexible delivery), benchmarking surveys have highlighted inconsistencies in what teachers and learners define and consider as ‘e-Learning’ (I & J Management Services & Australian Flexible Learning Framework, 2006, 2011). This suggests that there are still misunderstandings and conflicts around meanings and terminology. The range of definitions such as ‘e-Learning’, ‘blended learning’ and ‘flexible learning’ might also seek to “obscure rather than clarify the debate” (Australian Flexible Learning Framework, 2003, p. 10).

To summarise, government policy discourse has framed the way e-Learning is considered in the sector, however, the language has not always been clear, and has often been framed in terms that highlight economic, convenience or flexibility benefits rather than learning and teaching goals. It is unclear what role these discourses have in forming teacher identities, and how they may or may not align to how VET teachers view the role of e-Learning and their own role as a teacher.

2.3 Teaching and learning considerations

This section outlines a number of teaching and learning considerations presented in the research literature that explore good practice and use of e-Learning within pedagogical theories and models. It also explores the literature in regard to VET learner cohorts and other teaching considerations within the VET context.

Key researchers of the last few decades (Harasim, 2012; Palloff & Pratt, 2007; Prensky, 2010) have discussed ‘best practice’ approaches to incorporating technology in learning and teaching. Much of the literature promotes ‘best practice’ as using collaborative or inquiry-based models (i.e., learner focused as opposed to teacher focused). Researchers, such as Harasim (2012) and Prensky (2010), have proposed new models or theories of learning that place technology as a key actor within the learning process while based upon a constructivist or collaborative framework that places the teacher in the role of facilitator or mentor. Harasim (2012) makes reference to affordances of the technology to create collaborative and knowledge-sharing communities. Prensky (2010) minimises the role of the
teacher in what he terms ‘Partnering’; which takes an inquiry or guided learning approach promoting the idea that learners should be drawn upon for their skills in technology; that it is not the role of the teacher to need to learn to use the technology tools, but that students can be called upon to take on mentor or ‘helper’ roles. However, there are critics who highlight that technology itself will not, by default, lead to pedagogical or educational improvements (Somekh, 2008; Twining, 2001). Selwyn & Gorard (2004), Brennan (2003) and Harris, Mishra & Koehler (2009) point out that while theories indicate that good practice encourages constructivist methods, what is happening in practice may be something quite different, with many teachers continuing to utilise e-Learning and technology to continue traditional, transmission-based approaches.

Much of the e-Learning pedagogy literature suggests that a constructivist approach that places learners at the centre of their own learning, will be more successful and engaging. However, educational theories for e-Learning previously proposed have arguably been designed with other contexts in mind, typically primary and secondary school or higher educational contexts which may not be fully transferable to a VET context. There are also other considerations specific to a VET context that teachers need to consider when implementing e-Learning. This includes VET competency based training (CBT) and other delivery requirements, workplace and industry alignment of skills and knowledge (Anderson, Clemans, & Seddon, 1997) and consideration to the needs and learning preferences of VET learners. Chappell (2002) pointed out:

Where cross-sectoral reference does occur, it typically takes the form of assuming that a good idea in one sector... should be taken up in another...There is little appreciation of the conditions as well as the traditions of theorizing that have shaped different sectors. (p. 2)

While his criticisms were directed upon schools’ adoption of VET pedagogies, the same could be argued in the opposite direction.

When discussing VET learning and teaching considerations, it is important to recognise that VET learners are, for all intents and purposes, ‘adults’. Pedagogic models (such as ‘partnering’ offered by Prensky (2010)) have been designed for a school context and therefore with children or adolescents in mind. In VET, e-Learning needs to be tailored for adult learners. In regard to VET teaching and learning principles and strategies, the term pedagogy, may instead refer to ‘vocational pedagogy’ or ‘VET pedagogy’ (Avis, 2014; Chappell, 2004; Lucas, 2014). This is typically framed around ‘working knowledge’ (Chappell, 2004) and ‘learning by doing’ (Lucas, 2014, p. 5), or the term andragogy (the science of instruction related to adult learning (Knowles, 1980)). Andragogy and adult learning principles typically suggest that adult learners already bring a range of prior experiences and are often ‘goal oriented’, or see learning as an opportunity to build competence. Knowles (1980) suggested the role of the adult educator is to move learners from dependence to self-directedness and that their role is one of “helper, guide, encourager…” (p. 37). This is perhaps not so
VOCATIONAL EDUCATORS’ PERCEPTIONS OF E-LEARNING

far removed from that suggested by Prensky (2010), however, Knowles (1980) argued that a key point of difference from pedagogy to andragogy is that an adult’s “self-concept of self-directivity” is “in direct conflict with the traditional practice of the teaching, telling the students what they need to learn” (p. 47).

Chappell (2003, 2004) argued that contemporary VET pedagogy has taken a constructivist approach and has become more learner-centred, work-centred and attribute focused. A key component of contemporary VET pedagogy within the past two decades has been the change to a competency based training (CBT) framework that was also arguably developed upon a constructivist framework (Wheelahan, 2009). The change was in part due to socioeconomic factors and to align with increased productivity and ‘knowledge economy’ policy aims (Chappell, 2004). Robertson (2009) proposed that other “nationally legitimised pedagogic approaches… supported by policy” (p. 110) within VET are “flexible delivery, flexible learning, online learning, e-Learning and blended learning” (p. 110). An overarching feature of these approaches and within VET CBT, is flexibility for learners in “when, where and how they learn” (Naidu & National Centre for Vocational Education Research, 2003). As Southren (2015) and Robertson (2009) have noted, flexibility includes choice for learners in their own learning. Both Robertson (2009) and Southren (2015) suggested that while CBT and flexible delivery expects or encourages a flexible approach, the reality when incorporating e-Learning has been different, with teachers often falling back to more traditional transmission or lecture-style approaches. Southren (2015) found mixed results in CBT implementation when studying trade teachers – that there “had been very little change in their pedagogical practices in terms of the delivery of trade-related knowledge” (p. 198). So, despite Chappell's suggestions of CBT framed within a constructivist pedagogy, teachers may not be actually implementing it in this way. Walsh et al. (2011) also concluded from their study that “the full potential of technology as a tool for engagement has not been realised in all learning settings” (p. 12). While CBT is arguably a prescriptive framework (Southren, 2015) it is still up to teachers to design and deliver that framework for blended and online approaches.

Southren (2015) found when studying trade teachers’ CBT implementation that teacher attitudes and beliefs of their own role and identity as an authority of knowledge, and their perceptions of their learners, were key factors to the way they implemented pedagogical practices. Southren reported:

Discussions with the participants identified their reluctance to devolve responsibility was in part founded upon a personal belief that the majority of their students were not positioned in terms of maturity and experience to take control of their own learning. (Southren, 2015, p. 201)

Several reports (Beddie & Curtin, 2010; Simmons, 2010; Skills Australia, 2010) have indicated that VET institutions tend to attract and cater to a diverse cohort of learners “with widely different
knowledge... work experience, different motivation, language and numeracy levels and... learning needs” who are often “mixed together” in the same class (Anderson et al., 1997, p. 1). It is also unclear how much teachers’ perceptions and assumptions of their learners vary from the realities of their learners’ actual skills and attributes.

A number of researchers have highlighted that the VET CBT framework and associated processes have a number of challenges or potential challenges in practice that may hinder both e-Learning adoption and the quality of VET practice, and the ways in which teachers integrate e-Learning pedagogies. For example, Figgis and Guthrie (2009, as cited in Callan & Clayton, 2010b) identified that there was a potential perception that those conducting audits were “suspicious of – or unsympathetic to – e-Learning evidence” (as cited in Callan & Clayton, 2010b, p. 3). Callan and Clayton (2010b) further clarified that there were tensions that existed between practitioners and auditors due to e-assessment validity and reliability concerns, and that these could have a negative impact upon the further growth or development of e-assessment.

Callan and Clayton (2010b) have suggested there are potential tensions between VET curriculum, pedagogy, and practice, when delivering e-Learning. While CBT may or may not align with good practice, some teachers may, in fact, not be aligning their practice to either good practice or to CBT. CBT and curriculum training packages, competition and funding changes, technology and flexible delivery have had major impacts to the VET practitioners' role and workload (Harris et al., 2005). These tensions are potential challenges to building VET teaching staff capability and supporting the range of regulatory and curriculum objectives. There are, however, also questions as to whatever approach is taken, whether teachers will change their behaviours and teaching practice, or are in fact motivated by other factors.

2.4 Factors and barriers to technology use

The literature identified a range of factors that act to shape teachers’ e-Learning practices. Teacher beliefs may also be a determining factor on the type of use implemented and what kind of pedagogical practice this use translates to. For example, Ertmer (2005) highlighted that pedagogical practices using ICT are primarily based upon teachers’ existing pedagogical beliefs and values. Somekh (2008) argued that “ICTs do not change pedagogic practices themselves... it is teachers who change practices” (p. 452). Somekh (2008) also argued that pedagogical change is shaped by both teacher beliefs and broader socio-cultural factors (which in turn shape teacher beliefs). Koehler & Mishra (2009) further suggested that teacher practice needs to come from an understanding of how to best integrate technology into teaching practice; bridging the gap between what teachers know about their content knowledge, what they know of teaching (including student cohorts and classroom contexts), and what they know of technology, including its ability to be used in a variety of formal, informal and
collaborative approaches. As such, they argue that teachers require integrated knowledge of three ‘domains’ - pedagogical knowledge, content knowledge and technological knowledge - to successfully integrate technology within educational practice. They offer a representation of these domains through their TPACK model (see Figure 1 below), which recognises these domains but also the complex intersections and interactions of the three in practice. They argue that many teachers are not adequately trained across all the three domains in order to bridge these knowledge gaps.

Figure 1: TPACK Framework


There are other reports from within VET research literature, that VET teachers may not have sufficient skills to implement complex good practice approaches. Research focused on qualifications and professional development of VET teachers have highlighted the disparity of teachers’ professional experience base (Smith & Grace, 2011) and inadequacy or gaps in minimum VET teacher training qualifications (such as the Cert IV in Training and Assessment to prepare VET practitioners for the complexities of teaching delivery and curriculum development) (Guthrie & Clayton, 2010; Robertson, 2008; Smith & Grace, 2011). Smith and Grace (2011) report that VET teachers are not required to hold higher (i.e., University) level nor pedagogical qualifications, and the
minimum training requirements in existence are placed at a low level and often poorly delivered. As such, it is quite possible that teachers’ knowledge and skills both in teaching practice and in relation to e-Learning and technology use may be areas requiring improvement – if so, then VET teachers may not have the skills to effectively integrate these three domains of technological, pedagogical and content knowledge. These gaps may be acting as barriers to effective e-Learning uptake and integrated use in the sector.

Studies that focussed on both perceptions and practices have identified various factors and barriers impacting teachers’ ability to incorporate technology into their practice, such as “environmental variables and individual characteristics of teachers as potential barriers to integration” (Mueller, Wood, Willoughby, Ross, and Specht, 2008, p. 1524). Other factors that are perceived enablers or barriers to adopting and implementing e-Learning have been identified in studies within the VET sector (Australian Flexible Learning Framework, 2003; Jasinski, 2007; Walsh et al., 2011); and also in other educational contexts, including primary and secondary education (Ertmer, 1999; Pelgrum, 2001; Somekh, 2008), and higher education (Birch & Burnett, 2009; Birch & Sankey, 2008; Carr & Fraser, 2014; Wong & Tatnall, 2010). Some researchers (Birch & Burnett, 2009; Birch & Sankey, 2008; Ertmer, 1999) have clarified these factors into personal, pedagogical and institutional/organisational factors. Birch and Burnett (2009) highlighted that “institutional barriers, individual inhibitors and pedagogical concerns impede academics’ adoption and integration of educational technology and thus may account for slow diffusion” (p. 131).

There is often a complex interplay between factors, and potentially teachers are influenced by a combined number of these inhibiting practice. Ertmer (1999) raised concerns that these factors can have a compounding effect: "although teachers may not face all of these barriers, the literature suggests that any one of these barriers alone can significantly impede meaningful classroom use" (p. 48).

Models and frameworks

As this study aims to explore factors that shape VET teachers’ e-Learning practices it is important to explore existing models and frameworks that seek to highlight factors that shape or impede teachers e-Learning and technology adoption and integration more broadly. Key models proposed and studied throughout the past several decades have included the technology acceptance model (see Figure 2) (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) and Rogers’ diffusion of innovations (Rogers, 1983).

The technology acceptance model (TAM) (Davis, 1989; Davis et al., 1989) is one of the more well-known and highly cited models which seeks to explain user acceptance of technology (Chuttur, 2009). TAM identifies three factors: perceived usefulness, perceived ease of use and behavioural intentions. Davis (1989) proposed that a user’s acceptance of a technology is contingent upon the
technology system’s perceived usefulness and its perceived ease of use (from difficulty or effort). He argued that user acceptance is critical to the implementation success or failure of an information system (Davis, 1993).

Several researchers, including Davis (Davis, 1993; Smarkola, 2011; Taylor & Todd, 1995) have highlighted that the TAM model often relies on self-reporting instruments, and predicts intentions rather than actual behaviour. Behaviour may, in fact, be different to attitudes (Belland, 2009). TAM arguably also does not accurately capture individual, social and contextual factors, particularly that of planned behaviour control, which “addresses users’ perceived internal and external constraints that could control for their behavior” (Smarkola, 2011, p. 29). In other words, TAM does not necessarily account for the full range of enablers and barriers that may affect users’ behaviour.

Figure 2: Technology Acceptance Model


Some researchers (Taylor & Todd, 1995; Venkatesh, Morris, Davis, & Davis, 2003) have expanded the TAM model toward a more unified view of users’ technology acceptance and behaviour to account for individual’s attitudes, and environmental and social factors. However, Venkatesh, Morris, Davis and Davis (2003) proposed that many user acceptance related models are underpinned by a basic conceptual framework that recognises individual reactions to using information technology, intentions to use information technology, and actual use (i.e., behaviour), so while other models recognise these broader factors they are still arguably framed within this user to technology interaction.
Rogers’ diffusion of innovations theory (1983) is somewhat more useful, providing another way to explain how and why users adopt technology at different rates and why some users may be resistant to change. Rogers indicated that diffusion or dissemination is concerned with how a new idea is communicated via channels within a social community over time and “is a kind of social change” (p. 6). Rogers suggested that an innovation will be adopted based on a number of factors, including the adopter’s view of the ‘change agent’ (or innovator), the relative advantage of the innovation over the existing technology or process, its compatibility to social norms and the values and beliefs of the adopter, its complexity, and the degree in which the innovation can be trialled by others and observed within the community (trialability and observability, respectively) (Rogers, 1983).

As opposed to TAM, Rogers’ diffusion of innovations model (1983) is broader and can be used in contexts that are not technology-specific. Rogers (1983) frames ‘innovation’ broadly enough so it could potentially be applied to e-Learning itself as a concept, rather than being focused on evaluating acceptance of a particular technology tool. Unlike TAM, it clearly accounts for the role of peers and communities as part of social change, as well as personal beliefs and attitudes. The model also allows for rates and degrees of change and considers the role of time as part of the change process. However, Rogers' model is more concerned with rate of adoption across a group, and the communication process involved in influencing new adopters, and so again, it is not directly relevant. Ertmer, Gopalakrishnan and Ross (2001) also warned that clarifying innovative use and ‘innovativeness’ is “a slippery construct” (p. 12) as teachers’ self-beliefs and the ways in which colleagues and teachers consider themselves as innovators may not necessarily align to that of the literature. Some of Rogers (1983) components do, however, hold promise in being applied to this process of adoption to sustained use, such as the classification of adopter categories and the framing of the adoption and integration decision-making process, including the possible rejection of an innovation.

More recent frameworks have sought to categorise the range of internal and external factors influencing teachers. These often use qualitative methods rather than quantitative data methods that TAM and diffusion of innovations models employ. These have included frameworks proposed by Birch and Burnett (2009), Birch and Sankey (2008), Carr and Fraser (2014), and Surry, Ensminger, and Haab (2005).

Birch and Burnett (2009) found that institutional, individual, and pedagogical factors shaped academics’ adoption and integration of online learning within distance and online environments (see Figure 3 below). Birch and Burnett’s (2009) framework is useful because it acknowledges both internal and external factors, adoption and longer-term integration and sustained use.
Birch and Burnett’s (2009) framework breaks these factors of teachers’ technological practice into motivators, enablers and inhibitors. It recognises that personal motivations and beliefs can fall into ‘opportunistic’ ‘personal’ and ‘pragmatic’ categories – an approach slightly different to other models. Typically, the researchers have discussed factors broadly rather than tried to heavily categorise or segment them, and as such there is some overlap across these three themes. While their framework investigates distance higher education courses and explores distance/online rather than blended modes, their framing of distance education and multimodal technologies appears to hold alignment to VET descriptors of flexible delivery and e-Learning.

Surry, Ensminger and Haab (2005) argued, based upon a review of the literature and their own limited research, that factors such as resources, infrastructure, people, policies, learning, evaluation and support were barriers to technology integration. They proposed the RIPPLES framework where each of these factors were considered separately. Jasinski (2007) has since applied the RIPPLES model within a VET context. Birch and Burnett (2009) also extensively referenced Surry et al. (2005) within their own study and development of their 2009 framework.
Carr and Fraser (2014) categorised factors as “domains of influence” (p. 3) and related these to external, organisational and personal domains. Their categorisation is perhaps one of the broadest as they not only recognise institutional factors that influence use, but also social, environmental, technological and political factors shaping the landscape in which educators work, as well as educators’ personal “beliefs, knowledge and skills about learning, teaching and technology” (p. 3).

For the purpose of this study, the framework by Birch and Burnett (2009) in particular offers a flexible approach that encourages more qualitative and interpretive modes of collection and analysis than Ripples. It allows VET teachers to frame the discussion in an emergent way, and so it has been adopted for use in this study. However, the other frameworks also hold insights into the ways in which individual, institutional and other factors may influence teachers’ e-Learning decisions in practice and I have kept this in mind as I designed the framework for this study.

External factors
My review of the literature across educational sectors identified that there were several key institutional factors that seemed to be shared. I have used these to inform my thematic analysis and the structure of the findings chapter. While not an exhaustive list, a review of the literature allowed me to identify several key common external factors pertaining to the institution or environment that were barriers or inhibitors to adoption and integration. These were:

- technological infrastructure and resourcing;
- professional development, training and support (including pedagogical and technical support);
- institutional policy, management and administrative support; and,
- time (including time allocation and time availability).

Technological infrastructure and resourcing
Jasinski (2007) described technological infrastructure and resourcing as the ‘I’ for ‘infrastructure’ within the Ripples framework. It includes hardware and software for teachers and students to deliver and participate in practice and also administrative resources, including registration and grading software for an online environment. Other technological barriers described in other studies include insufficient access to computers and high-speed internet; either within the educational institution and/or offsite, and unreliable hardware and software (Pelgrum, 2001). Walsh et al. (2011) noted that assumptions cannot be made regarding students access to technology on and offsite, nor their digital literacy competency, with students from low socio-economic backgrounds more likely to be disadvantaged. Technical infrastructure factors typically appear within studies that explored school-based practice or VET practice, and seemed to be less of a barrier to those working within higher education.
The RIPPLES model (Jasinski, 2007; Surry et al., 2005) separates technical infrastructure and resourcing from broader resourcing factors such as costs, but some studies link technological infrastructure and resourcing to other infrastructure and resourcing issues, particularly time (Baek et al., 2008; Cox, Preston, & Cox, 1999; Pelgrum, 2001). Therefore it indicates a messy relationship and interdependencies. This could potentially compound issues for teachers, creating a greater overall barrier to e-Learning use. Ertmer (1999) expressed concerns for the compounding influence of first-order (i.e., external) barriers on teachers trying to integrate technology, that "having to deal with numerous first-order barriers simultaneously may frustrate teachers who feel pressured to overcome every barrier before beginning the integration process" (p. 51).

**Professional development, training and support**

Professional development, training and support factors include access to support resources, support staff and relevant professional development opportunities. Several studies (Bowman & Kearns, 2009; Guthrie & Every, 2013; R. Harris, Simons, & Clayton, 2005) have reported VET teachers feeling unprepared or lacking capability to successfully implement technology within their practice. Teachers may lack a clear vision of how technology can enable best pedagogical practice (Cox et al., 1999; Ertmer et al., 2001; Mumtaz, 2000) and may be using technology in ways that are neither aligned to exemplary practice nor their pedagogical beliefs (Ertmer et al., 2001). There is increasing recognition (Harris et al., 2009; Somekh, 2008) that support and professional development frameworks need to target pedagogical practice in order to be most effective to practitioners, and that technical training and support is needed for teachers to effectively implement technology within the curriculum (Birch & Burnett, 2009; Mishra & Koehler, 2006). Professional development should be targeted, customisable and/or personalised where possible (Australian Flexible Learning Framework, 2003; Birch & Burnett, 2009; Giardina, 2010) and it should recognise the differing needs of users, particularly between early adopters and later adopters or mainstream users (Australian Flexible Learning Framework, 2003; Jasinski, 2007).

In addition, the positive effects of mentors and peer support have been highlighted as aiding teachers in technology adoption and integration – potentially both in terms of diffusion of technology (Birch & Sankey, 2008; Jasinski, 2007) and in terms of the type of practice (Cox et al., 1999). Beltman (2009) argued that professionals’ learning is “social, situated and constructed” (p. 193) and these social contexts shape individual beliefs. Koehler, Mishra, Hershey and Peruski (2004) argued that modelling is an important component, while recognising teachers’ attitudinal beliefs as a dependency, as "… faculty members are often not well versed in technology. Additionally, many have learned successfully to be students and instructors without the use of technology, and therefore often question its relevance" (p. 28). This would suggest that modelling could be important not only for
demonstrating good practice but also for motivating teachers or equipping them with a rationale for adopting e-Learning.

**Institutional policy, management and administrative support**

Birch and Burnett (2009) reported institutional barriers in higher education distance and online contexts that impeded academics’ e-Learning implementation. These were a lack of academic leadership, vision, clear policy and strategies, and a lack of administrative support. In schools, barriers have included a lack of a clear ICT development plan (Twining, 2001) and a lack of a whole-school process for implementing change (Cox et al., 1999).

Within the VET context, Jasinski (2007) found that the key factors inhibiting e-Learning integration were a lack of policy, tensions between policy and innovative practice, and a lack of understanding of e-Learning by management. Guthrie & Clayton (2010) noted a range of limitations in management capability within VET, and highlighted that funding models have imposed barriers around innovation and flexibility, effectively forcing an approach that is contradictory to that recommended by Commonwealth policy. Hamish Coates, Meek, Brown, Friedman, Noonan and Mitchell (2013) have likewise identified that VET leaders feel underprepared to lead, under “constant pressure to be more responsive” (p. 824), and without “sufficient capacity to lead change”, possibly due to “the complex and ever changing policy, funding and regulatory environment” (p. 823).

**Time**

Multiple researchers have highlighted the important role that time plays for teachers in e-Learning integration, including: the amount of time required to “experiment” (V. Callan & Bowman, 2010); to successfully develop technical knowledge and gain self-efficacy (Albion, 2001; Mueller et al., 2008); and to integrate new knowledge with pedagogical decisions (Koehler et al., 2004). Lack of time for teachers is often identified as an inhibitor to teachers’ technology integration across differing education contexts from primary and secondary (Baek et al., 2008; Cox et al., 1999; Ertmer, 1999; Hew & Brush, 2007; Mumtaz, 2000) to higher education (Birch & Burnett, 2008, 2009); and VET (Australian Flexible Learning Framework, 2003; Jasinski, 2007).

Time has been reported as an internal and external factor within different contexts. Mumtaz (2000) and Ertmer (1999), when referring to primary and secondary education contexts, describe time as a resource and infer that this should be provided by the institution. Birch and Burnett (2009) instead typically account for time as an ‘individual factor’ in higher education settings, and as such seem to propose that this is within the individual’s control.

Some researchers, particularly within tertiary contexts (Birch & Burnett, 2009; Jasinski, 2007; Robertson, 2007) have also highlighted the influence of time, but have argued that resistance may be due to time management or a matter of priorities (Birch & Burnett, 2009; Jasinski, 2007). Within the
VET sector, however, in regard to flexible learning, "the issue of time is a complex one" (Australian Flexible Learning Framework, 2003, p. 51) with teachers’ use of time linked to increases and changes to the practitioner role and the client/practitioner relationship (Australian Flexible Learning Framework, 2003).

While teachers require time to integrate e-Learning into their practice, they may also have motivations to use e-Learning “based on convenience” (Baek et al., 2008, p. 233) and therefore hold assumptions around the role of technology to save time (Baek et al., 2008). However, several researchers have reported that participants often highlight that e-Learning is also incredibly time consuming (Birch & Burnett, 2008; Jasinski, 2007).

**Individual or personal factors**

As Tondeur (2008) asserted, issues of teachers’ technology integration “cannot be restricted to merely technology-related factors. The integration of educational computer use in professional competencies of teachers implies a more complex approach… the adoption of educational innovations can only be explained when also educational beliefs of teachers are taken into account” (p. 2452). Not only can factors related to the institution or environment influence teachers’ e-Learning adoption and integration, but individual factors such as teachers’ perceptions, characteristics and beliefs and attitudes have also been found to contribute to their motivation and decisions to adopt and integrate technology (Birch & Burnett, 2008) and to contribute to their sense of identity (Beltman, 2009; Ertmer, 1999; Pajares, 1992). These factors have been classified as individual factors (Birch & Burnett, 2008, 2009) personal factors (Carr & Fraser, 2014), or second-order barriers (Ertmer, 1999). They include teachers’ personal attributes or characteristics, their technological confidence or self-efficacy beliefs, and other beliefs and/or attitudes about learning and e-Learning.

Studies that have reported differences between e-Learning adopters and innovators compared to other users, have identified that teachers’ personal characteristics or attributes may influence their e-Learning adoption. The research literature have highlighted a range of personal characteristics that appear more common to innovators and adopters, or appear to act as enablers to technology adoption. These include:

- teachers’ past experiences with technology (Belland, 2009);
- e-Learning confidence, self-efficacy and/or perceived technological ability (Albion, 2001);
- willingness to take risks compared to being risk averse (Birch & Burnett, 2008, 2009; Callan, Johnston, & Poulsen, 2015; Jasinski, 2007);
- openness to change, ability to handle change and ambiguity (Jasinski, 2007; Mishra, Koehler, & Kereluik, 2009); and,
• interest in and enjoyment of technology (Davis et al., 1989).

Some of these factors may in fact be linked. For example, Mishra and Koehler (Mishra et al., 2009) suggested that teachers’ who were willing to experiment and can handle ambiguity were more likely to have, or be able to acquire, the skills and knowledge across technological, pedagogical and content domains to be able to successfully integrate technologies. However, some of these characteristics, while potentially enablers, do not appear to influence teachers in all contexts. For example, Davis (1989) and Birch and Burnett (2008) highlight that enjoyment is not necessarily a clear predictor of adoption and integration.

There are also suggestions (Australian Flexible Learning Framework, 2003; Bliuc et al., 2012) that teachers’ personal experiences and perceptions contribute to their willingness to engage with technology, and the types of activities, tools and level of use they will employ. These perceptions may include understandings of definitions or meanings, past experiences with using ICT and e-Learning, or personal beliefs as to what constitutes best practice. As Bliuc et al. (2012) noted, “…in the context of vocational education, teachers develop qualitatively different conceptions of blended learning, as well as qualitatively different approaches to both teaching and design” (Bliuc et al., 2012, p. 252).

**Teacher motivations, beliefs and attitudes**

A number of researchers (Abbitt, 2011; Birch & Burnett, 2008; Ertmer, 1999, 2005; Jasinski, 2007; Pajares, 1992) have pointed out the role of beliefs and attitudes in shaping teachers’ adoption and integration of e-Learning or ICT technologies. Ertmer (1999) and Ertmer & Ottenbreit-Leftwich (2010) suggested that integrating technology required a shift in the ways in which teachers conceptualise their role, relationships and teaching style; a degree of change is required, which may include change of beliefs, attitudes and/or pedagogical knowledge. Pajares (1992) argued that it was important to not only look at teachers’ knowledge but also their beliefs, in order to understand the how and why of their practice.

Bandura (1989) argued that ‘self-efficacy’, a belief in one’s ability to complete tasks and attain goals, would influence an individual’s behaviour, and that those with low self-efficacy may be less likely to complete a course of action. A teachers’ capability and behaviour when integrating e-Learning may be linked to their self-efficacy (Albion & Ertmer, 2002). e-Learning self-efficacy may in turn be linked to their integrated technological and pedagogical knowledge to time they spend using technology (Albion, 2001; Koehler & Mishra, 2005). However, Abbitt (2011) noted that while increased knowledge domains can positively increase a teacher’s self-efficacy, current research has so far been inconclusive and points to a complex and dynamic relationship between content, pedagogical and technological knowledge domains and self-efficacy.
Teachers’ attitudes about the ease of use (Davis, 1993) and the usefulness and relevance of technology for job-related tasks (Bruner, 2007; Cox et al., 1999; Davis, 1993; Ertmer, 1999) might influence teachers’ adoption. Koehler, Mishra, Hershey and Peruski (2004) asserted that “… these attitudinal beliefs, at least within a higher education context, are likely to impact use moreso than external technical or infrastructure related factors” (p. 28). Teacher perceptions of the usefulness and relevance of e-Learning and ICT has been related to ‘pragmatic factors’ (Birch & Burnett, 2009) including convenience, such as for class preparation and management (Baek et al., 2008) and recognising the ‘value’ of e-Learning (Jasinski, 2007), including the relevance of e-Learning for pedagogical objectives (Koehler et al., 2004). Teachers may also use technology for their own personal or professional objectives, such as being innovative or ‘regenerating’ their teaching (Birch & Burnett, 2008). As Cox offers:

*If teachers see no need to question or change their professional practice then… they are unlikely to adopt the use of ICT. However, if they perceive ICT to be useful to them, their teaching and their pupils’ learning… they are more likely to have a positive attitude to the use of ICT in the classroom.* (Cox et al., 1999, p. 5)

Ertmer (2005) and Mueller et al. (2008) noted that while teacher beliefs on practice in a range of disciplines have been well documented and explored, their beliefs on technology or ICT use specifically are underrepresented. This is particularly true of research relating to VET and e-Learning, as studies around teacher perceptions have typically explored primary and secondary education contexts (Ertmer, 2005; Somekh, 2008; Voogt, 2010).

### 2.5 Summary

Research within the VET context is growing, however, many previous studies have either been narrow in scope (Australian Flexible Learning Framework, 2003) or have typically been large-scale studies using survey instruments (Bluc et al., 2012; Walsh et al., 2011) which limits the ability to use fully exploratory, open methods of data collection. A review of the literature has uncovered a number of key internal and external factors that have been found to shape teachers’ practice within other studies and across different educational contexts. These related not only to factors identified by teachers across contexts, but also considerations that were specific to the VET sector, including market drivers and changes to the sector as a whole, the way in which pedagogy and flexible learning is framed within the discourse, and the requirements on teachers to consider VET learners and VET requirements. Broader factors that acted as enablers or barriers toward e-Learning integration were related to the role of training, infrastructure and time management.
The role of teacher beliefs, and how those are intertwined with teachers’ pedagogical understandings and decisions were a common factor in the research literature. There appeared to be a complex relationship between teachers’ beliefs and other individual and pedagogical factors, and tensions between these individual, personal factors and other factors that are outside of the control of the teacher. There is still a limited amount of research related to teacher perceptions in regard to e-Learning in the VET sector generally, and in particular studies that bring teachers’ voices and narratives to the centre of the discussion. As such, there is limited understanding of VET teachers’ beliefs and how these beliefs shape their e-Learning adoption and integration decisions.

This study aims to shine a light on these tensions and complexities: to offer a more in-depth account of the factors that are shaping teachers decisions to adopt, and their ability to implement e-Learning at a practical level; to uncover the ways in which they think about technology, their learners, themselves and their practice in meaningful ways.
3. METHODOLOGY

This study was designed to address the following research question and sub-questions:

How does the use of e-Learning influence VET teachers’ perceptions and decisions about their teaching practice?

- What perceptions and challenges are VET teachers experiencing when adopting, utilising and sustaining e-Learning technologies within their teaching practice?
- What factors shape VET teachers’ and learners’ experiences when adopting and using e-Learning?
- How do these factors and experiences shape teachers’ decisions and behaviours when using e-Learning in educational contexts?

To investigate how the use of e-Learning impacts on vocational education teachers and the factors that have shaped teachers’ perceptions and decisions in their e-Learning practice, I undertook a small-scale qualitative investigative inquiry. I conducted semi-structured and unstructured interviews with seven different vocational education teachers operating at a dual-sector, multi-campus institution. I interviewed these teachers at targeted points within a semester’s teaching period (approximately six months). This allowed me to capture their interpretations and points of view through a narrative discourse. It also enabled me to investigate the participants’ perceptions of e-Learning through an emergent framework that recognised their voice within the narrative, and allowed for “securing rich descriptions” (Denzin & Lincoln, 2011, p.9).

I used a qualitative method as defined by Creswell (2009) and Denzin and Lincoln (2008) as my methodology of inquiry. Both Creswell (2013) and Denzin and Lincoln (Denzin & Lincoln, 2011) emphasised the benefits of using qualitative analysis in capturing the individual’s point of view. This included their interpretations, representations and meanings of their experiences. Denzin and Lincoln (2008) additionally argued that qualitative methods, particularly observation and interview methods of inquiry, supported the ‘capturing of the individual’s point of view’, ‘gathering and securing rich descriptions’ and ‘examining the constraints of everyday life’ (p.9); these were important for
unpacking processes and tensions that occurred in practice. Denzin and Lincoln (2008) claimed these everyday tensions were likely to enrich the data and that it was important to acknowledge and tease these out in the research process.

Qualitative analysis also allowed for multiple perspectives, voices and differing participant meanings, in addition to the ‘rich descriptions’. This approach has enabled me to delve not only into questions of what technology use is occurring, but why and how teachers were using e-Learning technologies, their motivations and rationale, personal thoughts regarding choices they made and the complexities, tensions and contradictions that occur in their day-to-day practice. It allowed me to ask more open and interpretive questions than would have been possible using quantitative methods.

3.1 Theoretical Framework

The theoretical framework used in this study, has been informed by constructivism – an approach to research that aims to understand "the subjective world of human experience" (Cohen, Manion, & Morrison, 2013, p. 17) by recognising that a subject’s world and knowledge (their reality) is constructed and, at least in part, subjective. Crotty (1998) identified constructivism as closely aligned to qualitative methods because of the distinct focus on the subject of the experience and what their meanings and perceptions bring to shaping that experience. As this study explores the interactions between the subjects (VET teachers) and object (technology tools, e-Learning), it has been informed by Crotty’s interpretation of constructionism in this way. Meanings emerge from these interactions and are both objective and subjective – objects shape subjects, and vice versa. While participants’ experiences with technology have been the focus of this study, teachers’ contexts are socially situated and will also influence these individual meanings. Creswell’s (2013) description of a social constructivist framework has been a secondary influence because it allows the researcher to “look for the complexity of views” (p. 25) and recognise teachers’ complex contexts, including personal background and their interactions with learners, support staff and others. The concept of ‘complexity of views’ has shaped, where relevant, an emergent approach that recognises this complexity of teachers’ perspectives. Both in the interview process and the analysis phase, this concept has informed my interview questioning approach using open and semi-structured questioning techniques, and the thematic analyses and presentation of data.

Narrative Inquiry

I have also been greatly shaped by narrative inquiry as an appropriate framework. Connelly and Clandinin (Clandinin, 2013; Connelly & Clandinin, 1990) argued that narrative was both a
phenomenon and a methodology. While narrative analysis could be used to frame studies designed using other methodologies, narrative inquiry could also be considered a distinct methodology that offers a particular way of looking at the world, participant interpretations, and the relationships between participant, researcher and data.

My interviews were undertaken using a narrative inquiry approach. This allowed me to be inductive and exploratory in order to better understand teachers’ needs and challenges. Connelly and Clandinin (1990) described narrative inquiry as “the study of the ways humans experience the world” (Connelly & Clandinin, 1990, p. 2). It allowed a way to understand an individuals’ experience but also the “social, cultural and institutional narratives within which individual’s experiences are constituted, shaped, expressed, and enacted” (Czarniawska, 2004, p. 41).

As discussed in Chapter 1, there is a complex policy and political context that surrounds VET education. Narrative inquiry allowed me the lens to view and interpret the data that takes into account these social and political contexts, individuals’ stories of educational experiences, and the complex relationships between practitioners and learners, and practitioners and institutions. Narrative inquiry was informed by Dewey’s theory of experience as an underpinning philosophy (Clandinin, 2013). However, Clandinin and Connelly noted that narrative analyses and narrative inquiry was a relatively new area of inquiry and so approaches are still being developed (Clandinin, Pushor, & Orr, 2007; Connelly & Clandinin, 1990). Clandinin (2013) argued that narrative has “come to refer to almost anything that uses… stories as data, narrative or story as representational form, narrative as content analysis, narrative as structure, and so forth” (p. 11).

Connelly and Clandinin also noted that narrative inquiry was important in educational research:

... education is the construction and reconstruction of personal and social stories; teachers and learners are storytellers and characters in their own and other's stories... Narrative is a way of characterizing the phenomena of human experience. (Connelly & Clandinin, 1990, p. 2)

Narrative inquiry affords what Connelly and Clandinin (1990) referred to as an ‘invitational quality’ (p. 8) of data results or findings – inviting other researchers to put themselves in the place of the researcher and participant to consider the story told. The ‘invitational quality’ of narrative inquiry recognises subjectivity and affords a degree of empathy that allows narrative inquiry to be readily applied to small-scale investigations, as:

When I disclose what I have seen, my results invite other researchers to look where I did and see what I saw. My ideas are candidates for others to entertain, not necessarily as truth, let alone Truth, but as positions about the nature and meaning of a phenomenon that may fit their sensibility and shape their thinking about their own inquiries. (Peshkin, 1985, p. 280)
A key advantage of narrative inquiry is that it gives weight to the participant’s voice. In such a small-scale study it is difficult to either generalise or transfer findings more broadly, however, it is possible to focus on these individual stories, moments and emotions of the subjects involved; to reflect on what these stories are saying and not saying, and the perspectives and ideas we as researchers and practitioners can take from them. As described previously within other chapters, my interest in this study has been to provide VET teachers with a voice which has often been missing within the research literature. Narrative inquiry allows for a “collaborative stance between practitioner and researcher” (Clandinin & Connelly, 1988, p. 270) where the voice of the researcher can be included where needed, but also prioritised within the narrative. Connelly and Clandinin (1990) described that:

In narrative inquiry, it is important that the researcher listen first to the practitioner's story, and that it is the practitioner who first tells his or her story. This does not mean that the researcher is silenced in the process of narrative inquiry. It does mean that the practitioner, who has long been silenced in the research relationship, is given the time and space to tell her or his story so that it too gains the authority and validity that the research story has long had. (Connelly & Clandinin, 1990, p. 4)

Narrative inquiry has allowed for the participant voice (in this case VET teachers) to be prioritised, but also the relationships between myself as researcher and the participants were now made visible. I already had an existing professional relationship with some of the participants. While I aimed to let the participants speak for themselves, the relationships and my own personal background have affected both my rationale for my study and the way some of the dialogues played out in the field – such as where participants would ask questions of me and what I thought. Narrative inquiry recognises these relationships and enables these interactions to take place, and makes me consciously aware of such.

It was important to me to ensure that the participants were given the ‘time and space’ to tell their stories and to contribute to a collaborative research relationship. Clandinin and Connelly (1988) referred to these interactions as ‘negotiation of entry’, acknowledging the researcher voice as part of a collaborative research relationship or what they term a “caring community” (Connelly & Clandinin, 1990, p. 4). This is a place where all parties view themselves as participants in a research community and is important for establishing and maintaining trusting relationships. My role as a support person at the site and my background in VET, enabled me to be empathetic and relate to their stories.

### 3.2 Site and sampling

The seven teachers interviewed were vocational educators working within one institution, located within an outer suburban area in an Australian capital city. While the teachers were all working for
the same institution, they worked across campuses, departments, and discipline areas. As such, the aim was to find both similarities or common themes and differences in these teachers’ perceptions, including their decisions and rationale for using e-Learning, their perceptions of their learners, and the practices taking place.

The institution in question at time of data collection was:

- **Multi-sector:** The site offered both higher education and vocational/further education courses, which presented a potential diversity of learner and practitioner backgrounds.

- **Multi-campus:** The site offered courses across a number of campuses and for specific disciplines within particular campuses. This potentially had an effect on the diversity of learners, and the differences between participant experiences located on different campuses. There also seemed to be physical differences across campuses, such as building design and easy access to facilities.

- **Dispersed locations:** campuses were dispersed between inner and outer metropolitan suburbs, with some campus locations situated in areas that were likely to attract learners from low-socio-economic means and EAL (English as an Additional Language) backgrounds. Again, this would potentially shape learners’ backgrounds, expectations, perceptions or needs based on their location. Learners may also have different challenges in relation to using and gaining access to technology. These contextual factors could affect participant decisions in their e-Learning practice. Being a multi-sector institution placed within a socio-economically and ethnically diverse community meant that the courses attracted a diverse range of students.

I chose the site partly due to ease of access, having existing professional relationships with the institution and several of the participants or relevant networks to source appropriate individuals who had some experience with e-Learning and were currently using some form of e-Learning with student cohorts. As such, I was able to contact identified individuals already using e-Learning, and I was also able to contact faculty or department representatives who either suggested further members to invite as participants or distributed my invitation to participate within their networks. This included contacting support teams and funded e-Learning project members, as well as department heads and supervisors/managers.

I had aimed to sample participants from not only a range of disciplines and backgrounds (as well as where possible, an age and gender spread), but also from a range of skill levels and experience with e-Learning. While I was able to organise sampling that addressed the former, gaining the appropriate range in level and experience of use was more challenging and in the end proved to not be possible within the time constraints allocated for data collection. As such, the final seven participants had rated themselves as highly confident with e-Learning technologies and generally considered...
themselves more ‘enthusiastic’ adopters of technology, compared to their institutional peers or colleagues. Further detail regarding the participants including demographic data and self-ratings regarding e-Learning technology self-efficacy is discussed within the findings and discussion chapters (Chapter 4 and Chapter 5).

Originally, I had intended to interview four teachers as case studies, interviewing an individual teacher and a specific program they were conducting that utilised and included e-Learning; I was concerned with the unit or teaching program being the individual ‘case’. However, it became noticeable during data collection that this was too limiting for participants – many wanted to discuss their previous experience with the tools, and it was not beneficial to separate out history and current practice. It also became clear that four participants did not allow for the breadth of voices needed to understand teacher perceptions and allow for authenticity and accuracy in capturing teachers’ experiences. There were also concerns regarding attrition - as job instability was a factor at the site, I was aware that participants would potentially remove themselves from the study either voluntarily due to competing demands and priorities affecting their time, or external circumstances such as changes in job role or employment status affecting their suitability for the study. An approach that was more open and more suited to narrative inquiry as such began to take shape.

As explained below, participants were expected to be interviewed on three separate occasions. Of the seven participants, one participant (Sava) pulled out of the study after the first interview due to external circumstances. However, as his e-Learning practice was quite different from the other participants, parts of his transcript are still provided in this study to explore and provide counter argument to other participant voices. Another participant (Cam) was only able to provide two interviews because he resigned from the institution during the data collection phase of this study. His two interviews, however, provided enough context to be included and referenced within the study.

### 3.3 Data collection

Semi-structured interviews were undertaken with participants in order to gain their personal views regarding their use of e-Learning and how this shaped their current practice, and to allow them to guide the discussion. As suggested by Kvale (2008) and Creswell (2009), I used a sequence of introductory questions and follow-up questions that aimed to probe, specify or interpret, and gather more detail or elaboration on the topic. Generally, this process involved two or three interviews with each teacher, where possible over the course of a six-month (typical teaching semester) period. Interviews were conducted one-on-one as in-depth interviews (IDIs) with semi-structured and unstructured open-ended questions, in alignment with what Guest, Namey, and Mitchell (2013) classified as ‘inductive probing’. This allowed me to tease out the participant’s professional and teaching background, their practice, and the experiences, factors and barriers that impact what they do.
when using e-Learning technologies with their learners. Such questions aimed to explore teachers’ understandings of technology, their current knowledge and perceptions around their learners, their current practice, and what kinds of technology they were using (or not using) and why. Guest et al. (2013) noted that IDIs were “an excellent way to answer how and why questions” (p. 118), to dynamically shape the interview, describe processes and learn how events are interpreted. A list of the structured and semi-structured questions can be found within the Appendix, noting, however, that unstructured questions that were born out of the interview process and acted as further probing are not listed.

Some structured questions were used to gather demographic and background data of the participants, these included age, and an attempt to gather participants’ personal definitions of e-Learning. A further question asking teachers their e-Learning confidence (framed as a likert scale from zero to five - zero for never used e-Learning, one to five noting level of confidence from low to highly confident) was used to gauge participants’ self-reported e-Learning self-efficacy. Semi-structured questions regarding teaching and e-Learning background were used similarly across participants but the way and times these questions were raised would vary, in order to recognise and take advantage of both the relationships being formed and the natural flow of conversation and narrative. Questions regarding learner cohorts and personal thoughts, and experiences regarding pedagogy and course design, often began with some structured or semi-structured questions but evolved and developed to unstructured questions to probe teachers’ experiences and to clarify their meanings. This was also a way to look deeper into how the teachers discussed their philosophy and rationale for e-Learning versus their descriptions of their actual practice - as the two may not necessarily be in alignment. This enabled me to investigate tensions or contradictions in their narrative, or examples that confirmed their descriptions.

Both Connelly & Clandinin (1990) and Mishler (1986) have discussed the use of unstructured interview as a method in narrative enquiry. Fontana & Frey (2005) noted that unstructured interviewing uses open ended questioning and attempts to understand complex behaviour by not enforcing the data into strict categorisation that “may limit the field of inquiry” (p. 706), but would allow for more open themes to emerge.

The interviews were generally staggered at the beginning, during and end of the semester teaching period, in order to discuss with each participant their experiences with their students during the length of a typical course/teaching program, and to explore whether the participants’ perceptions and practice or the factors influencing their practice had changed over this time. The second and third interviews also acted as follow up interviews that both expanded upon and clarified previous interview data and also discussed new practices and challenges occurring since previous interviews. The staggered approach also allowed me to further build relationships over the data collection period, leading participants to offer more candid reflections and conversations.
I was also cautious to not lead too heavily. It was important that the participants could, by themselves, recognise and articulate their own concerns regarding factors that enabled or hindered their practice, the elements and experiences that they found successful or interesting, and those that clarified, validated, or challenged their rationale for using e-Learning.

### 3.4 Data analysis

In Chapter 2, I reviewed the existing literature to identify frameworks and models that described factors that enabled or hindered the use of ICT in educational practice that could be applied to e-Learning use. These included the Technology Acceptance Model (TAM) (Davis, 1993) and related variations or developments thereof, Rogers’ diffusion of innovations (Rogers, 1983) and the RIPPLES framework (Surry et al., 2005), particularly its use by Jasinski (2007) with VET practitioners. Many of these existing frameworks, however, are based on quantitative instruments. Frameworks and models such as TAM also seem to prioritise technology in regard to user interaction, compared to other individual and social factors that may shape, complicate or disrupt these interactions in practice. I instead felt it was imperative to look toward a more emergent framework given the limited data specific to VET contexts, and to provide opportunities for the VET teachers’ voice to frame the discussion.

Venkatesh et al. (2003) highlighted that the proliferation of a number of models required researchers to either ‘pick and choose’ from across models or “choose a ‘favoured model’ and largely ignore the contributions from alternative models” (Venkatesh et al., 2003, p. 426). When analysing and discussing the data of this study, I focused and primarily structured my analysis and discussion of the data, based on the framework proposed by Birch and Burnett (2009). That framework examined factors impacting educators’ development of distance education materials (discussed at length in Chapter 2 section 2.4, Models and frameworks). Their framework recognised and categorised data under individual, pedagogical and institutional themes (Birch & Burnett, 2008, 2009), and noted a number of personal or individual ‘personal, opportunistic and pragmatic’ motivations and inhibitors that teaching staff could be influenced by when adopting and integrating e-Learning. While their framework is specific to the higher education context and to online or distance-based learning, their study explored and recognised both adoption and wider diffusion considerations for institutions and sought to present a holistic view of the factors and both the personal but also wider social contexts that affected educators’ motivations. The framework also seemed open and flexible enough to allow for an emergent analyses of themes. Narrative inquiry also allowed a way of considering and working with the data that did not try to force simplicity or categorisation, but allowed for the complexity of individual’s lives and interpretations (some of which may be contradictory), and to embed social and
other contexts where relevant, and in this way, the framework provided by Birch and Burnett aligns to a narrative approach.

The factors identified by Birch and Burnett (2009), however, while open and flexible, were broad and not as clearly categorised as other studies. Where required, I have consulted across the literature to seek clarity in my categorisation, to deepen my interpretation of Birch and Burnett (2009) and to identify common themes across studies. I have found it beneficial through the process to review their categorisation of factors across three studies (Birch & Burnett, 2008, 2009; Birch & Sankey, 2008). While two studies (Birch & Burnett, 2009; Birch & Sankey, 2008) provided adapted versions of the framework, an earlier study developed by Birch and Burnett (2008) provided further explanation of individual factors, which I have used to inform a deeper understanding of how they classified these particular influencers. This approach enabled me to be informed of the participants’ concerns and experiences (rather than imposing my views), and to attempt to build a picture of the vocational education context that recognises and builds on previous work while framing multiple perspectives in the narrative.

I analysed the interview data to look for and code across common themes. This was undertaken in multiple passes. Firstly, a loose pass was undertaken to categorise data into individual, pedagogical and institutional factors in keeping with the Birch and Burnett (2009) model. I also identified and coded the data against themes, including perceptions of self, motivations for using e-Learning, definitions of e-Learning and perceptions of learners, as well as specific external factors based on the literature including technology and technical considerations, training, technical support, management support, administrative support, collegiate support. This allowed me to gain a quick sense of the key themes and some interesting data that emerged from the transcripts. I then reviewed general themes and contextual information from field notes, participants’ online courses and VET policy and research in order to strengthen my analyses of the data. This process could be considered a form of ‘bricolage’ (Denzin & Lincoln, 2008), or building what Stake (2010) referred to as “a collage of patches, structured by experience and contexts” (p. 180-181) where “different patterns emerge” (p. 137).

Further passes of the interview transcripts saw a reconfiguring and refining of what was considered ‘interesting’ or ‘important’ and resulted in new ideas that had previously been missed. Several themes that did not easily fit into the categories outlined by Birch and Burnett (2009) emerged from this process; for example, factors that did not easily fit within institutional factors that were classified as ‘external’ and ‘other’. During subsequent review, these were identified as predominantly linked to only two or three specific themes related to institutional and VET sector change.

The use of a narrative approach, particularly the use of quotes for the data presentation was chosen to establish fluidity in the structure, or, as Mishler (1986) suggested, cohesion in the presentation and narrative of the participant responses that prioritised and strengthened the participant voice. Combined with the Birch and Burnett (2009) framework, Factors influencing academics’
development of e-Learning environments, this approach allowed my data analyses and findings to be guided by the teachers’ responses - that in turn allowed me to make connections and build themes across the data that I was not expecting, therefore adding to the richness, quality and validity of the data.

**Ethical considerations**

My study has only investigated teacher perceptions regarding their practice. As such, the study is low-risk in that it involves consenting adults who were in a position to responsibly give consent. All names used in this study are pseudonyms so that participants’ would not be readily identified. The study did not investigate topics involving highly risky themes where there would be a danger of harm to the participants. Two institutional ethics committees approved the study: both RMIT University Ethics Committee, and the site in which the study was undertaken. Where possible, ethical issues were considered and mitigated. Ethical considerations (such as my relationship to the participants and the limitations of privacy and confidentiality) were required to be disclosed, and where necessary, discussed further as a means of full disclosure and to highlight any unintended biases or weaknesses in the research that may have arisen as a result.

**Informed consent and voluntary participation**

Participants agreed voluntarily to participate in the study and were free to revoke their participation at any time. I was clear at the introduction of the first interview, to outlay what the purpose and aims of the research study were, and how the data would be used; including data anonymity and any potential risks. I also provided participants with the opportunity to clarify their statements through follow up interviews and I provided opportunities for reviewing data post interviews.

**Privacy and confidentiality**

I attempted to anonymise the site and participants as much as possible, however, I have needed to strike a balance between rich descriptions and anonymity of data - as such, fully anonymised data my not be entirely achievable as an outcome. This is, to some degree, to be expected. As Christians notes: “Watertight confidentiality has proved to be impossible. Pseudonyms and disguised locations often are recognised by insiders” (Christians, 2005, p. 145). As the study is low-risk, participants are unlikely to make themselves open to physical harm or even direct emotional harm, however, there are dissenting voices at times and so sensitivity and reasonable care regarding protection from harm to professional reputation had been a consideration through the process. Participants needed to feel confident in the handling of data and confidentiality so they could be free to disclose negative or opposing views without fear of further professional repercussions, or fear of embarrassment or judgement, particularly at times of employment insecurity or instability (which was a concern at this
institution during the data collection phase). As the study explored teacher perceptions, I have refrained from value judgements regarding their practice, both in the data collection and analysis phases. My relationship with the participants enabled me to build trust and confidence, and participants were candid in providing, validating and reinforcing their willingness to share contentious statements. As such, I feel that I have captured their perspectives as intended and have secured the participants’ confidence in my ability to present the data for research purposes.

**Access to site and data**

I ensured I gathered ethics approval from the site of study, and also negotiated with participants to provide them with options regarding where to undertake interviews, so that where possible I could access the site to collect field observations while also ensuring participants felt confident with the process and located within a safe environment to share their views. I would argue that this approach encouraged collaborative negotiation of entry (Clandinin & Connelly, 1988). Due to my employment in a support role, I had access to institutional connections to assist in sampling and access to systems and files at the institution; however, I took care to ensure I received permission and/or participant-provided access to their online artefacts and courses, so they were aware of my access including extent of usage (level and time period of access). I also spent time with several participants during interviews to look at and discuss their online course designs with them, so that they could show me their materials directly and talk to them – therefore contextualising and framing their practice and ensuring they were comfortable with me viewing their materials and that they understood what access I had to their data. These data and observations have not been directly used in this study but have framed my understandings of the participants’ comments.

**Power relations and social ethics**

Given my role in supporting staff, I was not tied to a faculty or department, or directly linked within any professional or institutional hierarchies or reporting lines, so there should be little to no power-relationship concerns or direct issues with power relationships that might impact the data. All participants were in a position to give informed consent, and attention to the participant voice was considered in the collection process. That said, my employment in a support role at the time may have potentially limited the amount of participants’ criticism of training and support factors that shaped their use of e-Learning. I feel, however, that my background and professional role may have also helped in establishing empathy and more trusted relationships with the participants, which potentially led to participants sharing candid views across their statements as a whole. Czarniawska (2004) argued “the ‘power or knowledge’… lies on the side of the interviewee” (p. 47) and that professionals are often isolated and beholden to institutional politics which may limit their ability to speak their thoughts freely – so there is a benefit for the interview subject in being able to recount their practice to
an interested third party. Participants may therefore feel more empowered to recount their views and personal experiences, when acting in shared goals (Denzin, 2001).

**Considerations and limitations**

I aimed to sample and include a group of participants who were ideally representative of the demographics and e-Learning skills/practice within a VET institution. I had hoped to gather participants who demonstrated diversity in the subject/discipline teaching areas they taught, and in their self-perceived confidence and skills levels and the e-Learning technologies they utilised. However, there were several limitations to the study that I will now highlight.

**Sampling and participant characteristics**

While I have a gender-balanced cross section (four male, three female), the age range of participants typically fell within the 40 – 55 age bracket. This, however, is suggested to be indicative of the age demographics of the sector, which is an older workforce (Guthrie & Clayton, 2010). Additionally, the background/nationality of participants is not broad, with the majority identified as Australian (Anglo-saxon) decent. While my study did not aim to seek out participants from varying backgrounds and is not concerned with these demographics, the lack of diversity in participant backgrounds should still be noted.

The site, at the time of the study, did not have an institutional policy in place for mandating online use, therefore those participating in the study were potentially more likely to be willing to utilise e-Learning or have existing positive perceptions/strong values regarding e-Learning, which may not be indicative of the sector. Teachers who came forward as participants typically self-identified as confident or highly confident in using technology. This meant that the participants interviewed may either view themselves as or be classified according to Rogers (1983) as ‘early adopters’ or ‘innovators’. Unfortunately, this has skewed the sample and means that a range of representative voices have not been included in the study, particularly those who are new to or are not utilising e-Learning in their practice, and those who may have more negative perceptions about e-Learning. Further discussion of this consideration and what this means for further research are presented in Chapters 5 and 6.

**Site and institutional considerations**

At the time of the study, the site in question was also undertaking a change to the institutionally supported Learning Management System (LMS), which has impacted teachers’ decisions regarding technology tool use and future planning of e-Learning. This may have hindered deeper conversations regarding other factors due to its priority in the minds of participants - further interpretations and discussions regarding how this played out in the interview responses are provided in Chapters 5 and 6.
Accuracy of the data and key findings

The credibility and authenticity of data is a concern when working with self-reporting measures and with stories where participants are asked to reflect upon past experiences. These experiences are also highly subjective to the individual. Calderhead (1987) described issues when relying on teacher verbal reporting because the time lag between reporting on practice and actual practice may distort the reporting "and the reliability and status of those reports" (Calderhead, 1987, p. 185). Calderhead (1987) also claimed that assumptions are often made of teachers’ ability or willingness to critically reflect, which may not be true in reality – self-reporting relies on teachers who are willing to provide critical reflection and verbalised thinking to others that exposes their practice. My inexperience as a researcher also opened up the potential for ‘leading’ questions that might lead to problematic data (Kvale, 1996) and thus potential concerns with the reliability of the findings. While I cannot be certain that this has been mitigated, I have looked for ways to validate my interview questions with my supervisor prior to conducting fieldwork, and to describe my interpretations in detail with supporting literature.

I note that I cannot be certain that my support role with professional relationships to some of the participants did not lead to them holding back on critical views on that topic. I believe, however, that the candid views I received, the collaborative relationships with participants and the processes used to clarify and negotiate boundaries and meanings in the interviews have for the most part addressed or mitigated these concerns. I cannot fully discount these issues but would argue that as I have undertaken a series of interviews at multiple points and asked probing questions to tease out participants’ experiences and perceptions, this process has mitigated such concerns.

Interview as a collection method, as noted by Fontana and Frey (2005) is not a neutral tool, and as such, bound by bias and context. My interpretations of the data will also be clouded in some regard by my own biases and experiences. However, the nature of the study, and the procedures for working with participants and relationships built over time would suggest it would be unlikely for participants to embellish their stories. As such, I recognise that my research has been shaped in part by my own experiences and bias and, to the best of my knowledge, I have aimed to disclose and frame the analyses and findings around these personal understandings where relevant.

Transferability and generalisability

As a small-scale investigation taking a narrative approach, there is limited transferability of the study to further contexts, and the limitations in sample size mean that the range of participant voices is not necessarily generalizable or transferable to larger or different contexts. While I have not been able to mitigate or counteract this issue, I have provided clarification of these limitations and recommendations for others for more generalisable and transferable studies.
3.5 Summary

The methodology of this study best suited to addressing the research questions was a qualitative approach framed by narrative enquiry. Through a series of one-on-one interviews over the course of one teaching semester, this would allow the researcher to explore each participants’ narratives and data in regard to e-Learning adoption and practices. While small scale and focused on a selection of participants within one site, this research study provides opportunities for others to understand the range of perceptions provided by VET teachers using frameworks that are emergent and recognise the complexity of these participants’ views.
4. FINDINGS

This chapter presents key findings drawn from the participants’ qualitative interview responses collected during this research study. The interview data were categorised thematically into individual, pedagogical, and institutional factors based on the Birch and Burnett framework, *Factors influencing academics’ development of e-Learning environments* (Birch & Burnett, 2009). Some additional factors that did not readily fit into the categories above were categorised under the label ‘external factors’ and are discussed separately.

This chapter opens with some background information about the participants, their choice of e-Learning technologies, and their perceptions of their learners’ backgrounds and needs. The data is then analysed and the key motivators, enablers and barriers that emerged from the participant interviews are explored under the categories of individual, pedagogical, institutional and external factors.

4.1 The participants and their choice of e-Learning technologies

This section presents each of the seven participant’s teaching background and current position (including teaching discipline area, location, and e-Learning experience and current tool choices). The participants varied in age ranges, teaching disciplines and were situated at different campuses or, in some instances, worked across multiple campuses.

**Peter**

Peter was an Information Technology (IT) and Media Communications teacher, 30-40 years of age, with high self-rated technological confidence. He used a range of online tools including those outside of institution-approved systems. At the time of the study, Peter taught both VET and Higher Education units/subjects as part of his role. He travelled across campuses but was usually located on a small to medium-sized campus that focused on VET delivery and typically attracted a relatively high number of learners from EAL backgrounds.
Peter claimed he used online tools for providing a blended learning delivery mode. He used approaches that allowed for differentiated support for his learners – this included providing additional and customised content to students, sharing work amongst class groups, and providing announcements and updates. He also regularly made short videos using an externally sourced tool, as opposed to using the institutional video/lecture recording system. He often chose to use alternatives to the institutionally approved and/or institutionally supported e-Learning technologies, which included using a free cloud-based Learning Management System (LMS) named Canvas. He did admit that he continued to use the institution’s LMS, though, for a small number of units due to administrative considerations regarding student enrolment or legacy decisions around course design.

Belinda

Belinda was a Children’s Services teacher aged in her early 40s. She was responsible for designing and providing Certificate, Diploma and Advanced Diploma training. This saw her delivering a fully online course, as well as other courses, via flexible delivery options to support student demand. Belinda was located in an outer suburban campus that typically attracted learners from lower socio-economic backgrounds. She used both the institutional LMS, as well as ePortfolio software (online digital software for creating online reflections and digital portfolios of work), to deliver and assess flexibly and to support work placement activities that formed part of the course.

Mary

Mary was a teacher aged between 40 - 50 years. She taught within the Community Services discipline but described a broad base of previous experience across related fields such as social work. She had previous experience using e-Learning technologies, such as wikis. At the time of study, she used e-Learning technology to support her delivery of a number of units within the Community Services Certificate and Diploma courses. This included more general communication and project management units. She used the institutional LMS for communication and information delivery and was also actively using the LMS for assessment submission and marking. She had spent time developing and building online spaces for learners in the LMS at unit and course level, and she also maintained general discipline-level online spaces to provide learners with general course information.

Cam

Cam was 21-30 years of age and was a previous student of the institution. He returned to the institution to teach Multimedia units via online and blended delivery after a period of working in industry in that area. Cam did not use the institutional tools, instead, he chose to use alternative tools, such as the external LMS Canvas, because others in his discipline area were also using it. He also used Facebook groups to contact and update students more directly. Cam noted that his discipline area
designed, and were using, additional systems for student management and pastoral care – the faculty/discipline had built their own in-house bespoke system to handle student attendance and welfare records.

**Phoebe**

Phoebe was an English as an Additional Language (EAL) teacher, over 50 years of age. She had taught EAL across Certificate courses including Certificate III, IV and further study. Over the past two years, Phoebe had been using e-Learning technologies in her teaching and had also been involved in driving an e-Learning project with a colleague, to design a unit that supported students’ independent e-Learning as part of the EAL course/s she and others had taught. She used the institutional LMS, supplemented with other non-institutional online tools and a number of websites, to support learner activities and interactive approaches. She noted that she had also previously used external online tools, such as Edmodo, with learners. Like Belinda, Phoebe was located in an outer suburban campus that typically attracted learners from lower socio-economic backgrounds.

**Robert**

Robert was a trade teacher, over 50 years of age. He delivered a number of units flexibly using non-institutionally based systems to support mixed cohort delivery for carpentry and cabinet fitting apprentices. Robert was located in an outer suburban industrialised area that attracted students who were from lower socio-economic backgrounds. Both the location, and the trades and apprenticeship focus of the campus, meant a majority of learners were young males. He had chosen to use and manage an alternative LMS (Canvas) in his teaching. He used the LMS primarily for delivering content, storing assessments or submitted work as evidence, and to communicate announcements to learners. Robert was teaching across both pre-apprentices and apprentices, but noted that he used e-Learning more often with the apprentices to support flexible delivery as the course included learners enrolled in individualised streams that were self-paced.

**Sava**

Sava was an electrical trades teacher aged over 50. He used the institutional LMS to supplement aspects of his face-to-face delivery and to fill learners’ gaps in numeracy and other key skills, mostly to electrical pre-apprentice students. Sava used the institutional LMS with a mix of designed and provider-based content; however, he discussed that due to various technical, administrative and other issues, the LMS was used minimally and the teaching team were predominantly going back to a paper-based approach instead of using online tools. He used e-Learning and the LMS typically as a way to provide content for aspects of the curriculum that could be delivered as self-study and to provide existing provider-based content (e.g. supplementary content from publishers of the textbook).
He also used websites and YouTube videos both in the LMS and in class to support learners’ understanding of specific concepts. Sava was located on the same campus location as Robert but he was situated in a much older building and did not have the same access to current technology.

**Summary of participants’ choice of e-Learning technologies**

A summary of the range of tools used across the participants has been compiled below (refer to Table 1). Overall, there was a relatively even mix of those using the institutional LMS compared to those using an external tool. The external tool was typically the cloud-based LMS Canvas. Mary, Phoebe and Belinda either fully or predominantly used the institutional LMS and/or other institutional tools (e.g. ePortfolio) as the primary e-Learning tool, whereas Cam, Peter and Robert predominantly chose to use an external LMS (i.e., Canvas).

Table 1: Participants’ choice of e-Learning technologies.

<table>
<thead>
<tr>
<th>Participant</th>
<th>Institutional LMS</th>
<th>External LMS (Canvas)</th>
<th>Other institutional e-Learning technologies</th>
<th>Other non-institutional e-Learning technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belinda</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Cam</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Mary</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peter</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Phoebe</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Robert</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sava</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

At the time of study, none of the participants actively used the new transitioning LMS with learners and so this LMS is not referenced within Table 1. However, some participants were in the process of undergoing training or content development in the new system. Any influence this had on their broader experiences and perceptions of e-Learning is explored later within this chapter.
4.2 VET learner backgrounds, demographics and motivations to study

This section provides an overview of how participants described and perceived their learners, including their demographics and key characteristics. This context is used as a base to frame the descriptions of the participants’ views of their learners and how this influenced their practice.

The participants in this study all referred to teaching a varied learner cohort – in particular, their learners’ age ranges were wide, and each learner had different professional skills and/or education levels. For example, Robert claimed that his learners ranged “from sixteen to sixty” who were “all mixed in” in the same class.

Five of the seven participants explicitly referred to teaching a mix of young learners, mature-aged learners, and English as an additional language (EAL) learners, while the other two participants alluded to age and educational mix in how they described the backgrounds of their learners. For example, Belinda stated that the Certificate III group she taught included a mix of 17-18 year olds, and mature-age learners who were returning to study from long-term unemployment or ex-professionals re-skilling. A few other participants reported they taught learners from mixed professional backgrounds. For example, Phoebe described that her EAL learners included professionals, and those from refugee backgrounds, and those directed to the course via employment services/job providers.

All participants claimed that their learners varied in their Language, Literacy and Numeracy (LLN) skills and needs, and a large majority of participants indicated that their learners either had a wide range of literacy skills or, in some cases, low literacy skills. Belinda and Sava stated that for their classes, low literacy was an issue, particularly with the younger learners, whereas other participants (Peter and Phoebe) pointed out the literacy needs of mature-aged students from EAL backgrounds as problematic. The participants suggested that low literacy generally appeared to be a characteristic of their VET learners but there was no common or shared identifier of specific learners’ literacy needs.

Participants offered varied perspectives as to why they witnessed a large number of learners with LLN needs undertaking their VET courses. Belinda and Robert suggested that their discipline areas attracted particular types of learners with such needs. Robert commented that learners who had been “kicked out of school” could enter the trade because “that’s the nature of our trade” – there wasn’t necessarily an expectation regarding minimum education or literacy level.

Cam and Mary both felt that literacy levels of learners enrolled in their courses had dropped over recent years and they speculated that funding changes had influenced the types of learners enrolling into their courses. Cam noted that funding changes had affected both “the kinds of people which we could take in and the kinds of people we had to take in…” for admission to his Multimedia degree. Mary described that previously, the community services courses were tailored to and attracted
experienced professionals but that more EAL learners were enrolling in recent years – that “people with degrees don’t come back as much now, because it costs them too much money”. However, Mary indicated that her team still interviewed learners for entry in order to ensure that they had adequate literacy skills, as otherwise “they wouldn’t be able to cope with it because of the writing”.

A large majority of participants identified that their learners were likely to have different needs and motivations for undertaking VET studies or choosing specific courses. Some were studying for professional or employability reasons but others had personal or other motivations. Robert identified younger apprentices and pre-apprentices who were undertaking the course for employment. For others in his class, they were there to take advantage of the facilities such as “pre-apprentice[s] that just want to do it, ‘cause we’ve got woodworking machines… they don’t want the qualification”. Phoebe also commented that for some learners in the courses she delivered, Centrelink or job providers were directing them to the course, and other learners were learning English language out of personal motivation rather than for employment.

Participants either explicitly expressed or alluded to concerns regarding learners’ personal background and their readiness for VET study. Approximately half of the participants indicated that many of their learners had experienced hardship or difficult life situations. Both Phoebe and Mary specifically described learners who were long-term unemployed or dealing with Centrelink or job networks, or were from refugee backgrounds. They suggested that their learners’ backgrounds or personal experiences affected their learners’ motivation to study, their ability to handle an academic workload and how they handled or adapted to change.

Just over half of the participants also reported that some of their learners did not appear to have clear work or study goals, and Peter, Cam and Sava attributed such characteristics to younger learners. Peter compared mature-aged learners who “want to be there” to the dynamics of “… other classes, you get, the majority that are from, Year Twelve and so on. Or ones that ultimately haven’t been… in the workforce. And for some people that’s more of a little bit of a party.” These comments were perhaps best echoed by Sava:

*We’re dealing with students here, who just – they’ve floated along. You know, that’s the big shock that they have here for a lot of them… we don’t pass for attendance just because they turn up. They’ve gone through secondary school where they think they’re gonna pass just by turning up, but it’s – you actually have to physically do the work and submit the work.*

*(Sava, Electrical trades teacher)*

In summary, the participants in this study indicated that their learners varied in age, experience, academic, literacy and numeracy skills, and motivations and readiness to study, and these varied learners could be present within the same class group. These differences in learner demographics, backgrounds and motivations have been provided to frame both teachers’ perspectives and
motivations for using e-Learning in their practice, and their challenges or beliefs related to learners’ e-Learning readiness, which are highlighted within the next sections.

4.3 Analyses of the data

The following sections (Sections 4.4 to 4.7) within this chapter highlight the key motivators, enablers and barriers that participants in this study suggested shaped their practice. Based upon the framework provided by Birch and Burnett (2009), I have broadly categorised the responses that emerged from the participant interviews thematically under individual, pedagogical, institutional and external factors. Individual factors related to the participants’ individual characteristics and motivations for using e-Learning. Institutional factors included those that were set by the institutional context in which the participants worked and beyond their individual control. Additional factors outside of the institution (which did not easily fit within the Birch and Burnett framework) were also identified, and these have been identified under external factors. Each of the four factor categories are now presented as separate sections below.

4.4 Individual factors

Individual factors were considered to be those related to participants’ motivations for using e-Learning and factors that were within their individual control, such as pragmatic, personal and opportunistic motivators and inhibitors identified by Birch and Burnett (2009). These included personal characteristics and previous experiences of e-Learning, as well as beliefs and attitudes toward teaching and technology. Participants reflected on their past experiences with e-Learning and their own understandings of, and motivations for, using e-Learning in their practice.

Past experience with ICT and e-Learning

A majority of participants had some past experience with computers through their previous professional backgrounds prior to working at the institution – particularly Cam, Sava and Peter who came from backgrounds in IT or multimedia.

Despite being exposed to computers previously, some participants indicated that their exposure to computers when working within their industry had been limited. For example, Phoebe claimed that she had early exposure to computing through her background in science research, however, reported that she was not confident with computers. Belinda and Robert indicated that their computer use in industry had typically been confined to simply checking email.

Most participants reported that they began using e-Learning technologies specifically while employed at the institution, and that they had experienced limited exposure to examples of e-
Learning. Peter’s experiences with e-Learning appeared to be different to the experiences of other participants – he admitted to a long-standing use of e-Learning in his practice. While he had only begun using LMS systems within the last one to two years, he had maintained a web presence for his classes since 2001, typically to post announcements and reminders for learners.

**e-Learning confidence/self-efficacy**

As part of the structured interview questions, participants were asked to rate their own confidence when using e-Learning technologies (in the form of a verbal likert-scale style response). They could rate themselves from zero (being never used or not confident) to five (as highly confident). All participants, excluding Phoebe, rated themselves as either four or five – thereby indicating they felt reasonably or highly confident with technology. Phoebe rated herself as a three. She mentioned that she had learnt some programming during her time at University, but explained that she did not feel confident or comfortable using computers.

> I wouldn’t say I’m quick. I mean, my kids show me. It doesn’t come naturally to me... I think I regard computers... as complicated, as a first position. Which, I wouldn’t like to... it’s just it’s not instinctive, that’s all. But it’s not gonna stop me.
> (Phoebe, EAL teacher)

Some of the participants indicated that their confidence was context dependent, either to the tools themselves or to their experience and time spent with e-Learning technologies. Robert and Mary linked their confidence to *particular* e-Learning technologies. Robert commented that “if we’re just talking wholly and solely about Canvas… I’d say five”, as he felt confident with the tools in this particular LMS. Mary stated that she had recently shown her manager how to use the student management system, “so I’m gonna say four”, adding “They’re all the same to me, they’re all online systems, online tools”. However, in a later response, she provided a contradictory comment that while she was confident in particular aspects of the LMS, she noted if she were asked to use new tools or “get more technical”, she felt that “I’m sure I could do it, but I’ve never done it so I wouldn’t be as confident”. Mary also raised that she was still learning the new transitioning LMS and indicated she was hesitant to train students on how to use the new transitioning e-Learning system – “but technically… I don’t know enough… to train [learners] on it… you’ve got to use the system a bit, before you can actually start to show people how to use it”.

All participants in this study noted that they were keen to incorporate technology within their practice. The majority viewed themselves as confident with e-Learning technology and they had all used online tools within their teaching practice previously – the extent of tools and technologies used and in what ways, however, varied across the participants involved.
Individual motivations

Participants described a number of different, individual motivations in using e-Learning technologies. These included personal or intrinsic motivations tied to enjoyment, and flexibility for themselves and their learners. They also outlined motivations that related to learning and teaching, however, these are addressed within the subsection of Section 4.5 Pedagogical factors.

Personal development

For the majority of participants interviewed there appeared to be an internal drive or intrinsic motivation to utilise technology, and several noted their enjoyment of e-Learning, particularly in relation to the challenge of learning new skills. Peter, Belinda, Phoebe, Mary and Robert all described themselves as enjoying challenges and that they enjoyed trying new things or learning new skills, both generally and in relation to e-Learning. Robert and Belinda both described that they enjoyed the creativity and challenge of setting up the online content. Peter’s comments alluded to similar motivations, for example, he provided statements such as “it’s a lot of fun to do this stuff, and I’m always looking for different ways”.

Peter and Phoebe related their personal enjoyment of, and drive to use, technology as part of their personality – that they enjoyed looking for new opportunities, as illustrated in Phoebe’s statement below.

I think I’m actually a person who likes to take a challenge, and I think I like not only challenges but I like to try something new… I actually think I do thrive on change...

(Phoebe, EAL teacher)

A majority of participants indicated they were motivated to work independently. Belinda commented, “Now, I just learn to try and do things myself, to learn… I try and nut it out”. This statement was indicative of other participants’ statements. The majority of participants claimed that they had taught themselves and felt confident to progress their learning or would make additional time for working with e-Learning outside of the institution. Peter even claimed that he enrolled in free online courses, such as those provided by Coursera, “…for my own personal learning… at the same time I can apply it”.

Close to half the participants also claimed that e-Learning provided them with personal and professional development opportunities, and the ability to increase their skills and confidence with technology. Belinda reported, “I do feel like I’ve developed a skill… I think I can take that skill with me when I go. And I can use it anywhere now”. She described that her confidence had grown over time when using e-Learning technologies, particularly when asked to support others. She felt this provided opportunities for her to grow her confidence and her professional skills – “It’s giving me another skill, it’s given me a different level, a different confidence, than I had before”.

53
Robert’s comment below illustrates how the growth in his e-Learning skills and confidence further contributed to his personal enjoyment and how it continued to fuel his own e-Learning development:

*I’m enjoying [setting up the LMS content] more – I shouldn’t say more – than I am teaching ‘cause it’s - well, it’s a new challenge... You know it was daunting at first, figuring out how do I upload things and how do I make them look good, and things like that... I really enjoy it now.*

(Robert, Trades teacher)

**Benefits for the teacher**

A majority of participants highlighted that they foresaw administrative, process improvement or time saving benefits and efficiencies for their own workload when using e-Learning technologies. This had motivated them to either adopt or to continue utilising e-Learning technologies. Approximately half – Robert, Belinda, Peter and Mary – also provided statements that they had felt the LMS “saves time”, or “makes life easier”. Peter and Belinda both reported they felt e-Learning made life easier and that they used this rationale to encourage other staff to adopt e-Learning:

*People have to give it a go! And not just think of three hundred reasons why I shouldn’t try this. It’s gonna make your life easier!*  

(Peter, IT teacher)

In terms of the specific aspects that participants felt ‘saved time’ or would ‘make life easier’, many expressed that they were able to gain efficiencies by moving aspects of their delivery, curriculum or assessment online, and by removing print materials and paper-based processes. Mary, Belinda, Peter and Robert in particular, reported benefits and efficiencies to using digital resources, particularly for handling administrative tasks and in removing paper-based processes. Mary recounted that she was able to streamline planning and develop curriculum materials because she could combine planning and organising the materials into just one step (i.e., by removing photocopying from the process and by avoiding carrying additional print resources for learners). Belinda and Robert also described benefits to storing and marking digital portfolios, compared to storage issues with paper-based portfolios.

These participants not only described benefits in moving away from paper usage but seemed to consider these benefits as motivations to their e-Learning adoption. These motivations were evident in a number of participants’ statements. Mary noted that she felt that e-Learning was “the place to give people information. Easy access. Communicate. Not waste paper”. Robert, in particular, indicated that his original motivation and rationale for e-Learning uptake was related to “working out how we can
do it better for the students. And easier for us”. He typically framed these benefits as related to cost, time, process improvements and resourcing efficiencies. His descriptions and the regularity of his comments suggested these factors were equally as important and, perhaps, even more important to him individually when choosing to use e-Learning technologies and when choosing to use Canvas as his online LMS.

Several participants also claimed time and process efficiencies, and a level of reassurance when planning and managing their workload. Peter reported that using the LMS allowed him to “go exactly where the students go” when he needed to remember what he had covered with different class groups. The LMS provided him the ability to plan more efficiently. Mary also reported that she could plan and build when she was thinking about tasks and activities – something which she perceived as ‘easier’ than doing it later or potentially forgetting, as her comment below indicates:

> It’s kind of like, sometimes when you’re in the mode, you’re in the mode, do you know what I mean? And it’s kind of like, I can just chuck this on now, and it’s done... I like that. Get it out of your brain. It’s like – it’s not on my to do list anymore. It just makes that process easier.
> (Mary, Community Services)

However, a few participants, primarily Peter and Cam, seemed to indicate making life ‘easier’ was in part about mitigating other risks. For example, Peter noted that he updated materials “straight away” to not “make it… hard for myself” by forgetting.

Despite Peter’s and several other participants’ comments that e-Learning ‘saves time’, the LMS was not always considered a time-saver. For example, Mary provided multiple responses highlighting that following up unforeseen technical challenges, such as files that had not uploaded, or learners placing work in the wrong location would “take more time”, and she noted that “the idea of [institutional LMS] is to take less time, I thought. And, these sort of things take more time”. In addition, several participants also indicated that their efficiencies came from increased work undertaken at home or after hours. Mary suggested that preparation and marking was undertaken by teachers “in their spare time”; her comment seemed to suggest that taking work home was a commonly recognised practice for most teachers. Mary indicated that it was “actually easier” for her to “look at [institutional LMS] at home” where she could “have a look, and make sense of things”, rather than to “try and plan” in an open-plan office where it was difficult to concentrate. She responded that this was “a good and a bad thing, because you’re doing it out of hours, but it’s accessible. And you can look, rather than get to sleep thinking, ‘I have to look in the morning’”. 

55
Benefits for learners - flexibility and convenience

A majority of participants described that they used e-Learning for perceived flexibility benefits for their learners. They described flexibility in a number of ways including flexibility of location, time and choice in materials to support learning.

Several participants referred to the flexibility of e-Learning in relation to place, time and location, and reported that e-Learning supported learners to access materials when and where they needed to. Belinda made the following comment to highlight this point:

"Students have logged onto WebCT from Turkey, London, the Gold Coast... they were able to get on and participate in the chat... So, it shows that the technology can work anywhere, and you can be really flexible."

(Belinda, Children’s Services teacher)

Mary provided similar comments that “the best things about it [e-Learning]” was that she did not have to remember to photocopy materials, and instead she could say, “it’s there, forever, for you. Do with it what you want…” Mary additionally highlighted that she provided grades and marking online for learners. She felt this allayed their fears, particularly at the end of the semester when they were unsure if they had passed. Learners could view their marks online rather than needing to wait until returning the next semester. Robert reported that the availability of resources online meant that issues of learners losing books or printed handouts had been minimised as they had access to the resources online. Robert explained that learners might leave books at home or in the car or “leave things laying around”, which then interrupted a learners’ ability to continue with work, or interrupted class time because they had to spend time retrieving printed materials.

Robert, Cam, Peter and Phoebe also highlighted the flexibility of e-Learning for assisting learners in managing their own learning in a number of ways. Peter described his rationale of providing learners with access to a number of different resources in different formats, modes and lengths to support their choice in reviewing materials in their own time in various locations to suit their needs. He proposed that flexible learning opportunities supported learners who might be away sick or struggling to catch up, to learn at their own pace. Peter explained how using a tablet to write up notes in class as part of his e-Learning approach could flexibly support learners managing their own learning:

"It’s worked really well. And so I ask the students... I can give you a copy or do you feel better if you draw it up yourself? I mean, as I write it up, if you feel the need... to draw it, you still can. ’ So it’s OK, it gives people the flexibility."

(Peter, IT teacher)
Other participants highlighted other views on the flexibility of e-Learning. Phoebe reported that it provided learners with opportunities for independent learning and ‘quieter reflective moments’, whereas Robert indicated that he could provide learners access to all materials by directing them to the modules they should review to meet their individualised enrolment/delivery plan. He added that this could easily be changed at any time if they wished to switch the discipline stream they majored in. Peter also noted that the flexibility of e-Learning allowed more personalised learning. He recounted ways in which he had provided a personalised or differentiated experience through providing video ‘lectures’, so that class time could be dedicated to discussions, or “more time with one to one” learning.

Several described how this flexibility entered into their own practice. Cam and Robert suggested that it was easier for them if they responded straight away to queries via the LMS, even if this was at night, outside of work hours. Robert noted that he worked in the evening, often to respond to emails as they came through, “or even if I check the emails of a night-time and one comes through for Canvas, as I’m working, I’ll answer it straight away”. Cam also reported that he found it ‘easier’ to be ‘flexible’ outside of work hours, but his comments, such as the comment presented below, suggested that there were tensions or perhaps an increased expectation from learners for this flexibility.

*I mean, I just consider it sort of 24/7. If I have a question [from a student], I’ll answer it when I answer it... it’s much easier for me to do that, than for me to not do it, and then face the consequences. So, ... I mean, if it gets a result quickly, if I’m in the car, if I’m on the train, it doesn’t make a huge difference to me.*

*(Cam, Multimedia teacher)*

Summary

To summarise, the participants in this study highlighted a number of personal motivations as to why they adopted and continued to utilise e-Learning. These included enjoyment, and personal and professional development. They also indicated that they enjoyed the ‘challenge’ of e-Learning and were able to support themselves to learn and work independently. Many participants highlighted that a key motivator for using e-Learning was that they perceived it provided benefits or efficiencies to their processes and workload, and flexible access for learners. However, they also highlighted that flexibility and making things ‘easier’ could have further implications in regard to their time and workload.
4.5 Pedagogical factors

The following section outlines pedagogical factors, which, in keeping with Birch and Burnett’s framework, have been categorised under motivations and concerns. Birch and Burnett (2009) have indicated these factors can include perspectives related to learning objectives and learners’ preferences. In this study, participants described some of their motivations for using e-Learning were for opportunities to incorporate 21st Century practice, and to support learners with skills typically beyond those required of the curriculum, such as developing confidence, or developing skills for industry or further study. They also described concerns primarily related to the backgrounds and characteristics of their learners and how they felt these contributed to learner motivation and learner readiness to use e-Learning.

Motivations

The role of the teacher

Several participants believed it was their responsibility to provide learners with opportunities to use technology. They held attitudes or beliefs about how they perceived their role as teacher, and their role in integrating e-Learning. Phoebe and Peter used phrases such as they thought they would be ‘irresponsible’ as teachers if they were not incorporating digital technologies. For example:

I probably would’ve thought it’s irresponsible if I didn’t do it as a teacher... I actually think that’s one part of my responsibility, is to introduce students to new aspects of technology. And to show them that hopefully, they can realise that they can use that technology, they can learn different things... That they don’t have to be daunted at the concept.

(Phoebe, EAL teacher)

Peter and Robert indicated that part of their motivation to use e-Learning was the need to move to 21st Century practices. Peter stated that “if you take a classroom 20 years ago, and it still looks the same… there’s something wrong here”. Peter linked 21st Century practice to ways that he could tailor more personalised learning. Robert also noted that he was trying to move practices into the 21st Century, to remove paper based systems and “the chalk and talk”:

We’re in a 21st Century building, and I don’t want to bag the other areas... they’re just sitting there, filling in their paper books. And I think, ‘Oh. Set it up, do it properly! Put it all online!’ They’re spending three and four hours in a classroom. They left school to get away from that.

(Robert, Trades teacher)
Engaging younger learners

Belinda, Robert and Cam suggested that in some instances, their rationale for using e-Learning was to increase engagement and motivation, particularly with younger learners. Robert described that for him, e-Learning was perhaps used in part to provide what he felt was a more engaging or different learning environment, to keep learners motivated. He reflected that for his younger learners, many had been “kicked out of school, or left school” and a learning environment that mimicked the school environment would affect learners’ engagement negatively: “…standing up the front lecturing to them, they’re going back to school. And you can see the eyes glaze over”.

Belinda, Robert and Cam mentioned they considered mobile and social e-Learning technologies in particular when aiming to engage younger learners. They commented in ways that indicated they felt mobile formats held affordances of convenience or accessibility for younger learners. These participants mentioned that they perceived mobile tools supported easier communication or sending reminders, and assisted learners in undertaking assessment. Belinda and Robert both described learners using their mobile devices for collecting evidence. Belinda gave the following comment:

They have been accessing ePortfolio on their phones… So we’re hoping that encourages them to do their homework actually, because it’s more accessible to them…
(Belinda, Children’s Services teacher)

Cam reported that he used Facebook as a way to communicate with younger learners, particularly when following up on reminding learners to submit work, as he felt this was both easier for them and for himself and “most of them prefer it”. However, he indicated this was not always the case, and he raised the concern that:

...this group in particular, they haven’t really communicated so well via Facebook. Which I thought was odd because last semester it actually went really well. I just don’t know if they – being, I would have assumed, a Facebook generation, they didn’t seem to really want to communicate via Facebook.
(Cam, Multimedia teacher)

Preparing learners for industry or further study

Several participants felt that a motivator to incorporating e-Learning was not necessarily directly relevant to the curriculum, but that the skills it taught learners were important for career or further study pathways.

Peter, Belinda and Mary described that it was important to make students competitive for industry or to prepare them to be ‘leaders’ in the field. Peter used the LMS to enable advanced learners to cover additional content in order to be “better, faster stronger” than others in the same
industry. Belinda and Mary both suggested that they could promote the use of the LMS to their learners as “upskilling”, either to add to their CVs and make them more employable (Belinda), or because digital technologies were a requirement of working in the industry (Mary). Mary indicated that she had also found the LMS to be an ‘informal assessment tool’ in that sense, as further clarified below:

> It’s a good way to say to students, “if you don’t know where to upload something, on [LMS], then that’s concerning for being out in the field because these are the requirements.” … ‘Cause industry says they want people to be able to have competence in those areas… It’s a bit of an assessment tool. Who would’ve thought, you know? I never thought of that at the start.

(Mary, Community services teacher)

Some participants also commented that they perceived or used e-Learning to support learners to transfer to higher study pathways. Phoebe indicated that preparing learners for further study opportunities was part of her consideration to use the LMS, and in particular, the institutional LMS for those who might transition to other courses at the institution:

> So my focus, one of my focuses I feel, even though it's not in the learning outcome, is to get them ready for mainstream courses and what they're going to meet. And that's why, leading to independent learning, I chose to use the LMS.

(Phoebe, EAL teacher)

Belinda similarly indicated that she felt understanding the role and functions of an LMS provided her learners with confidence when moving to more advanced courses even in other institutions. She commented that she was able to point out similarities across systems to her learners to reinforce their existing transferable skills. As such, learners were “feeling really confident… really positive moving onto Higher Ed[ucation] that they won’t be frightened of the technology”.

**Empowering learners**

Half of the participants mentioned or alluded to empowerment and how they felt technology supported their ability to ‘empower’ learners. Empowerment was a term participants used primarily when referring to building learner confidence and independent learning capabilities. Phoebe and Peter used the term ‘empower’ specifically. They recounted instances where learners were given a voice and how they seemed to value or gain pride or confidence from those experiences. While Belinda did not use empowerment as a specific term, she emphasised the benefit of e-Learning to develop learners’ confidence and ‘voice’. She felt this was particularly important for learners with ‘quiet
personalities’ and she described the role of e-Learning in building her learners’ leadership capabilities.

Peter described empowerment as a way to bridge learning gaps and encourage independent learners who were competitive in industry. Phoebe’s considerations were often tied to her emphasis on independent learning as part of the curriculum and encouraging learner independence, confidence and a sense of pride and community in her EAL learners, as her comment below indicates:

*I just think that, it’s nice to empower them, through technology. I really find that, really sort of ... gives them a real confidence, that they can’t get ... can’t quite get in any other tangible way.*

*(Phoebe, EAL teacher)*

Phoebe and Peter also linked empowerment to flexibility in the delivery approach when supporting an individual’s learning style. Peter recounted an instance where he provided personalised videos to a learner with disabilities so that the learner was able to begin taking one of the units informally prior to enrolment, in order to have the time needed to complete the unit successfully. Peter suggested that these types of approaches were beneficial as “…you’re empowering, and you’re giving people the flexibility to learn when they need to”.

**Concerns**

The participants identified a number of concerns related to learners’ backgrounds, motivation, confidence and their existing technological and academic skills that they felt affected their learners’ readiness to effectively or easily engage with e-Learning. Participants described that these considerations influenced their teaching and e-Learning decisions and could bring issues or challenges for them when implementing e-Learning in practice.

**Learner motivation**

Most of the participants claimed that they felt their learners’ backgrounds and motivations played a part in their engagement with e-Learning. Several participants expressed concerns regarding their learners’ motivation to engage with e-Learning, and their willingness to work independently. Phoebe suggested that many of her learners did not have the “wherewithal… to make it effective”, and she tied this to their motivation, where they wanted their learning to occur “in a casual manner … which meant no homework… nothing like that”. Phoebe expressed this “challenge” of motivating learners was a “never ending” aspect of teaching and something she considered as part of her delivery:
Some participants indicated that motivation varied across learners, and that encouraging learners to be motivated to engage with e-Learning was something that they as teachers regularly needed to consider or manage, because, as Phoebe commented, “what works for one doesn’t work for the other”. Robert noted that the “majority run with it but there’s some boys down there - if I said it was blue, they’d want to say it was red”, and Peter noted that “you can use additional materials on there for them to look at, but again that’s only if they choose to look at it.”

Mary felt that when assessment was built online, it became a motivator for students to learn and use e-Learning. “I thought it might be a barrier… but… they had to learn. It was the assessment. It’s amazing when it’s their mark and their assessment, they’re more committed.” However, Cam reported that his younger learners’ motivations were not necessarily tied to online assessment. He believed that for his online course, there was a “steady growth of people either forgetting to do it, not wanting to do it, or not engaged enough to do it…” but that he “…still had people marking themselves off on the [attendance] rolls, that didn’t do the worksheets…”

Cam, Robert and Peter seemed to link learners’ lack of motivation to their having to “chase” some learners for work or to login to the LMS, even when - as they indicated - the ‘majority’ seemed to participate. Cam noted that this could be difficult for fully online delivery such as his, as it was “harder to chase up work ‘cause you can ignore an email”.

Technological skills and confidence
Participants described their learners’ technological capability in terms of technological experience or skills, with several participants referring to learners who were or were not technologically ‘savvy’. Several participants indicated that they had to consider this capability when incorporating e-Learning and engaging their learners.

A few of the participants perceived an age divide in their learners’ ability to use e-Learning technologies. While ‘digital natives and digital immigrants’ were not terms utilised by the participants, many of their responses indicated they perceived younger learners as having more skills in using e-Learning compared to older learners. Robert remarked, “the younger apprentices, they’re so savvy with technology… they’ll send me photos and things like that… The older generation, they’ll use it, but they’ll say ‘Can’t I just print it out and hand you a hard copy thing’”. Belinda offered a similar assessment: “the younger students, definitely the online tools have been great for them,
because that’s how they learn and communicate”, whereas “with the mature-age students, we think they need a bit more encouragement.”

Belinda noted that she catered to these characteristics and cohort differences in her teaching delivery:

*Look, the young students seem to pick it up. You know, when you explain to them... it’s easy, it’s like Facebook, anything else that they’re using, they’re like ‘Oh, OK’... And then the more mature age students, the younger ones tend to support them.*

*(Belinda, Children’s Services teacher)*

A few participants pointed out there were still challenges for younger learners and that their assumptions of younger learners were not always true in practice. Cam, Mary and Sava all had expectations that their younger learners would be more capable or confident with e-Learning, but then they recounted experiences in practice where this had not been the case. For example, Mary stated that one of her younger learners, who she “expected to be computer savvy”, had placed files into the incorrect online assignment submission portal. She noted that this had occurred despite assurances by the group that they were confident in the technology.

Sava explained that his pre-apprentice learners, while typically younger and technically confident (because “they’ve grown up in… the era of technology, and using computers”), were generally missing needed digital and academic literacy skills to use computers and technological devices effectively for learning:

*...many of them don’t know how to use them properly or use them for educational purposes... They can send text messages, they can look up Facebook... But to actually use computers, as a learning tool, they are not that good.*

*(Sava, Electrical trades teacher)*

Several participants however highlighted that mature-aged learners’ technological confidence and experience could grow and develop over time. Belinda, for example, noted:

*At the start they were reluctant to upload assignments, because they weren’t sure if they were doing it. And now they’re just doing that as second nature... So, it’s that overall confidence that’s really come, after they’ve been here for a few months.*

*(Belinda, Children’s Services teacher)*

**Language, literacy and numeracy levels**

All participants described or alluded to many of their learners as having language barriers or LLN (language, literacy and numeracy) needs, and several mentioned they needed to support groups of
learners with a range of literacy and numeracy levels. Participants also expressed concerns for both learners with low literacy and numeracy skills, as well as EAL learners with language barriers who often had limited technological experience and a number of other personal hardships. They described that learners’ literacy and language levels shaped learners’ readiness and their ability to engage with e-Learning in a number of ways.

Some linked learners’ literacy to technological skills, noting their difficulty to work at the required technological level, or that they had limited ability or lack of willingness to engage with e-Learning systems. Phoebe highlighted that her EAL learners, who were at the “lower levels” (such as Certificate III EAL learners as compared to Certificate IV), wanted a particular style of e-Learning. They “want to be more and more passive about how they go about following a set of instructions… they want the same website and the same approach”. She perceived this preference was due to “language challenges or concerns about language challenges. As well as technology inexperience.”

Mary described she was “not surprised” with one mature-age learner’s difficulties with e-Learning. “[He was] another older, Iranian gentleman… who talks in classes about being in refugee camps”. She described that he did not follow instructions when using e-Learning, “and then [he] hands me a piece of paper with the journal”.

Phoebe described she felt her learners’ language and technological access had an effect on their ability to adapt to new situations and technological challenges, which in turn affected engagement. She demonstrated these concerns through her descriptions of how her EAL learners handled technological ‘hiccups’:

... some of them just handled the hiccups, and handled them very well, and others handled them very poorly, and became quite disheartened. And that came down to how technologically savvy they were. And if they saw it as a barrier, they really groaned at the thought. And that was a little disappointing. Because they couldn’t just say, ‘OK, maybe go back a step, even though [the teacher] said press this’. Because for some of the students, they just stop dead in their tracks ... at the smallest hiccup.

(Phoebe, EAL teacher)

However, Robert indicated that some teachers could use these concerns as “excuses” for not using e-Learning, noting that for the trades teachers “If you keep pushing and pushing [them to use e-Learning], they’ll just keep getting their back up… ‘Oh, there’s not enough computers’… ‘Our boys are illiterate, they can’t use computers’, things like that. There’ll always be an excuse”.

Aside from adapting to the technology, Cam and Sava reported that their learners with low literacy found it difficult to perform academic tasks or work at the expected academic level. Cam reported that “literacy is a huge [issue], just being able to read and write and not plagiarise. Especially online”. Sava noted that he had needed to adapt course material for his learners as “the students were
physically having trouble because of their reading and writing abilities, they were having big issues in completing it”.

Sava and Robert also described learners with low or varied numeracy skills within their trade courses. Sava described that the electrical and engineering trade learners had varying educational and mathematics experience and ranged from those who “had done second year engineering maths” to others who had not studied mathematics beyond Year 10 level. He also had learners who “didn’t even know how to use a calculator”. Sava described that many of his learners had both low literacy and numeracy but commented upon numeracy in detail, as these skills seemed to be heavily linked to key skills required for the course. Sava indicated that he used e-Learning to cater to his learners’ varied numeracy levels in at least one of his units and that this allowed learners to move at their own pace through the unit.

There was variation with how the participants chose to support their learners’ LLN needs. Belinda described how she uniquely supported her ESL learners:

> We’ve found that the ESL students are also familiar with using these types of things, because they’re talking to relatives back home on Skype, MSN, email. Once you sit down and explain it to them, and I’ve made powerpoints with screendumps of how to get on, they’re fine.

*(Belinda, Children’s Services)*

Cam, Robert and Belinda mentioned their intention to work with and utilise LLN specialist staff who could provide teaching support services or individualised support for learners with literacy and numeracy needs. For example, Cam stated that he wanted to engage a specialist to review the worksheet assessments to ensure the language was suitable for his online learners. Belinda reported that literacy and study skills support personnel supported her in the classroom for her night group of twenty-eight learners, otherwise she would struggle to “barely get around to all of them”.

Peter and Robert highlighted that LLN support was limited and that there were additional complexities to access that support. Robert reported there was only one LLN support person available on the campus for half an hour a week, which meant his apprentices missed out because they were not on campus regularly or consistently. He also reported a lack of feedback from LLN diagnostic testing on his learners’ levels. Peter suggested that there was help available through student support services, however, this was only if learners “avail themselves to it”. He also described “cut down services” which placed pressure upon his role as a teacher to support learners’ individual literacy and numeracy needs, as “…equally, I can’t spend a lesson, teaching them how to put together a sentence”.

**Combined factors**

The majority of participants suggested that particular learner characteristics, such as those described previously, combined with learner’s idiosyncratic backgrounds and previous exposure to e-Learning
technologies would influence how ‘technologically savvy’ learners were. Compounding this as well, were factors such as their confidence, how they adapted to e-Learning and their ability to handle technological issues and other stressors.

Mary, Phoebe, Peter and Belinda stated that literacy and language levels and learner backgrounds (such as hardships) would shape learners’ confidence when engaging with e-Learning. Phoebe and Mary noted that their learners were easily fearful and perhaps dissuaded from the technology if they encountered a challenge or a bad experience early on. Some learners were potentially dealing with multiple stressors and learning needs, as Peter’s comments indicated:

*Some mature-aged students are refugees, and with some really, really scary stories. And so sometimes, numeracy and literacy, are issues, and we need to take that into account...*  
*...‘cause some of them, don’t have much confidence... especially the ones with literacy and numeracy [needs].*  
(Peter, IT teacher)

Phoebe also reported that learners in her language programs were likely to be dealing with other challenges that affected their confidence more broadly. Phoebe noted that her EAL learners had dealt with multiple stressors including language barriers, technological inexperience and a loss of self-esteem in moving to a new country:

*But they come, like all students in the language programs, with some readjustment to their life here... And the extra worries could be, they’re usually more than language... the loss of some self-esteem, because they’ve lost something professional, in coming here.*  
(Phoebe, EAL teacher)

Phoebe felt, because many of her learners had left their home country and were making a new start in a new country, that communication skills and a “lack of professional standing” affected their confidence, motivation and ability to manage stress. Mary similarly commented upon her learners’ anxiety in using the e-Learning system, and also their reluctance to troubleshoot issues or to contact technical support services, because “you’ve got to remember that some of these students come from pretty full on backgrounds and stuff, they’ve come from hardship” and that “ringing people, when they’ve had to ring Centrelink all their life...is quite daunting for them”.

All participants, however, still felt that it was worthwhile to engage learners with e-Learning. They believed it encouraged their learners to learn new skills and confidence over time. Phoebe indicated that for her EAL learners, they were “proud” to able to be “part of what others are doing...they don’t live in an isolated world anymore”. Mary highlighted that e-Learning had, in fact, become an “informal assessment tool” that helped her team identify learners who were not able to cope with
the technology or the academic expectations of the course, including learners who were struggling with literacy and relevant academic skills:

*It’s a good way, to say to students ‘if you don’t know where to upload something, on [LMS], then that’s concerning for being out in the field. Because these are the requirements.’ So, it’s almost like, a way now to say to students, ‘You need to get your head around this’... And it’s often ESL issues and stuff like that. So it might be around writing. So you’re doing it all as a holistic approach.*

*(Mary, Community Services teacher)*

**Summary**

In summary, the participants identified that many VET learners may have limited technological experience, along with other needs, that could compromise their ability to effectively engage with e-Learning and with course materials more generally. These included backgrounds of hardship or low literacy and language levels. While a majority of participants stated that they had needed to access support services to assist learners with general support needs – particularly literacy and numeracy needs – several of their comments suggested that support for learners was limited and this could have flow-on effects for the teachers’ workload. Participants, however, also highlighted the benefits of e-Learning for providing learners with broader skills, experiences and for instilling confidence.

**4.6 Institutional factors**

The participants in this study identified and described a range of factors related to the institutional context in which they and their learners utilised e-Learning. Institutional factors included factors related to technological infrastructure, and resourcing and support at different levels at the institution. These factors have been categorised and are presented under the following key themes:

- technological infrastructure and resourcing;
- institutional and administrative leadership and support;
- professional development, training and support (including technical and pedagogical support);
- collegiate practice;
- e-Learning support for learners; and,
- time allocation.
Technological infrastructure and resourcing
Participants identified several technological infrastructure related factors that shaped both learners’ engagement and the participants’ own practice when using and integrating e-Learning. Technological barriers included access to technological hardware and software, and technical issues with the e-Learning systems (i.e., errors and alerts). Other factors included technical and design aspects of the e-Learning systems, and their relevance and ease of use for supporting teaching, learning and administration duties. These technical and technology related factors were further categorised into three key subcategories:

- access to computing hardware and infrastructure;
- access to e-Learning systems and/or software; and,
- software suitability and ease of use.

Access to hardware and systems were factors that participants perceived more directly affected learners, whereas software suitability and ease of use were factors that participants described affected their learners and their own practice. These factors are detailed further in the following subsections.

**Access to computing hardware and infrastructure**
Many of the participants identified concerns related to learners’ access to computer hardware and infrastructure, both at home and at the institution. They felt learners’ lack of access to computers and internet at home were key barriers to learners’ engagement and participation, and teachers’ e-Learning integration. Sava, Cam, Phoebe and Mary claimed that some or many of their learners had limited access to computers and/or limited internet connectivity for study purposes. While student numbers were not mentioned and were thus generalised, several comments used terms such as ‘many’ or ‘majority’, suggesting that lack of hardware and internet access was not a localised occurrence. Phoebe indicated that “… access to technology, is a big issue”. Sava’s comment below further demonstrates these concerns:

_I still have students come up to me saying ‘I don’t have a computer at home’. ‘I have no internet at home. I have no computer at home’. People just take for granted that everybody has a computer and internet access at home. There are many students who do not._

_(Sava, Electrical trade teacher)_

Cam inferred his own expectations and assumptions of learners’ access to computers when he reported that learners in the Multimedia discipline did not have access to internet or computers at home, which he stated was “really weird”.

Cam highlighted that inadequate access to computers at home could negatively affect learners’ engagement and participation in the course. He noted that a lack of access to computers could result in
full disengagement of learners from his Multimedia course, stating that learners who “…didn’t want to access the technology eventually just sort of left the course anyway. Because they found it too difficult to do a digital course, without having access to digital materials”.

In addition to concerns of inadequate access to a computer at home, a few participants raised concerns regarding the lack of consistent access to computers on campus - particularly the trade teachers, Sava and Robert, who both mentioned a lack of consistent access to computers and computer labs at the institution. Robert described that he had “fought tooth and nail” to get what he felt was limited access to computer labs (two hours a week). He argued that limited access to computers on campus would be a barrier to further or long-term e-Learning adoption by teaching staff across his department, though added such concerns were also used as “excuses”. Sava reported that while access to labs were a problem for him integrating e-Learning in his units, there were also other issues at play. He explained, that for his area, they were “short of computers… short of labs”, but also that the standard of hardware and lab setup was not fit for purpose:

“We’ve got computers upstairs that should’ve been thrown out six years ago. Our technological base here, has just fallen behind… our software and stuff is not up to scratch.
(Sava, Electrical trade teacher)

Inadequate access to computers on campus was not described as a concern by all participants and instead seemed to more directly affect the two trade teachers, who both taught apprentices and both taught on the same campus, albeit in different buildings. However, Belinda suggested that on an alternate campus location where she and her teaching team were situated they were “a bit luckier, in the fact that it’s not hard to get a computer lab” which was “the advantage of being at a quieter campus”.

All the participants mentioned that an approach they used to support learners who did not have easy access to hardware at home, was to suggest to learners they access the computers on campus – for example outside of class time, or to visit the library computers. However, several participants also remarked that learners would not stay back to access computers, because they were not motivated to make the time, or because of competing priorities and commitments such as work. Cam reported “the effort of trying to travel in to do it, they won’t do it”.

**Access to e-Learning systems/software**

In addition to concerns surrounding learners’ access to hardware within and/or outside the institution, a large number of participants also directly or indirectly raised concerns that many of their learners did not receive timely access to relevant ICT software and institutional e-Learning systems. A majority of participants identified issues of learners not gaining institutional student accounts in a timely manner, which subsequently affected their access to e-Learning systems such as the
institutional LMS. Mary commented that gaining access to systems and dealing with enrolment processes were “a big challenge”. She noted in her first interview that her learners were just getting enrolled that week, which by that stage was three or four weeks into the course. Sava reported that enrolment delays could mean learners were not gaining access to systems up to eight weeks into the course. These issues were at times combined with learners’ problems with passwords/logins or other technical issues, which restricted learners from gaining access to online tools and course content. These issues are typified by Belinda’s response where she stated that “the only issue we ever have, is logging on. And the University’s enrolment process”. The reasons for the delays were not discussed in-depth but Belinda, Robert and Mary’s comments indicated there were “many different reasons” (Mary), ranging from learners not paying their enrolment fees (Robert), to issues with the institution’s enrolment processes (Mary, Belinda). Mary clarified that “sometimes it’s the students’ fault because they don’t provide a piece of paper. But a lot of it’s to do with [the institution]”.

Mary, Phoebe and Sava considered lack of e-Learning access as an equity issue for their learners. Mary emphasised that she and the learners felt it was a learners’ “right to have this thing” and that when learners did not get access to systems “they feel like they’re – being shafted from the start. Because we’re talking about all this wonderful online stuff, and they can’t see it, because they’re not enrolled.” Mary also indicated that, for her learners, lack of access “causes a lot of anxiety. More than you know…” She recounted an example of a particular learner’s experience:

*And a guy who’s quite competent, and smart, and, would know more about what’s going on in the world than me, and I’m the teacher… and he just went ‘I just get really anxious, when I don’t have that access to things that you’re talking about and other people are talking about…’*

(Mary, Community Services teacher)

The participants claimed they employed different tactics to mitigate enrolment and access issues. However, in many instances their strategies led to further consequences either in workload, learner experience, or led to using unsupported or less institutionally encouraged e-Learning technologies and approaches. Their approaches ranged from organising alternative access solutions with ICT, to using non-institutional tools, to, in Sava’s case, returning to paper-based processes.

Belinda and Mary organised alternative institutional LMS access solutions for their learners by setting up ‘guest’ accounts to the institutional LMS. This process involved emailing the IT team staff member to generate accounts and then communicating these details to learners. Both explained that the guest account process did not add greatly to their workload but did indicate a loss of autonomy/independence in managing e-Learning administration, and that the process at times added additional delays. Mary, however, noted the guest account process also caused other unintended issues for learners in understanding how to use the system, as they needed to login with these
Cam and Peter used non-institutional or institutionally ‘unsupported’ systems (including but not limited to Canvas) to bypass issues and continue using e-Learning outside of the institution’s scope. Cam and Peter both discussed the benefits of Canvas. With Canvas, they could manually enrol learners using their personal email accounts, which they felt were more readily used and remembered by learners, because, as Cam reported, “none of them use their [institution] email addresses…. They wouldn’t even know how to access it. You know, you cover it in orientation or it’s in the booklet… they don’t care. They’ve got their funny Gmail, or their Yahoo – and that’s fine, for us.” Sava reported that ongoing enrolment delays in his discipline area meant that he and his team in electrical trades had chosen to cease institutional LMS use and return to paper-based approaches for delivering most of the content and assessment. He noted that in particular the Occupational Health and Safety unit was paper-based because it was delivered early in the year when enrolment-based access could not be guaranteed.

Software suitability, user experience and ease of use

Participants additionally discussed their own perceptions of the suitability and ease of use of the LMS (and at times, ePortfolio) for their learners and for themselves. Several participants reported that the institutional LMS in particular was not easy to use or that they experienced a number of technical challenges. These hindered their own practice, their learners’ ability to use the systems and learners’ confidence and willingness to engage with e-Learning.

Several participants described that the institutional systems had a number of blocks which prevented access to online material. Technical issues with the tools themselves, such as browser installation or viewing issues, pop-up blocks or defunct plugins, or the need to use multiple passwords across systems, caused ‘pain points’ for their learners. Mary and Phoebe described technical issues experienced by their learners such as error messages when opening files, differences across browsers, and confusing login processes and wording within the navigation; they noted these issues could cause confusion or anxieties for learners. Phoebe stated:

...the only unhappiness with the tool deep down... sometimes it just doesn’t work easily for students or myself. You know, it just has its problems. You go to open up something and... it’s asking for passwords, and it’s asking for more hoops, that weren’t predicted, and I think that in the long run meant that, it didn’t - it just meant that it was a less positive experience.

(Phoebe, EAL teacher)

User experience issues were most typically discussed when referring to the institutional LMS, which was perceived to have more technical issues for participants and learners than other Learning
Management Systems. Comments provided by several participants would seem to support this suggestion, including Mary’s point that “sometimes I have a few problems with [institutional LMS], but I think most people do”. Cam and Peter provided similar comments such as they “won’t touch” the institutional LMS (Cam) or that the institutional LMS has “giant issues” (Peter).

Phoebe, however, indicated these factors were intertwined with her learners’ personal motivations, and seemed conflicted regarding which were the prominent factors. Several of Phoebe’s comments suggested that learners’ successful engagement with technology was, at least, in part “a reflection of their own learning” and influenced by their technological confidence and motivation. However, she acknowledged that the system “didn’t… make it welcoming enough”. In one comment she described that some learners “handled them [technical challenges] very poorly, and became quite disheartened… they just stop dead in their tracks”, whereas in other comments she noted that the system “has its little moments… but the students were fine, about the little eccentricities”. It is worth noting, however, that she commented on these ‘eccentricities’ while working through her own technical errors appearing on screen that she also found personally challenging.

In some cases, ease of use considerations for learners seemed to drive the choice of tool used, as indicated by Peter and Cam’s comments about their choices to use Canvas. While Peter did not expand on or clarify what he meant by ‘giant issues’, he did describe as part of his same statement that ease of use considerations factored into his practice, and he often compared Canvas’ functionality and ease of use to the limitations of the institutional LMS. Cam deliberately chose not to use the institutional LMS, explaining that his choice was driven by both ease of use on his end as well as what he felt would best support and engage his learners. He expected that the software he would use would have “a variety of a feature set, that looks OK, and functions pretty clearly… having something that makes sense”. He felt his learners (in the multimedia and design disciplines) had particular expectations, because “of the industry… graphic design students don’t want to be using something that looks ugly”. He also pointed out his learners’ additional need for clear language and navigation:

...they had a pretty bad experience with [institutional ePortfolio tool], which is something else which I’ve stayed away from. Just the fact that – the wording of things just didn’t make sense, the way that things were called.

(Cam, Multimedia teacher)

All participants reported the need to be flexible in some way when it came to supporting and offering alternative approaches for learners to view content or submit assessments. Peter and Cam stated they accepted learners’ work via alternative submission points or via email from non-institutional email addresses. Cam considered this approach as a way to not only mitigate learners’ technical issues but also as a way to be flexible and support learners’ expectations:
I guess just keeping it relaxed. ...You can choose your battles, and what doesn’t work. Always be flexible. At the moment, I have a student telling me that they can’t upload a document to Canvas to submit it, so they can just email it to me. And then... you know, we’ll sit down, and we’ll figure out what’s going on. So, it’s really that flexibility but also being accessible, I guess.

(Cam, Multimedia teacher)

However, some of the participants also hinted at the additional workload and other consequences this ‘flexibility’ caused as a result. Mary described that:

... if there is an assignment and you don’t have access to the information that everyone else does, rather than be really anxious and think, ‘Oh my God’, I’m happy for you to email me, and I can just send you the Powerpoint... So, it’s almost like you’re having to do this backup, for people ... because of all the IT glitches.

(Mary, Community Services)

Many participants reported their own technical challenges when using e-Learning technologies. Phoebe, Mary and Belinda described the technical issues they were currently experiencing. These included challenges with passwords, Java alerts or other problems with Java, differences across browsers, and hidden windows or pop-ups disappearing behind other windows that halted further screens from loading.

The participants appeared frustrated or confused when faced with some of these system errors. For example, during one of these demonstrations while trying to navigate an online unit she was building, Phoebe remarked, “So I won’t miss any of this [referring to technical and password issues she was experiencing]. Be good, to not to have to think about this”. Her remark to “not to have to think about this” was presumably her hope that in the transition to the new LMS these login and other alert issues would no longer appear. Mary also described frustrations with system “glitches” that interrupted her or caused her problems when uploading files from home; as “this is my only time to do this and I’ve got it all here and I want to just get it on [the LMS]”.

**Institutional and administrative leadership and support**

The section explores the participants’ views on the institutional and administrative leadership and support in regard to e-Learning. In particular, they described their perceptions of the level of understanding and support from institutional upper management and the institution broadly, support from their direct managers, and administrative staffing and resourcing implications.
Institutional and management support

While there was no mandate for a minimum online presence at the institution, some participants seemed to indicate they felt a broader expectation to use e-Learning by the institution or by management. Mary commented that she used the institutional LMS “because it’s [the institution]’s, and I was told to!” However, participants also either directly or indirectly suggested that the institution was either unwilling or unable to support them fully in their role or in using e-Learning. They believed this was either due to various resourcing constraints, or due to lack of understanding of the work involved in VET teaching or in e-Learning development itself.

Phoebe and Belinda both felt the institution, or upper management, had “not a great understanding of how VET works. Because a lot of the focus has changed to HE... [higher education]” (Belinda), and that “…they don’t really understand the job… they’ll probably want to erode conditions more” (Phoebe). Cam, Sava and Phoebe, seemed to suggest that perhaps the institution did not support or understand the complexities of e-Learning. Phoebe perceived that management were not aware of the limited ways staff were generally using e-Learning across the institution. Cam and Sava also reported a lack of resourcing available for e-Learning that indirectly suggested they felt management had limited recognition of what e-Learning required. Sava expressed concern that upper institutional management were aware that the technical infrastructure was not “up to scratch”, and Cam indicated he would like time recognised for e-Learning development, “not just lumped into some mysterious time which doesn’t actually exist”.

Belinda and Mary (and to some extent, Phoebe) expressed they felt supported by their direct managers, however, their comments seemed to suggest the type of support provided from managers was limited to just a general attitude of encouragement toward e-Learning and not necessarily to provide further time or other resourcing to assist. Belinda explained this issue:

*I’ve got heaps of support to do this… in that people are, people are happy to embrace it and people are excited that I’m going to do it, but – always, it just comes down to time. And no one can give me that. I have to make that myself.*

*(Belinda, Children’s Services teacher)*

Several participants described that their direct managers were under increased pressure due to other factors (including staffing cuts, limited administrative support, and increased pressure to attract learners). All of these pressures affected resourcing and their managers’ ability to effectively support e-Learning in practice. Robert described that he had seen training options listed online but as he was teaching he was not able to attend: “I can’t get someone to cover me, because we’ve just blown our sessional [teacher resourcing] budget”. Other participants noted that staffing cuts and other losses had placed pressure on managers, and subsequent downward pressure on them as teachers, to undertake more duties within their own roles. Belinda described that “there’s a lot more we’ve got to do, there’s
a lot more roles being put on to us. And there’s always the pressure for more students”. Both Belinda and Mary reported that their direct managers were under “a lot of pressure”. Belinda explained:

> And our management is under a lot of pressure as well. Cause she has no admin [staff] either. So, things have to get delegated to us. So, I feel supported by her but it’s the pressures from above that comes down on all of us, I think.

*(Belinda, Children’s Services teacher)*

Mary, unlike other participants, reported that her manager would organise professional development or training opportunities for the discipline team as she “believes in the online stuff…”. However, she noted that the processes and administration involved in managing both e-Learning and VET were too overwhelming for her manager alone – that the institution was “killing her”. Mary described that as a result, she would take on administrative tasks to support her manager because she felt “that’s all I can do, if you can relieve anything. But there’s only so much I can take on. Because you know, what I’m effectively doing is avoiding doing my other work that I’m supposed to be doing!”

**Administrative staffing**

A number of participants indicated that there had been, in particular, cuts to administrative staffing levels that affected their own workload and role, and as a consequence, their learners’ experience. Mary, Phoebe, Belinda and Robert remarked that they had lost administrative support personnel, and either directly or indirectly suggested they were taking on additional duties as a result. Mary was particularly vocal about administrative staffing cuts and the effect she felt it had on her managers’ workload and her own. She also highlighted that this change influenced the ways in which she worked and managed her time: “I teach six classes a week. So, I prepare on the weekends now. ‘Cause I’m trying to deal with this… [administrative work] all the time. And [her manager], that’s all she does.”

Robert indirectly discussed his heavy workload. He had to handle incomplete or incorrectly filled paper-based enrolment forms, to which he remarked it would be great to have online enrolments, but “that’s just dreaming too far, isn’t it? … I’ve got eight enrolments to do and it’s probably going to take me about four hours”.

Mary expressed concerns that the increased administrative workload had further effects on the learners’ experience, as “the quality of what they [learners] get is lost”:

> So, even taking away an admin person… it takes away a human element for students, a human interaction, someone to ask questions… Now, we’re just bombarded, and we’re actually, we’re just putting up the shutters.

*(Mary, Community Services)*
She felt that learners also lost access to teaching quality because she perceived that teaching staff in her department were becoming less ‘flexible’ as a result of increased administrative duties. She pointed out, “we’re saying to students: Can’t help you. So, the students are actually pretty much on their own… Because when you’re flexible, you have to spend more time with people, and we don’t have time to do that because of all our other stuff”.

While many participants described how administrative staffing cuts had increased the administrative duties they were now performing, a large majority highlighted the benefits of using e-Learning to support administrative duties. They indicated that administrative staffing losses became a potential enabler for using e-Learning, to directly or indirectly, fill a perceived gap in administrative functions. Mary conversely reported that “in terms of the lack of administrative help we have now, it [the LMS] is our lifeline to the students”. Mary explicitly described how she leveraged the LMS to direct learners to information that previously had been communicated via a manager or support staff member, such as providing access to handouts and updates regarding class cancellations, “So, I can just refer them to that, and say, ‘well I’ve actually put all this information on [institutional LMS].’ So… it helps to back you up”. She suggested, “the hard part is getting the students into a mindset that that's their administrator now… that’s not my role”.

Robert, Peter and Belinda additionally highlighted benefits to using the LMS for administrative tasks, including communicating to learners, tracking online attendance and removing print-based materials. However, Robert was the only one to directly link these benefits to decreased administrative staffing concerns.

In summary, participants raised several concerns regarding the level of support they received from management and the institution, and the increasing administrative workload that was becoming part of their role due to changes in administrative staffing. Several perceived their direct managers were generally positive toward e-Learning, but indicated that they received limited practical support and time allocation for e-Learning and professional development. A number of participants indicated that there had been cuts to administrative staffing levels which had, in many instances increased their own duties, changed their interactions with learners and the ways in which they managed their time when developing e-Learning, and affected their learners’ experience. However, they also highlighted opportunities and benefits that e-Learning afforded in managing administrative tasks which seemed to shape their e-Learning decisions and practice.

**Professional development, training and support**

Participants commented upon their training experience which underpinned their e-Learning practice, and on the previous and current availability and amount of e-Learning training and support provided for teachers. It was interesting to find that their experiences of training and support varied from each other, though there were some common opinions on the support that they would like for e-Learning.
Previous and current experiences of training and support

Four of the seven participants had noted that they had undergone some form of introductory training for e-Learning more broadly, either through some form of e-Learning professional development, or via training that had been incorporated into their Workplace Training and Assessment course. However, this did not appear to be consistent across the group and several suggested previous e-Learning training had been minimal. Many participants reported that they had not received initial training on the LMS they were using, and had instead taught themselves. All the participants indicated they had received either no or only limited or introductory level training in using e-Learning technologies, particularly when beginning their practice. Several participants provided comments similar to this one from Belinda: “I pretty much taught myself”.

Three of the participants also described no or limited exposure to examples of online learning so that they might compare or have something to reference when developing their practice. Mary had “nothing to compare to” and Cam reported he had been exposed to online learning but not what he perceived as “good online learning”:

*I know I haven’t experienced good online learning myself, so I can’t – I’ve got nothing to model, what would be fully online.*

*(Cam, Multimedia teacher)*

However, limited training did not necessarily seem to be a barrier to entry for these participants, as per Phoebe’s comment:

*I think I’d missed the boat. I think the training was offered for a very short window… So, I thought, ‘well, that’s not gonna stop me just because… because of that, I’m going to try and use this tool, as it’s the LMS. And I knew that Higher Ed used it. And so the students would – could – eventually need it, and I just didn’t want it to be new to them.*

*(Phoebe, EAL teacher)*

The participants claimed they felt confident using e-Learning technologies and, for most of those interviewed, capable of training themselves. Most participants nonetheless indicated they viewed training generally as positive and as an enabler for furthering practice. Belinda noted that she and a co-teaching colleague felt confident to work through issues and seek help through support channels where needed, however, she added “but… I think we probably need more training”. Several other participants also described that they felt they needed, or would like, further training in order to either remain current and/or to progress their practice. A majority also provided positive comments regarding access to and suitability of training and support options for the new transitioning LMS so that they could develop their skills and confidence. Conversely, a few participants indirectly reported
a lack of knowledge or skills in using certain aspects of e-Learning. This perhaps suggested gaps in their own knowledge or understanding that may well hinder their own practice. Sava, for example, linked his limited use of the institutional LMS (among other technical factors), to a lack of understanding of the LMS functionality due to lack of training: “we didn’t know enough about it at the time, and the issues. We haven’t had enough training in it”. He noted that perceived limitations of the institutional LMS were a factor in his decision to move away from using it, however, he indirectly hinted at a potential lack of knowledge of what the existing institutional LMS was fully capable of:

> With the WebTrain [previous e-Learning content access] ... we could track it. We could tell the date, we could tell exactly when they started the module, for audit purposes. We can’t do that with [the institutional LMS]. Maybe we could, but we don’t know.
> (Sava, Electrical trades teacher)

Several participants also suggested that a lack of training could be a potential barrier to adoption for other teaching staff. Phoebe argued that training and support were key factors for implementing e-Learning for many staff:

> There’s a small element that block it, or have an ability issue or are living in the dark ages...
> But the majority would if they were given some support... they really don’t have the wherewithal or the opportunity to do it themselves, and they find it quite daunting, the idea that they’re going to teach themselves.
> (Phoebe, EAL teacher)

Mary suggested, that for her course, a factor impacting consistent up-take of e-Learning amongst teachers was the number of sessional teachers employed, “who don’t use the system, or are not trained in the system”. Her comments highlighted that effective training was an issue for a particular group of staff who were, perhaps, excluded from professional development opportunities.

**Desired training and support models**

Participants also highlighted that the type of training and support provided needed to be effective in order to support their own and other teachers’ practice. When discussing the type of training and support that the participants felt they would like to have access to in the future, their comments could be categorised into four themes: Possibilities and opportunities; Role models, mentors and sharing practice; Differentiated/personalised training; and, Timely and informal/just in time support.

**Possibilities and opportunities**

Most participants highlighted that understanding the “possibilities” of the technology were important or beneficial at their level of experience with e-Learning. Belinda noted she was excited to learn the
new transitioning LMS, to “see what other possibilities it has for our courses… and where it’s going to go”. Participants wanted training or support to consider their online unit or course design for ideas, to make their courses more engaging for learners and/or to consider more effective or streamlined ways of performing tasks.

Several indicated that ‘possibilities’ included feedback regarding good practice. Phoebe described that what she required were opportunities to gain feedback from others on ideas or “have suggestions made”, as she “may not always see, where a task lends itself… or if I do, I’m thinking… what would be best?” She noted there were benefits with training and support approaches that allowed staff to “tap in”, “if they wished to do anything but they don’t really know what”. Robert similarly outlined that having access to advice to know what was not only possible but the best approach to e-Learning design would be beneficial for his own practice.

Role models, mentors and sharing practice

Many of the participants perceived benefits of receiving feedback from others, such as colleagues, mentors or e-Learning support staff. Belinda and Phoebe both noted that having access to feedback had been beneficial for them in developing, not only their e-Learning practice, but also building their confidence and motivation. Belinda noted that she was now being asked to take on more of a mentorship role in her department – her comments suggested that she was surprised by this but also felt validated, and that taking on more of an expert role assisted her in developing confidence in her work.

Phoebe and Belinda suggested they had been able to reach the current stage in their practice from having access to sustained support. For example, Phoebe described the role of technical and pedagogical support as providing her with sustained motivation in her practice:

But if I didn’t have any support, I would feel quite disheartened, and I mightn’t want to do much. So, it really has to do with that factor. At least [the institution] is resourcing you guys so then I feel OK, I’m not alone.

(Phoebe, EAL teacher)

Belinda and Robert both suggested that having access to others who would listen was also important, as demonstrated by Robert’s description that trade teachers wanted to be “listened to”, and Belinda’s comment that she had benefitted from accessing support teams who had been “so patient” and “have really taken the time to listen”.

Belinda, Phoebe, Peter and Robert linked relationship building and feedback to potential ‘opportunities’, and suggested the role of colleagues and mentors within this relationship. Peter described he was open to feedback as “anything anyone says to me is potentially a new idea for me”. Phoebe suggested that a benefit of the current institutional support structure was the support that
allowed teaching staff to “tap in, and have some suggestions made”, to gain ideas and confidence that “I really could try this”. She reported that she would “love to sit with a colleague” as an option, “because we don’t have enough opportunity to go and see what someone’s doing” and linked collegiate opportunities to seeing further possibilities in practice, such as being exposed to new tools. She noted that while community-based opportunities around practice were occurring in the institution, typically this was designated to a once-a-year conference presentation and there was limited time beyond this to afford opportunities to network or review.

Robert reported that he would like feedback from an e-Learning specialist or mentor who was removed from his discipline area, to “come in, and have a look at the whole lot with new fresh eyes”, adding that “we’re trade teachers, not… IT… we might be setting the whole formatting up the wrong way”.

When describing further development options they would like to see made available at the institution, Robert, Phoebe and Cam all proposed opportunities for relationship or community building. Cam remarked upon what he felt would help others:

*I guess just documentation and support for other teachers. I was sort of, the person who would show other people what to do, but no one showed me. So, I guess it is that building a community, it would make it easier on us as well. So, we’re pretty lucky in our area, there’s been at least now five teachers, who have used Canvas at some point in the year, as part of their assessment. So, that’s how we’re sort of doing it, we’re just teaching other people little bits and pieces as we go, and then getting them to actually use it.*

(Cam, Multimedia teacher)

**Differentiated/personalised training**

The majority of participants reported that they were still willing and eager to attend training where available but indicated that they were possibly at a more advanced stage in their e-Learning practice compared to other colleagues. Several suggested that the current training options were not meeting their needs, as they were tailored to other teachers at their beginning stages. Belinda and Phoebe noted their needs were different from other staff and, “wouldn’t suit somebody else. They’d really want the whole package given” (Phoebe) the majority of who “would probably want face to face [training]” (Belinda). Belinda also added:

... *I think more professional development…maybe if there’s something for people at our level to go on with learning… because that [previous training] was really an introductory thing. And that was good because you work with lots of other teachers, and there was lots of support, but – if there was [sic] more things like that introduced I’d be really keen, to learn*
Robert warned against a generic approach to training, as each discipline area would be different in their needs. He argued any approach should highlight the ‘possibilities’ and value of e-Learning for each specific discipline in order to encourage them to adopt e-Learning, and be targeted to that group.

In summary, the participants perceived that training ought to be differentiated to particular experience levels and discipline areas, but that it would definitely enhance their e-Learning use in their teaching.

**Timely and informal / just in time support**

Most participants felt that the type of training and support that they needed had to be timely (or just in time) and informal. All participants seemed to discuss the need for informal support approaches in some form – such as technical or pedagogical support over phone and/or email. For the participants who discussed their support or training needs in detail (Phoebe, Mary, Robert and Belinda), the benefits of having access to informal support in a timely manner and/or at point of need were clearly identified.

Phoebe highlighted that access to informal support and mentoring on-demand meant that she felt “connected enough to just make those calls… whenever we’ve needed support, that has been the best feeling”. She also felt there was a benefit of allowing staff to ‘tap in’ to access support. Belinda also provided responses over several comments that originally she had lacked confidence in accessing technical phone support, and that she didn’t think she “could’ve got to this point” without having access to technical support staff that she could access on “speed dial” who had been “so patient” and “have really taken the time to listen”. Both Phoebe and Belinda seemed to suggest that timely access to support via informal and approachable channels was important for them in developing confidence and in continuing their use of e-Learning technologies.

Robert described the positive surprise of how quickly he had received a response when he had accessed Canvas support (an external support channel and not provided by the institution) through the company’s email channel. He stressed the timeliness of a response had been positive – “any time I had a question, I’d send it off, and I’d know the next time when I’d come in, there was an answer for me”.

Robert discussed time as a potential barrier for training trades teaching staff to use the LMS, because it would be difficult to organise his team to come in at the same time. Robert suggested options such as mentors, advisors, e-Learning representatives or e-Learning ‘champions’ in the faculty as preferable compared to formal training. Phoebe likewise indicated that time availability was
an issue for many staff and she perceived this impacted upon their ability to both access training and progress their practice.

In summary, participants noted that training and support could assist them and other teaching staff in developing their use of e-Learning, but identified a number of key considerations and challenges in the type of training and support required for it to be effective. These considerations included the timeliness, relevance and personalised or tailored nature of the support, the relationships and feedback available and opportunities to explore the ‘possibilities’ of e-Learning. Several participants highlighted the importance of feedback and relationships in developing confidence, motivation and sustained practice. They also highlighted that they felt there would be differences between their needs compared to those at beginning stages of their e-Learning development and that a tailored approach that recognised these differences would be more effective.

**Collegiate practice**

The majority of participants indicated that their practice was different to that of their colleagues and suggested other staff were either not using e-Learning at all or were incorporating e-Learning in limited ways. Several participants seemed to make value judgments regarding others’ practice and that their use of e-Learning was not within what they considered good practice. Robert and Phoebe both claimed that their colleagues were either not using e-Learning at all, or were using e-Learning to support traditional delivery methods. Phoebe described that in her discipline area, while she felt some teachers “would be coming up with some really interesting stuff… the majority are just copying links to language sites. And you know, we always did that anyway.” She believed that for many colleagues e-Learning meant “let’s get them to look at this website. A different one every week. It’s almost like a teacher who shows a film every time, in the class”. Robert provided a similar comment that, “I think the most they do, they show online videos. Safety videos. And that’s about their content of e-Learning”.

Robert and Peter more explicitly referred to how they felt colleagues’ inconsistent e-Learning use affected learner engagement. Robert indicated that he used e-Learning to move away from “chalk and talk” delivery but others had not:

> I don’t want to bag the other areas, but I wandered up to see the Carpenters, and they’re all sitting – teachers, standing up the front, talking, and they’re just sitting there, filling in their paper books. And I think ‘Oh. Set it up, do it properly! Put it all online!’ They’re spending three and four hours in a classroom. They [the learners] left school to get away from that.
> (Robert, Trade teacher)

The same participants also reported that inconsistent practice by their colleagues affected their own practice in negative ways, particularly in relation to workload or additional duties and in how they
supported and interacted with learners. Mary perceived that the lack of consistent e-Learning adoption by teachers in her department impacted her learners’ ability to learn and adapt to the e-Learning environment and increased learner confusion. Mary described that different teachers would accept submitted work for assessment in different ways. This in turn added to her own workload in training learners and dealing with different submission points: “I’m getting [their assessment] in dribs and drabs and here and there… it actually is more time consuming. I might as well just get them all in hard copy, together. And not use the tool”. She described that she had “arguments with the students” about how their work needed to come in, but the inconsistencies made it difficult for her to enforce:

So one teacher’s saying ‘It must be on [institutional LMS] or I won’t mark it’. Another teacher’s saying, ‘email it to my private email’. So, when you say to a student, ‘Why did you email that from your Gmail and it’s gone into my junk mail and I’ve just found it?’ ‘Oh, ‘cause I do that for other teachers’. ‘Well it needs to be on [institutional LMS]’. ‘But I don’t use [institutional LMS]’.

(Mary, Community Services teacher)

Peter reported that the lack of consistency across the institution in e-Learning practice also caused tension in his interactions with learners, due to the fact that learners would ask questions such as “‘why don’t our other teachers do that?’ or ‘why doesn’t teacher x do this?’” which caused tension for him at a personal level and was “very delicate” to address:

Because... no fault of your own, you’re sometimes making other people look bad, but my allegiance is to do my job in student engagement, in the way I believe works.

(Peter, IT teacher)

While many noted there was inconsistent e-Learning practice occurring in the institution, several noted that support from colleagues who were engaged and who worked collaboratively was beneficial to their workload and practice. Phoebe and Mary commented that this could be related to how “on the same page” they and their colleagues were in their goals or practice – for example, Phoebe reported that “the one saving grace is I take another course with [colleague], ‘cause we’re on the same page, and I’ve got that all down pat. So, that helps a little bit”. Mary provided a similar response that “[colleague] and I are the core staff… we use it a lot, and we know exactly what each other does, and we do stuff together”.

**e-Learning support for learners**

A few participants also expressed desire for more institutional support to train and assist learners to become capable in using e-Learning. Mary in particular raised learner support as an important issue:
“It’s really just about the students that don’t know how to use it very well, and how you support them better. That’s the main thing I think of now”. Mary also was concerned that while teaching staff received training on the LMS, learners did not receive or did not seem to receive dedicated orientation or training. She expressed that she wished there was orientation support for learners in using the e-Learning systems in a formalised setting with a dedicated support person, but there was “No one to do it, though… we’ve already been told, the teachers do that. You know, we do everything”. Mary suggested that the skills were either assumed as underpinning knowledge that learners already had or would pick up, or it was assumed that orientation and training for learners was or should be part of the teachers’ role; that “we’re expected to do it”. Belinda reported that previously she had been able to access support personnel to orient learners in e-Learning but this was no longer available.

Belinda indicated that since losing support staff she had taken on the role of running the e-Learning orientation session for learners, however, her approach was to ask other learners or graduates to “come in and be supports, in the computer lab”, to act as mentors, which she indicated “also works well”. She highlighted that a benefit of asking previous learners to run the session was that new learners “took more notice” as it was more “realistic” to them, and the learners who had already completed the unit/course provided a “testimonial” of “how easy it is” which, perhaps, aided new learners in feeling more confident.

In summary, some participants highlighted that learners required technical training and support to use e-Learning but this was not or no longer available at the institution, and Mary and Belinda’s comments suggest that e-Learning support for learners was increasingly enveloped into the teachers’ role.

**Time allocation**

The majority of participants noted they would use more hours than they were allotted or paid for in order to design and utilise e-Learning within their practice. Robert, Phoebe and Cam claimed that this was unfortunate and ideally they would have allotted time for e-Learning development, including for planning and e-Learning curriculum development, and for professional development. Cam argued that “there needs to be certain hours allocated additional to the setup initially”. He suggested that there should be some time allocated where staff were paid for a set number of hours to build the unit or course at the beginning, that “it’s not just lumped into some mysterious time which doesn’t actually exist”. Phoebe also provided statements such as “I wish we could have some time away from teaching just to be able to concentrate on this aspect of our – resource development” as “they won’t give you any time… if you’re full time you’re still doing twenty-one face to face hours… you’re still somehow managing… you’re still trying to set up… with no extra time”.

Several participants referred to the need for consistent or regular time to ensure e-Learning quality when developing resources, or to maintain consistency in their learning and development
process. Phoebe and Robert both argued for dedicated time in order to establish consistency and quality in course design. Phoebe noted that being able to concentrate directly on “resource development” was important for developing “professional resources that are consistent” and for lifting quality across the teaching or discipline area. Robert noted that it was not possible to get continuity when “just doing snippets”, particularly when considering course design, but if they could stop teaching and just work on e-Learning design “it’d be a breeze”. His comments hinted that there were limited opportunities to gain regular or focused time, which he noted affected the consistency or “continuity” of the process.

You don’t have the continuity. Cause you did something two weeks ago, and you’ve got a free couple of hours – say “Alright, I’ll continue it now. What was I doing? Why did I do that? It didn’t make sense.”...You just don’t get the flow of it.

(Robert, Trade teacher)

Peter noted that it was also important to designate regular time, such as one or two hours a week to spend on improving online design. He suggested that all staff could do this if they wanted to, that allocating regular time was a case of priorities and effective time management.

In summary, the comments that participants provided in relation to time indicated that many of them used time at home or flexible time to both update their e-Learning materials and units and to respond to learners. Many participants also indicated that setting aside or organising regular time was important for either consistency in their e-Learning development or for gaining efficiencies and ensuring their time and tasks were managed effectively, though suggested there was limited or no time allocation from the institution.

Summary
The participants in this study indicated that institutional factors related to technological infrastructure and access to systems, administrative staffing levels, and the level and extent of support from others including managers, colleagues and training and support teams could act as enablers or inhibitors to their practice and affect the ways in which they worked, including the tools they chose and the time in which they allocated for e-Learning development.

4.7 External factors

This section provides findings of other factors that participants identified during interviews, which appeared to be beyond the control of both the participants and the institution. These factors were related to specific requirements of the VET sector.
VET auditing and reporting requirements

All participants either directly or indirectly referred to VET reporting and auditing requirements and activities as part of their interviews. This suggested that these requirements were integral to their workload and the ways in which they thought about their role. A large majority of participants highlighted that VET reporting requirements factored into their considerations of e-Learning in a variety of ways, including their motivation and decisions for using e-Learning, and choices regarding e-Learning technologies and particular LMS functionality.

Robert, Peter, Mary and Cam described the benefits of e-Learning to support VET processes, including tracking student progress (such as tracking student activities, attendance and assessment), reviewing and making updates to their own curriculum materials, and supporting reporting and auditing processes. Peter regularly mentioned the benefits of Canvas for tracking and reporting both learners’ progress as well as tracking updates and changes he had made to his curriculum and course content. Cam also highlighted that he used the LMS to collect student assessment and ensured learners had submitted work by the Census date so that he could report on student numbers and ensure government funding was provided for those learners, to which he stated, “which is… like it or not, a fact of which we have to keep playing with.” Robert indicated part of his rationale for using e-Learning was to make it “easier for us [as teachers],” which included streamlining auditing, administrative and reporting processes. Robert regularly reported that he was looking to digitise several processes as a way to improve tracking, reporting and auditing and to make current processes easier both on himself and other staff, including managers. He explained that had organised online attendance registers, which he noted the team manager “loves it, cause he doesn’t even have to speak to us… if he wants to check, he can check anytime.”

Robert also suggested e-Learning provided benefits for maintaining data credibility and validity for audits, as data in the LMS could not easily be doctored to “make that student’s files look clean”. He reported that with the existing paper-based audit process, as “you get twenty-four, forty-eight hours notice to do it”, departments had “tarted up files, in time for audits”. Sava also highlighted that e-Learning to track and report learners progress for auditing was important to him. He described that one of the problems of the current institutional LMS for him and his team was that it did not seem to support tracking and reporting for audits, or “maybe it does but we don’t know”. He noted that the previous e-Learning system his team had been using had functionality to support audits.

While several participants seemed to suggest that e-Learning held benefits for auditing and reporting, a few highlighted concerns in managing auditing requirements for the online environment and a lack of institutional or external VET processes that recognised e-Learning for auditing. Robert and Phoebe indicated they were still printing out files. Robert stated: “[It’s the] 21st Century and we’re still printing things off!” Phoebe was concerned that they still used paper-based backups: “the paperwork, that we have to keep, is just extraordinary… that’s why I’m doing all of this, this
recording if you like... I can’t keep whatever I’ve got on the students here [referring to the LMS], they want paperwork. A paperwork trail”. She expressed concerns this was perhaps due to a lack of either management or external auditors’ understandings of e-Learning:

_But that’s not what the auditors want, or the managers. As a measure. And they want hard-copy measures. Maybe they don’t have enough understanding, so that’s why._

*(Phoebe, EAL teacher)*

Many of the participants highlighted that auditing and reporting requirements were factors that became considerations for decisions they made both when using e-Learning or choosing e-Learning technologies and, to some degree, in the way they delivered and reported on their teaching delivery. Several participants perceived benefits to e-Learning and digital processes in managing tracking and reporting to meet auditing requirements, however, they indicated that they were still using and/or expected to use paper-based processes concurrently to digital processes.

**VET unit and training package changes**

Robert and Belinda, and to a lesser extent, Phoebe, described proposed changes to VET training requirements that would directly affect their unit delivery. Belinda and Robert reported that this would have flow on effects for them in their readiness to further progress their e-Learning development.

These participants commented upon how these changes affected their workload, their motivation and readiness to use e-Learning. Both participants described that they had stalled in some degree with their progress due to either unit and training package changes or lack of clarity around changes. Belinda described challenges for her in working with changes to two certificate programs – the Certificate III and the Advanced Diploma of Children’s Services. Belinda reported in her third and final interview that she had just been notified that the Advanced Diploma of Children’s Services was going to be “cancelled”. She indicated she would not “revamp” or update the Advanced Diploma as “there’s no point”.

Belinda highlighted that VET curriculum changes had affected her workload. She described during interviews that she had been proactive to redevelop her course design for Certificate III to a new blended model and incorporate more online elements, based on expected upcoming external changes to the program. However, just prior to the final interview she had been informed these changes had now been delayed and would now not take effect for another six months, so she would instead now need to redesign the program again back to the original currently approved version. She highlighted that this would mean “…lots of redeveloping, lots of rethinking, lots of rejigging what we’re doing”. Belinda noted she would perhaps be pragmatic with her workload and would be less likely to involve other staff in the e-Learning planning and/or delivery, “because I really don’t have time for that right now”.

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87
Belinda highlighted that changing and undertaking redevelopment for VET curriculum requirements came with a certain amount of stress and emotional fatigue:

*So, there’s lots of things up in the air [laughs]. But they all came crashing down today... well, we know we’re stressed. You know, like stressing out getting the [new transitioning LMS] training, stressing out how we’re gonna get all this content done by February.*

(Belinda, Children’s Services)

But then she added, “I guess it just means we have to be always on our toes, and we... have to be flexible to change”.

Robert also reported that he had stalled in making redevelopments to his course, as he and his team were waiting for notification of updates to their relevant training package, which meant “we can’t move forward, until we get the purchasing guide”. He indicated that this decision was to avoid potentially wasting “hours and hours setting the course up” if it turned out to be no longer relevant, but the delays could mean taking on additional work outside of hours in order to make redevelopment changes in time for delivery once the updates were known.

Phoebe, who suggested she was working with curriculum changes at the request of her manager rather than external changes, provided comments that supported or expanded Belinda’s comments. She had decided to also be less likely to introduce others to the system and instead continue to work independently, as she didn’t want to “force it any”, and indicated that the process of rethinking and remapping curriculum could be “quite tiring”.

**Summary**

Participants discussed how broader factors such as VET sector requirements/considerations and sector changes impacted upon their use of e-Learning and their teaching practice. The majority of participants mentioned VET curriculum, reporting or auditing requirements and processes as factors that affected the ways in which they considered and integrated e-Learning. In particular, auditing requirements appeared to directly shape teachers e-Learning integration and their decisions in practice. Several participants also indicated that changes to VET curriculum influenced their decision making, as it led them to rethink the ways in which they developed their e-Learning content but could also stall their practice and affect their attitude and motivation to progress their e-Learning development.

**4.8 Summary**

This study, while small, has demonstrated that there are a number of individual, pedagogical, institutional and external factors that have shaped VET teachers’ perceptions and use of e-Learning in...
practice. Individual factors related to participants’ perceptions of themselves and the role of technology, and motivations to incorporate e-Learning for perceived benefits for the themselves and their learners. Participants provided pedagogical motivations which included engaging younger learners (such as through mobile technologies), preparing learners for employment and further study, and empowering learners, but raised concerns regarding their learners’ readiness to use e-Learning due to particular characteristics (such as their age, technology experience and literacy and language skills, some of which appeared to be compounding factors). A range of institutional factors were identified, including the availability, reliability and ease of use of technological infrastructure and systems, the suitability of training, and the level of institutional, management, administrative and student support. These factors shaped not only the participants’ decisions to integrate e-Learning, but the e-Learning technologies they chose to use – including institutionally supported or unsupported (i.e. external) e-Learning technologies. These factors could often act as barriers to sustained practice and have negative impacts upon the participants’ workload.

The participants in this study also offered their thoughts regarding their intentions for the future, their wishes for consistency across the institution, and the types of training, support and time allocation that they felt would support them and other staff best. However, external factors related to the VET sector and the requirements expected within VET delivery, have also had an impact upon these participants’ attitudes, workload and teaching practice. The subsequent chapter discusses these findings in further detail to provide an exploration of what the findings may mean for further studies and for others within VET when using and implementing e-Learning technologies.
5. DISCUSSION

This study set out to explore the ways in which VET teachers’ use of e-Learning influenced their perceptions and decisions in practice. In the previous chapter (Chapter 4 Findings), the participants’ data were presented and categorised under four main factors (individual, pedagogical, institutional and external) that best represented their issues around e-Learning.

This chapter presents further analyses and discussion and unpacks some of the similarities and contradictions within, and across, the participants’ comments and what these may mean more broadly for teachers in VET institutions. The discussion presented here is framed according to Birch and Burnett’s (2009) framework, originally introduced in Chapter 2. The chapter begins with a discussion of the institutional factors that appeared to shape VET teachers’ choices about eLearning. Individual and pedagogical factors that influenced the participants’ practices and their perceptions are then discussed. External factors that influenced the participants are also explored more fully. The chapter concludes by offering a revised framework, built on the factors that emerged from this study, to specifically propose a range of factors that influence VET teachers’ e-Learning practices, from initial adoption to sustained use, for use by other researchers or stakeholders.

5.1 Institutional factors

Birch and Burnett (2009) highlighted that institutional factors act as motivators, enablers and barriers to teachers’ adoption and practice. Across studies, Birch and Burnett (2009) and Birch and Sankey (2008) found institutional factors included: institutional policies and processes; institutional and administrative support; training and professional development and mentors; and the availability of time, costs or other rewards and incentives as factors that influenced academics’ e-Learning adoption and integration.

The participants in this study commented upon a number of factors, controlled by the institution, that influenced their e-Learning adoption and which shaped their use of e-Learning in practice. The factors that seemed to primarily influence these participants’ e-Learning use included:
• technology infrastructure, technical and usability or ease of use factors;
• training, pedagogical and technical support, relationships and networks; and,
• management and administrative support and time allocation.

These factors are consistent with other findings in a VET context. In the report *From Content to Construction* (Australian Flexible Learning Framework, 2003), resourcing, time and professional development were key factors for ESL teachers when incorporating online technologies in a VET environment. Jasinski (2007) also reported a number of factors, including resourcing, infrastructure and professional development, which influenced teachers’ e-Learning adoption and integration in complex and dynamic ways.

**Technology infrastructure, technical and user experience factors**

The participants in this study highlighted the importance of technical access and usability of the LMS and other tools to support themselves and their learners. They claimed that institutional systems and infrastructure were inadequate, proved challenging, or were inappropriate for their own and their learners’ needs. Research literature also indicated that inadequate infrastructure can be an impediment to teachers’ e-Learning adoption and integration (Birch & Burnett, 2009; Surry et al., 2005), and that a system’s functionality and ease of use for supporting key tasks was important to ensure its adoption and continued use (Davis, 1989, 1993; Rogers, 1983). The participants’ data also indicated that these factors clearly shaped their adoption of e-Learning and other technology decisions. The participants’ beliefs about their role within the institution also shaped their view toward e-Learning up-take and use.

**Access to hardware and e-Learning systems**

All the participants were concerned and frustrated by their and their learners’ access issues and delays to the e-Learning systems. They noted these delays caused anxiety and confusion for learners and subsequently affected learners’ motivation and engagement with VET study more generally. Mary, in particular, claimed that her learners became anxious and felt disadvantaged if they did not have access to the relevant e-Learning systems. She stated that these factors were intertwined with learning and teaching and they affected the learners’ experience and her role as a teacher, especially if “they can’t get on [the LMS]”.

Many of the participants indicated that they were more likely to use alternative tools or processes if they were not able to organise timely or ready access to e-Learning systems for their learners. Delays for learners in gaining system access shaped several participants’ e-Learning tool decisions – such as their decision to use institutional e-Learning systems and processes compared to others. Some participants claimed that they chose to use non-institutional LMS systems, such as
Canvas, in order to provide timely access to systems for their learners – in effect, not only bypassing but subverting institutional processes. Others utilised workarounds to try and support learners, and to provide what they perceived as a flexible learning experience. However, they also reported that this led to other unintended negative consequences for themselves and their learners, such as confusion in navigation or additional workload. Sava went to the most extreme position as he returned to paper-based processes, therefore deciding to, as Rogers’ (1983) suggested, ‘reject’ the innovation.

These demonstrated variations in processes highlight both the ‘pain points’ for teachers and how inadequate systems encouraged them to look for alternatives. Rogers (1983) stated that "change agents usually introduce innovations into a client system that they expect will be desirable, direct, and anticipated. But often such innovations result in at least some unanticipated consequences that are indirect and undesirable for the system’s members" (p. 32). These alternative approaches that these teachers employed could be considered ‘undesirable consequences’ for the institution, teachers and learners alike. For example, undesirable consequences for the institution could extend to increased institutional risk and inability to support such a broad range of tools and processes outside of the institutionally ‘sanctioned’ ones. This includes, not only use of varied learning management systems, but other tools. Cam, for instance, described how he subsequently allowed learners to use non-institutional e-mail accounts for Canvas because this was easier for both himself and his learners. Undesirable consequences for teachers could also include increased inconsistency or uneven practice – as Mary noted, inconsistent LMS use amongst her discipline team of casual/sessional teaching staff was a concern because it led to her increased frustration and workload as a teacher, and increased confusion for her learners.

Lack of consistency was also likely to dilute the rate of e-Learning adoption across the institution, thereby continuing a cycle of uneven or inconsistent use. As Rogers (1983) claimed, mainstream users and late adopters were often influenced by persuasion from their peers or colleagues. In instances where variability included a range of tools and lack of satisfaction with the technology, late adopters may receive mixed messages from others within the institution, and therefore stall in their own e-Learning adoption or decision-making process. Walsh et al. (2011) have previously reported uneven e-Learning use as a problem for the sector more broadly.

Another concern that was apparent through the participants’ comments, was one of inconsistent access to computers and infrastructure. A majority of participants suggested that many of their learners had limited access to computers and/or limited internet connectivity, either on campus at the institution or at home. Several participants perceived that the lack of hardware access limited or constrained learners’ e-Learning engagement and regular online participation. Lack of access on campus, coupled with limited off campus access for many learners, created tensions for the VET teachers in this study and affected the choices they made about eLearning. These were identified in Chapter 4, Section 4.6, Institutional factors.
Although learners’ off campus technology access will be discussed in Section 5.4 of this chapter, some of the participants, including Sava, suggested that the institution had made mistaken assumptions that learners had ready access to off-campus internet and technology hardware which, in his view, had led to decreased computer access on campus. Learners’ access to tools and relevant hardware and e-Learning systems were mentioned by several participants (Cam, Sava and Belinda) as a concern, and Robert expressed that other teachers would not commit to e-Learning without adequate on-campus hardware potentially using lack of computers and limited learner access as an ‘excuse’. This was consistent with Birch and Burnett (2008, 2009) who highlighted that academics’ concerns that learners may not have access to appropriate infrastructure acts as a personal inhibitor to moving to online materials. This signals a tension between teachers’ beliefs about their learners and the expectations they have of the systems to support their needs. This is further discussed in Section 5.2 of this chapter, under pragmatic motivators and inhibitors.

Concerns of access to hardware and infrastructure were primarily referred to as one that affected their learners, though the trade teachers both signalled this was also an issue that would likely stall teacher adoption and sustained use, and Sava had indicated he had effectively ‘rejected’ (Rogers, 1983) the LMS and returned to paper-based systems due in part to unsuitable or outdated infrastructure on campus. Birch and Burnett (2009) have recognised that technical systems access and reliability is a concern identified across the literature. They did not however, raise this as a primary concern that directly affected academics in their study, though did raise ‘an activity based costing system’ (p. 124) as an inhibitor. By contrast, it appears that access to sufficient and stable technology infrastructure for these VET teachers and learners was a more important factor in shaping e-Learning practices, and would indicate contextual differences between institutions and sectors. Inconsistent and unreliable infrastructure within VET institutions have been suggested by other studies as a more pressing barrier than for other education providers (I & J Management Services & Australian Flexible Learning Framework, 2011; Walsh et al., 2011).

Ease of use and functionality

Most of the participants highlighted functionality and ease of use of technology as important factors for both their learners and themselves when implementing e-Learning. Many of the teachers in this study described functionality ‘hiccups’ with the institutional LMS that provided barriers to themselves and their learners. They also perceived that the system was not easy to use or was not “welcoming enough” (Phoebe) for learners, in ways that suggested the system navigation, design and ease of use added barriers for learners. Key researchers have argued that primary factors (to ensure an innovation or technology system is adopted and accepted by an individual) include its compatibility to an adopters’ beliefs and needs and its relative advantage over other systems and processes (Rogers, 1983), and its perceived usefulness and ease of use in how it supports functions (Davis et al., 1989).
Many participants in this study felt that the institutional LMS did not readily engage learners. They described the institutional LMS as ‘clunky’ or lacking visual appeal; that it did not support their learners’ needs or expectations. Cam and Phoebe, in particular, felt that an easy to use and more visually appealing system would potentially improve learner engagement. In addition, Cam, Phoebe and Mary described that the institutional LMS created additional barriers or ‘hoops’ for learners. Participants also seemed to link system usability to learners’ confidence and capability, and whether they “handled the hiccups” (Phoebe), and that these ‘hiccups’ could affect learners’ confidence, motivation and engagement with e-Learning. The ease of the system seemed to shape some participants’ decisions when choosing e-Learning technologies. Cam, for example, claimed that his choice to use Canvas was in part dependent upon ease of use and design considerations for his learners.

Participants also described their own perceptions of the software’s suitability and ease of use to assist them as teachers in performing expected tasks, and how alignment or misalignment of the software design and fit for purpose shaped their e-Learning decisions in practice. Participants favourably regarded tools and functions that supported their work tasks. They indicated that managing tasks related to tracking and reporting student data, content edits, and communicating timely updates to learners were important aspects that they looked for or preferred in e-Learning systems. The participants suggested that ease of use challenges with e-Learning technologies affected their workload in dealing with administrative, enrolment and learner training gaps or issues. e-Learning technologies that provided functionality to assist work-based tasks, and to do so relatively easily, were more likely to be adopted. Participants that continued to use e-Learning technologies that made work tasks difficult, did so with tension, such as Mary’s frustration when trying to complete tasks from home.

Participants’ also suggested that e-Learning technologies which were confusing to learners led not only to perceived limited learner engagement, but difficulties for these teachers in managing their workload. e-Learning technologies that did not offer ease of use or functionality benefits were less likely to be adopted and teachers were more likely to look for alternative e-Learning technologies rather than remain with institutionally supported e-Learning. Similarly, studies by Davis et al. (Davis, 1989, 1993; Davis, Bagozzi, & Warshaw, 1992) claimed that perceived usability and perceived ease of use were critical factors in determining intentions to use and/or acceptance of an IT system. This is also consistent with Rogers’ (1983) descriptions of characteristics of innovations and their likelihood of adoption. Innovations that demonstrate: relative advantage (i.e., has benefits over the existing practice/innovation); compatibility (aligns with the adopters values and needs); low complexity (relatively easy to understand and use); trialability (the degree in which an innovation can be experimented with or trialled incrementally); and observability (can be observed by others) are more likely to be adopted than those that are at the opposite end of the spectrum (Roger, 1983).
Other VET studies also supported these findings. Jasinski (2007) highlighted that a number of researchers, such as Grunwald (2002), have proposed that compatibility and relative advantage, in particular, are key factors that positively affect adoption, whereas complexity consistently negatively impacts upon adoption. Roberston (2007) found that newness, complexity, compatibility and locus of control shaped VET teachers likelihood of using and integrating online technologies, and that “teachers are more likely to use an online functionality frequently if it lacks complexity” (p. 377).

This would suggest that key factors for ensuring successful adoption by teachers is to ensure the software is fit for purpose, and relatively easy to use. Studies by Davis et al. (Davis, 1989; Davis et al., 1992) also linked such factors to the enjoyment of a system. While these studies suggest this could be a negative consequence and lead to productivity losses if users spend too much time in a system, several researchers (Albion, 2001; Ertmer, 1999; Jasinski, 2007; Koehler et al., 2004) have argued that time spent with technology is likely to increase teachers’ technological and pedagogical knowledge. Ensuring that systems are both fit for purpose and relatively easy to use, might see teachers improve their technical and pedagogical capability over time. It might also see them adopt e-Learning more consistently (both in adoption and technology choices), which could in turn lead to greater enjoyment for teachers, and improved learner experience due to decreased confusion and tensions caused by inconsistent practice.

The findings within this study suggest that these VET teachers felt system accessibility, ease of use of relevance to their own and their learners’ needs were factors that could either inhibit their practice and shape their e-Learning technology choices.

**Training, pedagogical and technical support**

Cox (1999) recognised that training and professional support were needed to effectively implement ICT, but noted that there were effective and ineffective strategies. The participants in this study were generally positive about the role of professional development in promoting and supporting their own and others’ e-Learning practice, however their professional development needs were complex and were not necessarily being met by the institution.

**Personal characteristics**

While the majority of participants indicated training would be favourable, they also reported that they had not received specific e-Learning training and had in effect, taught themselves. This would suggest that for some individuals, who were intrinsically motivated and self-reportedly confident in using technology or confident to train themselves, a lack of training is unlikely to be a barrier, though it may be for other individuals who hold different personal characteristics. Law, Lee and Chan (2010) have raised the point that the current literature has highlighted the importance of learning and capacity building for successful educational change. Training may, therefore, act as a motivator and enabler for
sustained practice where there are opportunities to build relationships and to support or increase teachers’ knowledge of e-Learning possibilities.

**Professional development**

The participants in this study indicated that the training and development opportunities provided at the institution were not necessarily tailored to or meeting their training and support needs. Participants identified that they wanted technical and pedagogical support that was timely, demonstrated e-Learning possibilities for practice, and preferred customised support that differentiated for different experience levels or was tailored to their level. Birch and Burnett (2009) found that Higher Education academics also wanted “just in time” support, customised training rather than “a one size fits all approach” and that there was a need for mentors and “shared knowledge of possibilities” (Birch & Burnett, 2009). Other studies have also highlighted that an individual’s professional development trajectory is personalised and not one size fits all (Netolicky, 2016) and have raised the need for tailored approaches (Jasinski, 2007)

Participants in this study reported more advanced technology skills than other ‘mainstream’ teachers at the institution, and therefore their training and support needs were likely to differ. They indicated that other teachers, the late majority adopters (Rogers, 1983) or mainstream adopters (Jasinski, 2007), may “want the whole package given” (Phoebe) to them. This supports the idea that a one size fits all approach is unlikely to support the broad based needs of teaching staff, and that a customised support approach is more likely to be successful. Jasinski (2007) likewise found within her extensive report into diffusion of e-Learning innovation within VET, that various ‘chasms’ exist across institutions and teachers/practitioners, such as a “chasm between early and mainstream adopters” and a “support structure chasm” (p. 3). These ‘chasms’ have resulted in divides between innovators and early adopters compared to mainstream adopters – each group have different reasons for wanting to adopt technology and each group have different support needs. Jasinski (2007) noted that support for mainstream adopters needed to consider solutions to real world problems. This study would tentatively indicate this to be the case, as demonstrated through Robert’s arguments that training approaches would need to be tailored to particular discipline areas or they would “sit with their arms crossed, and say ‘this is not for me’”. However, further research that aims to ask these more detailed questions of mainstream adopters directly is required.

Many participants perceived that a community-based approach could have benefits for teachers as it might support team teaching and training and development. Most participants did not seem to be heavily swayed by others’ practice, which would suggest that social factors were not highly influential for these participants’ e-Learning adoption. However, a majority of participants also indicated that opportunities to share practice and learn from others would continue to be beneficial, even at this advanced stage of their practice. Cam, Robert and Mary provided comments that suggested that
communities or ‘community champions’ could assist in team diffusion and development, and enable consistency across a teaching team. Rogers (1983) also noted the importance of diffusion to communicate an innovation and encourage its adoption. This would suggest that professional development opportunities to build relationships, networks and communities of practice would potentially act a motivator for late adopters and also be of continued benefit to individuals classified as innovators or early adopters (Rogers, 1983), and as such, could lead to sustained and more deeply integrated practice across an institution.

Robert, however, warned that community-based approaches were not always possible due to a lack of budget to backfill teaching duties. As such, a key barrier for teachers in taking up training continues to be lack of time – a factor acknowledged by other studies (Baek et al., 2008; Cox et al., 1999; Ertmer, 1999; Jasinski, 2007). Therefore, a successful training and support model would need to carefully consider the time constraints upon teachers.

**Pedagogical development**

Participants in this study suggested that professional learning should cover improvements or efficiency gains to their workflows, as well as ideas for using e-Learning to enhance teaching and learning and online design. Robert commented that “…we might be setting the whole formatting up the wrong way”, and several others were looking to take on further steps to incorporate more multimedia based approaches and ways to more effectively engage learners. Several researchers (Abbitt, 2011; Koehler & Mishra, 2009; Koehler, Mishra, & Yahya, 2007) highlighted that a combination of technological, pedagogical and content knowledge is required to effectively integrate ICT, e-Learning or online technologies. Robertson noted that VET teachers also required a ‘sophisticated appreciation’ (Robertson, 2008, p. 4) of the range of pedagogical choices available to meet ‘client’ (learner and industry) needs. The comments from participants suggested that they required both technological knowledge and technological pedagogical knowledge to continue developing their practice effectively. Abbitt (2011) suggested that "efforts to increase technology integration by teaching technology skills alone may be insufficient" (p. 141) – while his study and findings were specific to pre-service teachers, the alignment to this and other studies suggests portability to other contexts. This is an important point particularly for institutions, as it would suggest that professional development approaches grounded upon teaching the technology only, rather than an integrated approach, would be less likely to be successful.

Jasinski (2007) claimed that there was a "technology-pedagogy chasm" (p. 3) within VET e-Learning implementation – that technologies were adopted faster than pedagogies, and therefore, e-Learning initiatives needed to be based on sound pedagogy and also needed to demonstrate modelling of good practice for mainstream adopters. Mishra, Koehler et al. (2004) warned that traditional approaches such as workshops, seminars or technical support approaches tend to treat technology and
pedagogy as separate entities, therefore there is a disconnect, rather than an integrated focus, which assumes teachers will be able to tackle the integration component themselves independently. The participants claimed that a collaborative design process would be best for integrating these domains of technological, pedagogical and content knowledge. Some participants also highlighted a lack of modelling or examples of practice, or suggested mentors, or opportunities for collegiate practice or communities of practice to witness and gain ideas, could be a way to gain further understanding of e-Learning possibilities. Access to communities and networks were also found to be an e-Learning enabler for VET teachers in other studies (V. J. Callan et al., 2015).

**Technical support**

While none of the participants reported negative experiences when liaising with technical or e-Learning support staff, Belinda indicated she had been hesitant to contact technical support teams in the early stages of her practice due to lack of confidence or fear of appearing ignorant and was unaware of the extent of support at the institution. Both Belinda and Phoebe reported that forming positive relationships with mentors or support personnel had positively shaped their confidence and motivation to progress their practice. Belinda and Robert stressed the importance of patience and taking “time to listen” as part of this support relationship. These comments highlight that positive, patient relationships and timely support are more likely to enable teachers to develop confidence to adopt and integrate e-Learning. This then would encourage them to remain motivated in sustained e-Learning practice. Belinda also indicated that some teachers may have a lack of understanding of, or negative attitudes toward, accessing technical e-Learning support, and that this would act as an internal inhibitor. There is insufficient data within this study to report on the impact or extent that this may be a barrier in practice, though would suggest that there is a potential link between perceived support and relationships, and teachers’ confidence and perceptions around e-Learning.

Participants indicated that, in relation to training, professional development and technical support, that they felt training and support were enablers for both non-adopters and more advanced users if: they were customised to their needs and adopter level; delivered in a timely manner; and leveraged communities, mentorship or other positive relationship building. Training is not necessarily enough; it needs to be customised in particular ways in order to be most effective for different adopter groups.

**Management and administrative support and time allocation**

Birch and Burnett (2009) stated that major institutional barriers for academics included lack of sufficient institutional policies and lack of administrative support. Several participants also reported that they perceived upper management, or the institution, held either negative views or a lack of understanding of the VET context in regard to e-Learning, a point which Jasinski (2007) had also
made. Some participants felt that management did provide some support but that there was a lack of time release available for e-Learning development. This point has been raised across the literature as a key barrier for teachers in adopting and integrating e-Learning effectively (Ertmer, 1999; Jasinski, 2007; Koehler et al., 2004).

While this study did not find that a lack of institutional policy caused major barriers for these participants, there was not an institutional mandate for teachers to incorporate e-Learning. Other literature (Birch & Burnett, 2009; Jasinski, 2007) argued that a lack of institutional directive and policies create barriers to adoption, and that later adopters were more likely to be influenced by external directives or incentives. As such, these factors may have influenced other low or non-adopters at the institution who were outside the scope of this study, and may therefore indirectly account for inconsistent practice across the institution. It is not possible to speculate on the influence of these factors within this study but, if an influence, they may have indirectly caused undesirable consequences for teachers, such as Mary, who raised concerns of a lack of consistency across her teaching team – which she felt led to learners’ confusion and decreased e-Learning capability.

In addition, institutional change, staffing cuts and pressures to attract more learners to the institution had negatively impacted upon many of the participants’ workloads. Several participants indicated that change and increased pressures were a source of stress and anxiety, and that recent institutional change to administrative staffing had resulted in them taking on increased administrative duties. Institutional change not only affected the duties they were undertaking but also the time they allocated to develop e-Learning, which, based upon Mary’s and Cam’s comments, were increasingly occurring outside of work hours. These findings are likely to be relevant to other institutions, as research into VET shifting work roles has highlighted a trend for teachers to take on an increasing number of varied roles outside of teaching, particularly in picking up regulatory and administrative duties (Guthrie, 2010; R. Harris et al., 2005). Mary also perceived these factors created tensions for teachers in their ability to be ‘flexible’, therefore potentially counter-intuitive to VET policy. Guthrie & Clayton (2010) argued that funding limitations and overprescribed work conditions limit flexibility and work satisfaction for staff.

However, in some ways, diminishing administrative support in fact became a motivator to use and incorporate more e-Learning. Some participants perceived there were administrative efficiencies that could be gained or, at the very least, equivalent processes that could be achieved through using e-Learning technologies, and thereby compensating for administrative staffing losses. As Mary noted, the LMS became a “lifeline” between teachers and learners, and acted in place of administrative staff (“that’s their administrator now”). Many participants indicated that e-Learning potentially provided benefits in managing administrative tasks, particularly when reporting and tracking learners and providing timely announcements and feedback to learners. Several reported gaining efficiencies in moving to paper-based processes, through activities such as using ePortfolios and digital evidence
collection, or using the LMS to provide updates and material to learners that would previously have been provided by an administrative staff member or manager. Several seemed to suggest that these efficiencies were a rationale for using e-Learning, as they felt it ‘makes life easier’ and so they implored others to ‘try’ e-Learning for this reason.

The participants in this study held strong views about the need for the institution to provide training and support to their learners, which they did not feel was being adequately provided by the institution, if at all. Participants, in most instances, perceived a number of competing factors related to the institution have acted as barriers. Technical access and suitability concerns appeared to rate highly upon factors that drove teachers’ e-Learning adoption and integration decisions and these were intertwined with their beliefs and concerns about themselves, their workload and their learners’ needs, indicating a messy relationship. The role of support was seen as important, not only in the form of training and pedagogical support but also management support, support for learners, and support in the form of time for these teachers to integrate e-Learning across multiple domains. However, the participants continued to use e-Learning and they promoted perceived benefits, despite these barriers, and in some instances – such as in the case of administrative staffing cuts – because of them.

5.2 Individual factors

Participants frequently commented on their internal motivations and how their personal characteristics and attitudes toward e-Learning technology, their learners and their teaching, had shaped those motivations. Birch and Sankey (2008) and Birch and Burnett (2009) found a range of individual factors and personal characteristics that could act as individual motivators and inhibitors to e-Learning adoption and integration. They categorised these as opportunistic, pragmatic and personal motivators and inhibitors. The majority of participants’ motivations seemed to be intrinsic and focussed on, as Robert described, “working out how we can do it better for the students. And easier for us”. These motivations could therefore primarily be described as opportunistic and pragmatic motivators (Birch & Burnett, 2008, 2009; Birch & Sankey, 2008).

Opportunistic motivators and inhibitors

Birch and Burnett (2008) and Birch and Sankey (2008) have highlighted factors influencing academics’ e-Learning integration that they classified as ‘opportunistic motivators and inhibitors’. These included motivators such as: exploring new ways of doing things; being seen professionally as innovative or progressive; challenging themselves personally and intellectually, including opportunities to ‘regenerate’ their teaching; and opportunities to integrate multimedia or other techniques for engagement or students sources of information. Conversely, opportunistic inhibitors were related to perceived personal or career costs, at the expense of e-Learning development, such as
limiting professional standing or promotional opportunities, including academic promotion and tenure (Birch & Sankey, 2008).

Participants in this study shared motivations that overlapped with these opportunistic motivators, all of which were specific to the VET context. Many described their motivations for using e-Learning as related to opportunities to bring their teaching delivery into or toward what they considered 21st Century practice. Some also described that they had found e-Learning provided them with personal and professional development opportunities.

Participants believed that e-Learning technologies would bring their practice into the 21st Century and away from “chalk and talk” (Robert). Most of the participants discussed using e-Learning to provide flexibility and support for learners to gain broader skills. Participants described their motivations for using e-Learning technologies for engagement, particularly with younger learners, and to provide opportunities for ‘quieter reflective moments’ for others (Phoebe). Participants also noted opportunities to communicate directly with learners and to provide opportunities for personalised learning. Peter, for example, provided flexible learning opportunities for those with difficulties to work flexibly through content. Several participants held intentions to incorporate more multimedia, in order to provide learners with opportunities to learn through a range of content and be provided with further resources.

While several participants mentioned their intentions, they had not actually put them into practice due to time constraints or other competing factors. Similarly, in findings from Birch and Burnett (2009) and Birch and Sankey (2008), these constraining factors appeared to have some overlap across pragmatic, personal and pedagogical factors. Participants also noted that e-Learning provided opportunities to “make it easier for us” (Robert), including communicating with learners and undertaking administrative tasks, though it could be argued that these are predominantly pragmatic factors born out of other challenges (and as such these will be discussed more fully in the relevant sections of this chapter).

Several participants also highlighted that e-Learning had provided them with increased self-confidence and opportunities for developing personally and professionally. Several seemed to indirectly indicate these benefits were unexpected and borne out of their e-Learning use. Belinda commented that she felt she had developed “a different confidence, than I had before” and that she “can use it anywhere now”. In this instance, e-Learning was seen to have unintended positive consequences for these teachers. Bandura (2001) and Rogers (1983) also highlighted the role and impact of unintended consequences upon behaviour. These opportunities have potentially led to increased or continued enjoyment when using e-Learning technologies. Robert commented that he was enjoying the challenge perhaps even more than teaching. While these teachers indicated they originally took up e-Learning technologies due to pragmatic factors related to efficiencies or flexibility for learners (further discussed within the next subsection), their enjoyment of using e-
Learning technologies, and the skills and confidence they received from this challenge, were potential contributors to their sustained e-Learning use.

A key issue for participants in this study was the relationship between time and e-Learning development — in that e-Learning development impacted upon their time and workload, but conversely, that a lack of time limited their ability to effectively contribute to their e-Learning personal and professional development — and this then led to a lack of consistency and efficiency in e-Learning practice. Robert, in particular, noted a loss of “flow” when “just doing snippets”, which he felt impacted on his ability to develop resources and his own capability. Birch and Burnett (2009) described that from their study, "lack of time was unpacked to reveal that time is required from conceptualisation through to revision including time for thinking, researching, strategising, planning, learning about and coming to terms with the required technology, training, developing, editing, updating and maintenance" (p. 128). Koehler et al. (2004) also highlighted that design is “a process that is spontaneous, unpredictable, messy, creative, and hard to define. It is a dialogue between constraints and trade-offs. It is a process that does not offer easy solutions" (p. 32), which would suggest that the work of e-Learning design is a challenge in a number of ways, and requires a level of time and dedication to work through messy problems, and to experiment and conceptualise possibilities and solutions. Other VET studies (V. Callan & Bowman, 2010; Jasinski, 2007) also highlighted that time was required for innovation and development.

**Pragmatic motivators and inhibitors**

Birch and Burnett (2008, 2009) and Birch and Sankey (2008) argued that academics were influenced by a number of pragmatic motivators and inhibitors. These could be categorised as:

- access, flexibility, convenience and other improvements or support for students (Birch & Burnett, 2008; Birch & Sankey, 2008), and catering to younger students or perceived preferences of younger students (Birch & Burnett, 2008) compared to concerns related to student access and equity and how to best cater to flexibility, student training and support needs and student resistance (Birch & Sankey, 2008);
- convenience for academics, compared to time and workload costs; and,
- competitive landscape: commercial, institutional or market directives, compared to time, costs, privacy and property rights concerns and workload involved (Birch & Burnett, 2008).

**Pragmatic motivators**

Several participants described that they used e-Learning for the perceived flexibility benefits for their learners, such as modes/avenues, time and location. e-Learning also offered flexibility in the ways in which learners could engage with learning, through additional or alternative materials, or through
different technological devices. Cam and Peter mentioned pragmatic (as well as pedagogical and opportunistic) benefits for learners because of the flexibility e-Learning provided. It provided the convenience of where and when learners learned, but it could also challenge existing modes of delivery.

All participants claimed that there were benefits in using e-Learning to support them in their own teaching and also in their administration duties. The participants claimed that they, as VET teachers, undertook a number of administration functions, such as managing learner enrolments and pathways, grading, management of assessment and student work/evidence, and VET audits, and that e-Learning technologies could support them in these tasks.

Participants also referred to the LMS and the ways in which they worked as having explicit efficiencies, such as the LMS “saves time” or made their work “easier” (Peter). Participants also suggested that being able to work flexibly increased efficiencies in processes. However, many participants highlighted that working flexibly meant they used their time outside of hours (as they perceived this to be ‘easier’) in order to utilise quiet and undisturbed time. Their comments also suggested that an increased administrative workload was potentially a factor in taking increased e-Learning development work home. Birch and Burnett (2009) did not directly indicate pragmatic decisions or individual motivations that included flexibility or efficiency/ease in performing work role (aside from increased communication with students – which was also a factor influencing VET teachers more specifically), therefore flexibility would appear to be a complex factor prioritised within VET teachers’ roles.

As identified, there was no mandate to use e-Learning at the institution at the time of study, so unlike those identified by Birch and Burnett (2009), institutional directives or extrinsic factors acting as pragmatic motivators were limited and were only hinted at by the participants (for instance, when Mary claimed she was “told to” use the Learning Management System). Several participants also noted that administrative pressures had increasingly shaped their motivations to use e-Learning to support administrative duties or provide students with continued communication, often in place of decreased or non-existent administrative staff.

**Pragmatic concerns**

Time was a key concern highlighted by a number of participants as a pragmatic factor that limited their practice. Participants reported that they did not receive time release to undertake e-Learning development and typically undertook development tasks in their own time. Some also highlighted the workload involved, with Cam indicating that this was often ‘invisible time’, and could potentially be linked to similar participants’ perceptions of a lack of understanding by management of the work undertaken by VET teachers when incorporating e-Learning into their practice. Birch and Burnett
VOCATIONAL EDUCATORS’ PERCEPTIONS OF E-LEARNING

(2009) also recognised the role of time as a potential inhibitor for academics’ adoption because e-Learning takes an “enormous amount of work” and “a lot of effort and dedication” (p. 124).

Most participants perceived that a lack of time release was a barrier to further e-Learning development, in part for themselves, but particularly for other staff who were not early adopters. However, participants identified that the quality and regularity of time spent when developing e-Learning was also important. While the participants indicated that a lack of consistent time hindered their ability to develop consistency and quality in practice, it did not seem to deter or halt their use. They indicated that they would use additional time and their own time to engage with e-Learning. This was possibly due to other personal motivations, such as enjoyment and perceived benefits for themselves and learners. These participants would still ‘make time’, which suggested that priorities around where to spend time were also a factor, and that their motivation to use e-Learning potentially outweighed issues of time allocation. Such findings are consistent with Birch and Burnett’s (2009) study that indicated that while time release was perceived as important, the ways in which academics prioritised their time was also an influencer. As such, the way time is used, prioritised and allocated by teachers and institutions is potentially a factor that contributes to teachers’ e-Learning integration.

Several participants also raised concerns around the complexities in offering flexibility for their learners, particularly when this flexibility came at an increasing cost to their workload. For example, Cam and Mary noted that being flexible to learners’ needs included allowing learners to submit work in multiple formats, which Mary noted increased the workload on her as a result. These practices were often dually suggested as both ‘easier’ and more work. For example, although it was more work for Cam to answer questions from students “24/7”, it was ‘easier’ for him than to “face the consequences” of learner questions or to further “chase up” work.

The responses by these participants highlight that, while many felt there were efficiency and time-saving benefits to using e-Learning, the realities in practice were potentially more complex. Many participants qualified that e-Learning was ‘easier’ or ‘saved time’ in varied ways but that it did not necessarily equate to time-saving benefits in their workload.

**Personal motivators and inhibitors**

All participants not withstanding Phoebe self-identified as confident or highly confident users of technology and e-Learning, and were generally intrinsically motivated. Most also seemed to be working independently of others within their department or worked with a few other colleagues, and they indicated that their practice was not necessarily indicative of those within the wider departmental or institutional populace. To this end, these participants could be considered, according to Rogers (1983), innovators or early adopters.

The participants in this study demonstrated personal characteristics and personal motivations for incorporating e-Learning that included:
• enjoyment of and positivity toward challenges, a willingness to change and try new things and to ‘give it a go’;
• personal interest and motivation in integrating e-Learning and digital technologies;
• self-reported high or moderate-to-high technological self-efficacy;
• beliefs in the role of technology to support 21st Century learning and/or other broader goals; and,
• attitudes or beliefs in the role of the teacher to remain current, to teach to 21st Century needs, and to provide learners with broader learning capabilities or opportunities for ‘empowerment’.

As noted previously when discussing training and support within Section 5.1 of this chapter, the participants highlighted that they were different to their colleagues across their adoption and extent of e-Learning use, and their ability to undertake independent personal development (as opposed to needing “the whole package given” (Phoebe)). The participants identified that they held personal characteristics that were perhaps enablers to their e-Learning development (such as willingness to change and adapt, positivity toward challenge and experimentation and a willingness to “give it a go” (Peter)). Participants highlighted personal enjoyment of e-Learning and a willingness to adopt e-Learning, including enjoyment of the challenge that came with “setting this up” (Robert).

Other studies have found e-Learning or other innovation adopters held very similar characteristics, suggesting the participants of this study were likely to fit within categories of innovators or early adopters. Rogers (1983) described that innovators and early adopters were “active information seekers about new ideas” (p. 22) and typically demonstrated characteristics such as an ability to handle uncertainty. Birch and Burnett also noted that early adopters were typically motivated by intrinsic rather than extrinsic rewards (Birch & Burnett, 2009, p. 129). Callan et al. (2015) also found staff in the VET sector who were using e-Learning advocated to others to “give it a go” (p. 301) and demonstrated a willingness to experiment. These personal characteristics and intrinsic motivations may be a key distinguishing factor between adopters compared to non-adopters.

These studies have reported upon the role that an individual’s personal characteristics play in shaping their e-Learning adoption (Birch & Burnett, 2009; Callan et al., 2015). Birch and Burnett (2009) found that personal characteristics that acted as motivators to integrating e-Learning included a willingness to adapt, change and take risks, a willingness to try new ideas and new technologies or a positive attitude toward technology, and having reasonable technological capability and/or self-efficacy. Callan et al. (2015) similarly found that when studying VET teachers and learners, a key enabler of e-Learning was “the mindset of the teacher” (pp. 301-302). These factors would seem to suggest that teachers who were willing to experiment and try new things, work independently and teach themselves were more likely to engage with e-Learning, regardless of the training available.
These personal characteristics are, in fact, key enablers to e-Learning adoption and sustained integration, and they appear to override other external barriers, such as lack of training.

These participants also self-reported relatively high technological confidence. There were, however, some complexities noted in the ways in which participants described their e-Learning capabilities, compared to the ways they rated their confidence (self-efficacy). Participants commented on the dynamic tensions between capabilities and confidence, and the contextually-based and shifting nature of their e-Learning self-efficacy beliefs. For example, their self-reported confidence in using e-Learning technologies was not always consistent with their described behaviour. Some participants indicated that their confidence was not necessarily linked with high technical skills. Sava reported that he was highly confident in using e-Learning technologies, rating himself as a 4-5. While Sava continued to use e-Learning technologies, he indicated he was doing so in limited ways and had returned to paper-based systems for some tasks. Sava indirectly indicated that perhaps a lack of training was potentially part of the reason for his lack of continued e-Learning use, because of either a lack of functionality in the LMS or “maybe there is [a way] but we don’t know”. Phoebe, on the other hand, indicated she was only moderately confident and regarded computers as “complicated” but “it’s not gonna stop me”. Several participants also claimed that their confidence in e-Learning was contextual but not necessarily linked to confidence in their ability to learn (for example, Mary’s comment, “I’m sure I could do it, but I wouldn’t be as confident”).

These findings tentatively suggest that an individual’s personal motivations and beliefs of e-Learning to support their goals, and their confidence to learn and access support independently, might outweigh self-efficacy or capability in using e-Learning technologies. Birch and Sankey (2008) reported that self-efficacy was not necessarily an indicator of capability. Birch and Burnett (2009), while suggesting self-efficacy as an enabler, also reported findings that "some pioneers and early adopters of e-Learning environments did not fit the stereotype… a number of the pioneers and early adopters considered themselves to be ‘risk averse’ regarding technology and to have limited technology capability, and yet they were still willing to adopt the technology if they perceived benefits for their students” (p. 128). Abbitt (2011) highlighted the complex relationship between self-efficacy and technological, pedagogical and content knowledge. The researcher found that many of these domains would have a positive effect upon self-efficacy, but that there are also anomalies, such as increased pedagogical knowledge potentially could have a negative effect on self-efficacy beliefs related to implementing ICT.

Participants also highlighted their beliefs about incorporating e-Learning technologies into their practice, both as a way to remain current to 21st Century expectations and teaching practice, and to build broader capabilities in their learners: such as skills that would allow learners to transition more easily to employment or further study, and to ‘empower’ their learners and support them to build self-confidence. Phoebe commented that she would be “remiss as a teacher” if she did not provide learners...
with opportunities to use technology. This is a perhaps a broader statement that goes toward her attitude of what she felt made a good teacher, or the expectations that she had upon herself as a teacher. This is congruent with Birch and Sankey’s (2008) findings that academics’ personal motivations included adopting e-Learning because it was “the right thing to do” (Birch & Sankey, 2008, p. 4).

The findings in this study demonstrate the links between personal, pragmatic and pedagogical decisions that feed into teachers’ perceptions of e-Learning. The findings would seem to suggest that personal characteristics and beliefs play a key role in teachers’ willingness and ability to adopt and integrate e-Learning, and to sustain their practice, in spite of other factors. While an individual’s ability and willingness to adapt to change or ‘give it a go’ are also key enablers, an individuals’ motivation to incorporate e-Learning, as well as their attitudes and beliefs of e-Learning to support practice and educational goals, are perhaps stronger factors shaping behaviour than self-efficacy or actual capability, particularly if linked with self-confidence to learn technological skills. This study highlights a potential tension and priority of attitudes and beliefs to intended use, compared to findings from other frameworks and models such as TAM (Davis et al., 1989) and TPACK (Mishra & Koehler, 2006). As this is a small study, research would be needed to explore this relationship further.

These findings also suggest the potential importance of establishing the value and relevance of e-Learning in teachers’ practice as individual factors. This should be accounted for when considering training and e-Learning functionality – both in the relevance of the tools to complete expected work-related tasks (as previously discussed in Section 5.1), and in establishing the relevance of specific tools and e-Learning technologies broadly, in meeting pedagogical goals, and particularly goals that align to teachers’ beliefs about their role as a teacher.

### 5.3 Pedagogical factors

Birch and Burnett (2009) and Birch and Sankey (2008) raised several pedagogical factors that influenced Higher Education academics’ adoption and integration of e-Learning. These broadly related to the need to improve learning outcomes and meet pedagogical needs as well as graduate capabilities in students (Birch & Sankey, 2008). They raised motivations such as: catering to the differing needs of students, including Gen Y and ESL learners; incorporating differing multimedia formats to engage and support different learning styles or preferences; and offering equitable learning experiences (Birch & Burnett, 2009). Other motivations listed in their earlier research, include: barriers and concerns related to lack of knowledge or confidence in the benefits of e-Learning for students; concerns about approaches and formats, and arguments that students require training on how to use technology for academic purposes; and to understand their own learning style (Birch & Burnett, 2008).
Not surprisingly perhaps, while it was found that the participants in this study also discussed pedagogical motivations and concerns similar to those of the academics in the research above, there were also key points of difference. Concerns regarding delivery formats did not apply, arguably as those participating within this study were primarily using a blended format rather than a fully online distance education approach. Other differences were related to primary motivations for incorporating e-Learning – the participants in this study shared motivations that were not curriculum-based, and instead had broader intentions in mind. The participants also shared stronger and more varied concerns in needing to support a range of learner needs.

**Pedagogical motivators**

Many participants shared the view that e-Learning technologies supported their ability to prepare learners for further degrees/further study, to engage younger learners, to support broader skills beyond the curriculum and/or promote lifelong learning, and to ‘empower’ learners; providing them with opportunities to gain confidence or independence. In this regard, these beliefs are or stem from pedagogical motivators.

Phoebe and Mary claimed that they used the LMS as a way to prepare learners for further study and to assist learners in building confidence to transition to other courses. Several other participants, including Mary, also reported they often encouraged e-Learning with students as a form of ‘upskilling’, which would suggest they felt technology skills were important for transitioning students to employment or other avenues.

The majority of participants believed that the main benefits of e-Learning were not directly curriculum specific. This suggested that most participants’ motivation and rationale for using e-Learning was not solely about teaching content, as much as it was about supporting other broader benefits for their learners and for themselves. Policy discourse has often argued for the role of VET to support disadvantaged learners and meet social equity objectives (Bowman & McKenna, 2016) and to support employment and other government or economic imperatives (R. Harris et al., 2005). Therefore, the participants linked pedagogical motivations to institutional or external motivators.

Several participants either mentioned or alluded to the opportunity for e-Learning technologies to ‘empower’ their learners. This suggests that this was a pedagogical factor important to these vocational education teachers. Many participants’ comments explored this idea of empowerment further by describing experiences where they had felt e-Learning technologies had provided learners with opportunities to build confidence or independence, or to find a ‘voice’ they may not otherwise have had. Participants told stories about their learners gaining confidence, independence and pride, in ways that suggested these became strong pedagogical motivators to continue using e-Learning, even in spite of barriers or obstacles. Several participants also commented that empowerment intertwined with flexibility. By offering such flexibility, learners managed their own learning (such as using...
“quieter reflective moments” (Phoebe)), and that this ‘empowered’ learners because they could work independently or at the times that best suited them and their learning preferences. Peter stated, “you’re empowering, and you’re giving people the flexibility to learn when they need to”. While ‘flexibility’ within policy discourse has typically been framed as an objective to provide convenience or meet market-driven imperatives, comments such as those by Peter and Phoebe indicated that some teachers were re-framing the term to align to further pedagogical objectives.

Belinda, Robert and Cam felt that another key pedagogical motivator for incorporating e-Learning was to engage younger learners specifically. They felt that younger learners were more likely to find e-Learning engaging and be technologically ‘savvy’ enough to easily adapt to e-Learning pedagogies. However, some participants also reported that their assumptions were not consistently reinforced in practice. Mary and Sava claimed that some younger learners could still face challenges or were “not that good” (Sava) with e-Learning when it came to using technology for academic purposes. These findings demonstrate that, through the perspectives of the participants, that VET learners are a diverse mix and assumptions cannot necessarily be made regarding their ability to adapt to and engage with e-Learning. More importantly, however, the findings indicate that some teachers are using e-Learning in ways that are based upon assumptions of learners, and these beliefs and assumptions are likely to factor into their pedagogical motivations when making e-Learning adoption decisions.

**Pedagogical concerns**

Participants raised pedagogical concerns about incorporating e-Learning that were typically linked to either their knowledge of, or assumptions of, learners. All participants mentioned that they taught a diverse range of learners, including younger learners and school leavers, mature-aged learners and learners from varying employment backgrounds, skills, and levels of experience. They described their learners as a mix of age ranges, from differing professional backgrounds and with varying literacy and English language skills, and discussed their varying traits, motivations and learning needs. The nature of VET learners as a diverse cohort was reported on by Simmons (2010) who described VET as supporting “a multitude of student cohorts across a wide age spectrum: school-age learners; apprentices; trainees; frontline workers; supervisors; managers; learners seeking a pathway to university; older workers with limited or no qualifications; self-employed, unemployed or retrenched persons; women seeking to return to work after child-rearing, migrants, refugees ... The list goes on” (p. 34).

Participants also described their learners as, not only being a diverse group, but suggested VET learners have a number of personal backgrounds and learning needs that could act as barriers to learning and to their ability to adopt or effectively use e-Learning technologies. Participants expressed that learners’ experiences, backgrounds and individual characteristics shaped their engagement with
VOCATIONAL EDUCATORS’ PERCEPTIONS OF E-LEARNING

e-Learning. They claimed that characteristics such as age, English language and literacy skills and technological competency could influence a learners’ ability to adapt to e-Learning (these are also discussed in Sections 4.3 and 4.5 of this chapter). Birch and Burnett (2008) also stated that academics raised concerns that students required training on how to use technology for academic purposes and to understand their own learning style. Participants through their comments demonstrated they held beliefs and assumptions regarding the types of learners who would or would not be able to ‘handle’ or technology and its “eccentricities” (Phoebe). Mary and Belinda believed, for example, EAL learners, those from unfortunate backgrounds, and those who were ill equipped to handle small stressors were at risk.

Several participants indicated that these factors related to learner characteristics had issues both for learner engagement and for their own workload in training and supporting learners to use e-Learning. Participants expressed concern that learners’ literacy levels were becoming an increasing issue, and that there were more learners with literacy needs to be supported in classes. Mary and Belinda both indicated that e-Learning support for learners was limited and was increasingly being incorporated into their role as a teacher. Mary held concerns regarding both the effect of this increased scope upon her workload and also her confidence in her own ability to support learners. Mary had described that her confidence in using e-Learning was contextual and that she was not confident to train learners in new technologies. Mishra and Koehler (2006) argued that it was important for teachers to have a deep understanding of technical and pedagogical content knowledge in order to effectively implement ICT in educational settings.

However, some participants were keen to use e-Learning technologies as a means of supporting poor literacy levels. Sava commented that he used e-Learning technologies to support a diverse mix of literacy needs and offer flexibility for the class. Many of the other participants also commented that e-Learning technologies could provide learners with confidence and pride, and possible ‘empowerment’.

The participants also provided mixed views about whether most learners would eventually overcome any barriers through perseverance, and that as they developed skills and confidence, this outweighed some of these ‘initial’ barriers. These views demonstrate how the participants’ concerns were also potentially motivators at the same time, therefore indicating a messy relationship in how teachers perceived their learners, and the role of e-Learning to support or hinder their learners’ development. Even with these barriers, the participants in this study still valued e-Learning technologies as vehicles of ‘empowerment’ for their students, and so this was the key pedagogical motivator, that encouraged the participants to keep using e-Learning in their teaching. It should be noted, however, that these participants were early adopters, and so their behaviours may not be necessarily indicative of teachers who fall within the mainstream or late majority category (Rogers, 1983), so these concerns may prove a greater inhibitor for those teachers.
In summary, the participants demonstrated that VET teachers may hold beliefs or assumptions in relation to their learners’ readiness for technology, and these beliefs may shape their attitudes toward the relevance of technology for educational practice and the ways in which they choose to utilise e-Learning and/or other technologies within their practice. These perceptions or beliefs could be equal motivators and inhibitors to teachers’ practice.

The beliefs and attitudes underpinning participants’ comments would appear to highlight that many of those interviewed in this study believed in the role of technology for supporting pedagogical imperatives; that it supported flexible approaches and could ‘empower’ learners. These beliefs, at least on the surface, appeared to align with the way many described their role as teacher to enable lifelong and broader skills in learners to be 21st Century ready. These pedagogical motivators (sometimes intertwined with personal motivators) would suggest that these might be key enablers worth further investigation. It might just hold clues as to ways of building value and relevance of e-Learning in other non-adopters, or in classifying further differential characteristics of adopters and non-adopters that have not already been classified by Rogers (1983).

5.4 External factors

The findings from this study indicated that, aside from the institutional, pedagogical and personal factors, there were external factors that played an important role. These related to the VET regulatory and policy environment, and included VET auditing and reporting requirements, changes to VET training packages and competency based frameworks, and increased market competition and funding uncertainty.

Learners’ off campus access to technology

The experiences of the participants in this study strongly suggest that learners have uneven access to technology, particularly once they are away from campus and that learners’ level of access to technology is a strong influence on choices about e-Learning. Concerns of limited VET learner access to computer technology was a factor identified by other studies (Callan et al., 2015; Walsh et al., 2011). Walsh et al. (2011) reported that VET learners with lower socioeconomic status profiles were less likely to have internet access at home, and warned that “Organisational and system VET policies cannot assume equality of access” (2011, p. 3).

Belinda and Robert noted that their younger learners readily used mobile phones to communicate and research. Walsh et al. (2011) suggested that younger learners typically have ready access to a mobile device compared to a computer and are likely to use mobile devices regularly. Callan et al. (2015) also found that using mobile devices assisted some trade apprentice learners overcome access barriers when they did not have easy access to computers on site or at home.
Therefore, while mobile access may not support all cases (such as Cam’s circumstances where learners required access to computers to create and design multimedia work), some teachers may find that implementing e-Learning that is mobile device compatible may see improved e-Learning access and engagement from learners. Cam also described that he used Facebook with learners and replied to messages outside of hours. He reported some success with this approach, though warned this did not always lead to improved engagement and he indicated that other competing factors (such as learners’ motivation) needed to be considered.

Regardless of whether learners in fact do have ready access to technology, there appeared to be a perception amongst the large majority of participants that learners did not have ready access to computers or internet. This perception could lead to VET teachers choosing to not adopt e-Learning or to do so in limited ways. Mary and Sava held strong concerns about access and saw this as an equity issue, since many of their learners came from backgrounds of hardship or were dealing with multiple challenges including language barriers. This concern is likely to be an inhibitor for VET teachers, particularly as VET learners come from diverse backgrounds and experiences but also from relatively low socio-economic backgrounds (Anderson et al., 1997), while a key legacy VET policy objective has been to support equity, access and participation, including increased participation for disadvantaged groups (Bowman & McKenna, 2016).

**VET auditing and reporting requirements**

All participants either directly or indirectly referred to tasks that indicated they dealt with auditing and reporting requirements as part of their role. Robert claimed that these requirements and other administrative tasks were key motivators for his e-Learning adoption, and that they were motivators for him to progressively move processes into digitised formats. While such motivators could arguably be considered within pragmatic factors as identified by Birch and Burnett (2009), they were factors that appeared to shift *because* of the government policy decisions, and therefore should also be considered as an external factor. Cam noted these reporting requirements were “a fact… we have to keep playing with”, and appeared to shape his and others design decisions, such as the timing of assessments, to collect student data. These external requirements shaped how the participants used e-Learning technologies, since, for example, the LMS systems supported compatible functions for reporting and tracking learners. Sava, as another example, claimed he would not use an e-Learning technology for this purpose due to perceived lack of functionality in the institutional LMS to track data for auditing requirements. Thus, he stated he had returned to paper based systems.

While Robert and Peter considered that e-Learning would assist with these increased auditing tasks, Phoebe expressed concern that “auditors… or managers” wanted paper-based copies anyway, and that they simply would not accept LMS data as a valid record. These concerns appear to align to findings by other VET studies, as Callan and Clayton (2010b) reported e-assessment “tensions” (p. 2).
between VET practitioners and auditors, with auditors suspicious of the validity and reliability of e-Learning evidence. These reports are, on the surface, contradictory to Robert’s suggestions that with digital assessments and tracking “there’s no smoke and mirrors”.

Callan and Clayton (2010a) also reported that auditors self-confessed to being "still wedded to tradition and paper evidence” (p. 5) and indicated there was insufficient training for both auditors and VET practitioners. Auditors also held concerns of assessment authentication that were tied to concerns regarding security, reliability and ease of use of institutional systems (Callan & Clayton, 2010a, 2010b).

The literature suggested that despite VET teachers’ intentions and assurances of e-Learning as a valid measure, unless institutions can assure system reliability and broader sectoral structures and training support and models for auditors could be provided to allay their concerns, e-assessment will continue to remain a barrier, if not to teachers’ adoption, then to holistic and wide-reaching e-Learning integration which includes a variety of tools and tasks.

Training package changes
Several participants indicated they were waiting on notification of changes to training packages that would lead to changes to their training curriculum. They perceived that these changes would have flow-on effects for their e-Learning design and delivery. These factors appeared to be key barriers or inhibitors for these teachers, particularly inhibiting ongoing and sustained practice. Robert and Belinda claimed that rumours and uncertainty of changes effectively stalled their practice or made them hesitant to implement changes as “there’s no point” (Robert), particularly if they undertook changes that were no longer relevant.

The effects of both uncertainty and regular change upon these participants appeared to be a demotivating factor. If the participants in this study, who all self-reported to be flexible and adaptive to change, found these factors to be barriers to their practice, it is likely that other ‘mainstream adopters’ (Jasinski, 2007) would use these concerns of regular change or proposed regular change as key negative motivators or reasons to delay adoption. Studies across the sector have shown that the VET sector has gone through a high amount of change and uncertainty (Goozee, 2001; Guthrie & Clayton, 2010; Harris, 2015) and arguably this is set to continue. Without institutional directives placing pressure upon VET teachers to incorporate e-Learning, it is likely that in the face of continual change, late adopters are unlikely to feel comfortable to adopt and integrate e-Learning into their practice in any sustained or immersive manner.
5.5 A revised framework

While much of the data reinforced other previous research and generally aligned to the Birch and Burnett (2009) framework, there were instances where themes did not fit neatly, and these highlighted the complexity of, and contradictions in, participants’ perceptions and attitudes. It also became clear that as the data spanned not only adoption or acceptance factors but also the decisions around continued use and types of practice, that this framework was perhaps insufficient in this regard. Both Birch and Burnett (2009) and Birch and Sankey (2008) categorised broad factors as belonging to either the individual or the institution. Carr and Fraser (2014) argued that academics’ pedagogical decisions are influenced by factors that can be grouped into three domains; the external domain, the organisational domain and the individual, personal domain. They recognised that external factors may include those beyond that of the institution, and it became clear that this was the case for the VET teachers interviewed in this study. As such, additional factors that did not fit within individual, pedagogical or institutional categories (Birch & Burnett, 2009) have been classified and discussed as external factors, in alignment with Carr and Fraser (2014).

The findings from this study indicate that there is a complex interplay between individual, pedagogical, institutional and external factors for VET teachers when both adopting e-Learning, and integrating e-Learning within their practice. These factors not only shape intentions to adopt e-Learning technologies, but also the decisions they make in practice regarding the tools and types of e-Learning they use, and level of integration. While the findings of this study have demonstrated that the framework proposed by Birch and Burnett (2009) can, for the most part, be effectively applied to the VET context, there are key points of difference for VET teachers in their motivations, and in some of the key factors influencing teachers. A key point of difference is the inclusion of external and other social factors. These include: the government, policy and regulatory environment in which VET teachers are employed; the role of VET to meet broader economic, employment and equity objectives; and the conditions in which VET teachers teach, such as considerations to their learners’ characteristics. These factors appeared to have a strong impact upon both these teachers’ adoption and their sustained and integrated e-Learning practice. Other differences were the influence of institutional infrastructure and resourcing factors, and, personal factors. Personal factors included the personal motivations and beliefs around adopting e-Learning, and individual beliefs of the role of technology and the role of the teacher and how this shapes the individual’s identity. As such, based on the findings of this study, a modified framework that recognises these differences is presented below (see Figure 4). The framework also recognises that adoption and integration is a continuum – from intention, to sustained and integrated use.
This framework requires further refinement and testing both to ensure its alignment to a larger sample of VET teachers including non-adopters, late adopters or low-level adopters of e-Learning. However, it recognises the range of factors shaping these particular teachers’ decisions, the impact of beliefs and attitudes upon intentions and adoption rates, and the effect of change (both institutional and broader VET sector change - and uncertainty around change) upon teachers’ integrated and sustained e-Learning practice.
6. CONCLUSION AND RECOMMENDATIONS

The emphasis in Commonwealth e-Learning policy (Flexible Learning Advisory Group, 2007) has typically been on offering flexibility, over quality teaching practice or the needs of learners (Robertson, 2009). However, as various researchers (Brennan, 2003; Koehler & Mishra, 2009; Koehler et al., 2004; Selwyn, Gorard, & Furlong, 2006) have suggested, this is potentially a misguided approach and further consideration needs to be given to pedagogy and good practice, types of learners and their needs, and the factors and barriers that may impact effective e-Learning use. The more recent National VET e-Learning Strategy (Commonwealth of Australia, 2012) moved away from up-take to a status quo model. The participants’ stories contained herein, however, reflect that lack of consistent e-Learning adoption across the sector is still a concern. Additionally, participants raised potential quality concerns about the way e-Learning is being implemented. These are concerns both for policy makers and for institutional VET providers within the sector. Key factors were identified in this study that appeared to shape teachers’ decisions and practice and act as enablers and barriers to teachers’ e-Learning adoption and integration.

This study has found that teachers’ personal and pedagogical beliefs and motivations form key enablers and inhibitors for their e-Learning integration. Key beliefs and attitudes shared by these participants that appeared to act as enablers for adoption focused on the role of the VET teacher and the role of technology, particularly in remaining current to 21st Century challenges and contexts, and in supporting learners to build broader skills and confidence. Participants typically saw the value and benefits of e-Learning to support broader learning goals, not just in terms of helping to meet the curriculum or competency objectives. Given that participation was voluntary for this study and involved dedicated time on the part of the participant, this may explain why those already passionate and utilising e-Learning to a greater extent were more ready to share their stories. These participant stories suggest that while other barriers to effective e-Learning implementation exist, personal motivations were a key influence to these teachers’ adoption and use; as they persisted with implementing online technologies for teaching; even in spite of technological, time and support...
issues. This would suggest that fostering and catering to these beliefs and motivations while also looking to remove technical and support barriers may hold for a more effective end result.

Implications for VET teachers
The findings in this study highlight that there are a number of factors that can both inhibit and enable teachers’ practice, sometimes concurrently. For example, e-Learning changed the ways in which teachers worked, and was both considered a time-saver but also adding to teachers’ workload. Other VET teachers may take ‘lessons learned’ from these participants in the ways they managed their time and catered to learners’ needs. The teachers within this study also continued to integrate e-Learning and implored others to ‘give it a go’ despite issues, due to perceived benefits including opportunities to support learners beyond the curriculum. Other non-adopters should consider the benefits that e-Learning could provide for their own practice, and weigh these opportunities in light of potential concerns.

Implications for institutions
Those who continued to choose to use e-Learning technologies shared pragmatic motivations and perceived benefits in using e-Learning to assist with fundamental VET administrative and reporting duties. They indicated that pragmatic decisions were linked to VET regulatory and reporting requirements and dwindling institutional resources, and their time and workload were influential in their attitudes and decisions when implementing e-Learning practices. In particular, the expanding nature of the VET teacher role and the implications for workload seemed to underpin many of the experiences by these teachers. Where participants saw perceived benefits to their own workload and in meeting work-related tasks, they were more likely to adopt the technology. Institutional management should seek to understand the VET teacher role and workload in order to build more favourable systems and support structures. e-Learning technologies and structures that acknowledge the complexity of the VET teachers’ role and support the functions of teachers’ working lives (both in supporting a diverse range of learners and in managing VET requirements and increasing administrative duties) are likely to be viewed more favourably and more readily adopted. The same approach should be considered in institutional policy and communications to teachers, which could potentially see improved relationships and levels of understanding between teachers and managers.

Key concerns shared by these participants related to the readiness of VET learners to use e-Learning, which, irrespective of whether they hold true for learners or not, clearly shaped these teachers’ beliefs and assumptions of their learners. VET provider institutions that do not make use of these beliefs and motivations, or refuse to address or allay teachers’ concerns about learners are unlikely to gain the type of e-Learning integration they desire.
While the participants in this study were not greatly affected by training (or the lack of it), they provided a wealth of feedback that illuminate training and support approaches that are likely to be more authentic and useful. The participants stressed the role of positive relationships and timely or ‘just in time’ support, and that there was a need for differentiated training and support. Institutions and institutional support teams should ensure that training and support they provide caters to different adopter groups and is provided in a timely and welcoming manner. Additionally, being provided with time allocation and support networks and communities were perceived to be of great benefit and instrumental in allowing teachers to reflect on and consistently develop and improve their practice. At this institution, however, these avenues were perceived to be typically unavailable or inconsistently provided. As such, institutions should consider providing time for teachers to engage in these types of informal networks and learning communities, and studying the effects and changes to e-Learning practice over a more sustained period of time. Leveraging the enthusiasm of early adopters and innovators (Rogers, 1983), such as the participants in this study, could encourage community networks, as well as assist in developing consistency in practice across discipline areas.

In addition to personal and pedagogical motivations influencing these VET teachers, it appeared that there were still a number of institutional and external barriers or perceived barriers affecting teachers’ effective e-Learning integration. The role of management, administration and integrated systems and infrastructure to enable practice or remove barriers to practice were clearly identified as factors that shaped these teachers’ attitudes toward their institution and e-Learning, as well as their tool choices and other decisions in practice. These teachers perceived that the institutional e-Learning systems were inaccessible, unfit for purpose and added hurdles for learners, and these concerns shaped these teachers’ decisions in practice to adopt institutional or other e-Learning technologies, or, in one instance, to reject e-Learning altogether. A lack of relevant systems and support measures often resulted in teachers subverting processes or using non-institutional tools. Institutions that do not provide reliable systems and timely access to systems may find that teachers subvert expected processes, which may lead to unintended and undesirable consequences in managing additional risks for the institution. If institutions hope to gain more ‘mainstream’ e-Learning adoption, they should address the perceived technological access needs of learners and teachers’ concerns about these needs; as regardless of the reality, teachers perceive access issues for their learners and these concerns shape their e-Learning decisions and technology choices.

**Implications for policy makers**

Government policy has typically ignored the personal and pragmatic factors affecting teachers in the discourse of promoting flexible learning, instead arguing for broader economic benefits. However, the findings found that the ways that teachers perceived flexibility were complex and at times, differed from policy language. Policy makers at this level may wish to try talking directly to teachers within
the policy discourse and highlighting practical solutions for implementing e-Learning in practice that targets both government objectives and those of teachers, as they may see improved engagement and more teachers, in the least, intending to use e-Learning technologies. Focusing on practical solutions could additionally support teachers in furthering recognising e-Learning ‘opportunities’, therefore demonstrating the relevance of e-Learning more clearly for teachers and learners, potentially leading to changed beliefs over time and subsequent increased adoption in the sector. Government sectors should also look to link to further research to better understand teachers’ varied perceptions of flexibility and how they implement it in practice.

A key external factor highlighted by all participants that should not be ignored, was concerned with the challenges in meeting reporting and auditing requirements through e-Learning systems; having e-Learning evidence recognised by auditors and managers; and the workload and expectations placed upon them as teachers to meet auditing requirements. If governments are looking for a single clear and targeted focus to increase e-Learning adoption and sustained integration across the sector, addressing tensions between auditors, managers and practitioners would be it. Addressing, or perhaps even mandating, the use of digital evidence with clear requirements and examples for what constitutes good e-assessment and e-Learning evidence, would likely see both tensions between auditors, managers and practitioners dissipate, and provide VET provider institutions with a business case to address other technological infrastructure and functionality issues. Government investment should also target infrastructure and resourcing to both remove barriers for institutions and to gain consistency and level the playing field across the sector.

Implications for further research

A key limitation of this study is its size and scope – the study was centred around seven participants from one VET provider site, and only focused on those already using e-Learning technologies. This means that those not utilising e-Learning technologies were effectively ignored in the discussion. It is important that further research samples a wider cross-section of VET teachers, including those new to or not currently utilising e-Learning. Further research should investigate the commonalities and differences of teachers’ specific beliefs and motivations driving them toward using e-Learning, to confirm whether these specific shared attitudes and beliefs continue to be the same ones driving (or not driving) other VET teachers in practice.

It would also be wise to also invest further research into the way policy messages are disseminated by VET teachers. Several studies (Bliuc et al., 2012; Brennan, 2003; Guthrie, 2003; Guthrie & Clayton, 2010; Robertson, 2008, 2009; Walsh et al., 2011) considered the intersect between VET policy and practice, but further, more holistic investigation as to how teachers interact with and relate to policy (both e-Learning policy and VET policy generally) is still needed. Such findings could lead to clarifying shared and confused meanings, and intrinsic and extrinsic motivators that are likely
to be most effective for encouraging VET teachers’ e-Learning adoption and integration, which could support institutions and government policy makers to consider more effective ways to enable or encourage behaviour change.

Another recommendation for further research should involve testing the proposed framework presented in this study, *VET teachers’ intentions, adoption and integration decisions for incorporating e-Learning technologies*, to further expand and modify the framework where needed and develop it into a research model. Further testing of the model would ensure that it captures the range of VET teachers’ beliefs and decisions in practice, both for adopters and non-adopters alike.

Finally, if Commonwealth and institutional policies and other market factors are not only encouraging but now effectively forcing adoption and use of e-Learning technologies in education, then we need to better understand what affects that use - including not just up-take but also what influences the type and quality of use. We need a clearer and more consistent understanding of what is viewed as e-Learning or blended learning, and within that, what might be considered good practice. e-Learning ‘best practice’, as Brennan (2003) noted is still a grey area, with a lack of consistent understandings around what this means across the sector, and there is limited research exploring what e-Learning practice (best or otherwise) looks like for VET teachers and learners. Further research that seeks to explore and unearth these considerations would add to this gap and potentially highlight ideas or commonalities across educational sectors.

**Final thoughts**

The findings from this study highlight pain points for VET teachers and their beliefs of making e-Learning ‘better for the students and easier for us’ that shape their practice. These findings should be relevant for VET teachers, VET policy developers, other researchers, institutional management and policy makers, and institutional training and support teams tailoring professional development to VET teachers – as they may hold ideas for encouraging better adoption, diffusion and integration of e-Learning technologies and systems.


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VOCATIONAL EDUCATORS’ PERCEPTIONS OF E-LEARNING


VOCATIONAL EDUCATORS’ PERCEPTIONS OF E-LEARNING


APPENDIX – INTERVIEW QUESTIONS

Phase 1 Interview (Introductory / scene setting) – structured and semi-structured questioning

Personal and teaching background

• What subjects/units / disciplines are you currently teaching?
• Which unit/s are you currently teaching this semester that you plan to use online technology for?
• What is your teaching background?
• How long have you been teaching?
• What discipline areas?
• What studies and experience did you undertake both in your discipline area and in teaching practice?

Baseline / demographics and understandings of e-Learning

• Which age bracket do you fit into:
  o Under 21; 21 – 30; 31 – 40; 41 – 50; Over 50
• What is your definition of:
  o e-Learning?
  o Blended Learning?
  o Online learning?
• From 0 to 5, Can you rate your confidence in using ICT?
  o (0 = never used, not interested; 5 = highly confident with online technologies, try new things, play independently)
Learners and teaching style

- Describe your learners – what kinds of students and ranges of characteristics do you find in your students?
- How do you think your learners learn best? Follow up - experience/example?
- Describe the way you go about designing your unit?
- Can you describe your teaching approach/es and activities you use?

Technology confidence, understandings, beliefs and use

- What kinds of online tools have you been using within your teaching practice?
- How long have you been using online tools?
- What made you first start/become interested in using online tools?
- What made you decide to incorporate online technology into your program?
- Can you tell me about a recent or past time you used an e-Learning/online tool or tools within a teaching program?
  - How was this (positive/negative)
- Within the unit/course you have nominated, how are you intending to use online technology? What approach/es are you planning to take?
- What are you hoping to gain by utilizing technology within your unit/course?
- How do you think students will respond?
- Do you have any concerns/ foresee any challenges or issues?

Phase 2 / 3 Interviews (further discussion regarding practice, follow ups)

Key categories:

- Teaching and technology experience, teaching philosophy. Perceptions of technology, confidence, beliefs.
- Learners, student cohorts, learning styles, understanding learners and tailoring to their needs
- Teaching style, teaching philosophy. Current use / practice and hopes for future
- Challenges, factors. Space/place, timing, and other factors

Current use / practice and hopes for future

- So where are you currently up to since we met last? Where are you at with the course?
- What things have you tried? What things are you hoping to try?
• You mentioned trying new things such as x, did you end up using these and if so, how did it go? / You mentioned x last time, how did this go, how did the students find it?
• Wrap up the course – what did you find?

Learners, learning styles, understanding learners and tailoring to their needs
• What have you noticed with your learners?
• Student expectations around online learning and flexible delivery – expectations and challenges around this for you?
• You mentioned x types of learners/cohorts (e.g. ‘passive’/low literacy) can you expand on this? What do you do specifically to address this? How does online tech and independent learning feed into this approach?
• How have you found students have engaged online this semester? Is there anything different or that you weren’t expecting?

Teaching style, teaching philosophy.
• Can you describe your ideas and beliefs around teaching for you?
• What do you think makes good teaching? What’s important for working with your learners?
• You mentioned “x” last time (e.g. empowerment, confidence) – What does this mean to you? How important is this for you and your students? What does this look like?
• How has your work/teaching with these different groups shaped your current practice and current ideas of teaching?

Curriculum/course design
• How do you go about designing your course design? Can you step me through how this works?
• Course design and mapping – what does this look like in LMS/online?
• Curriculum design and taking a topic, can we break one down online and look at the activities, what works, what doesn’t?
• You are using x tools. Why? Why this tool and not other tools? Have you considered using other tools, why/why not?
• Is there anything about the technology that specifically supports or hinders this for you and your cohorts/ways of working?

Challenges, factors. Space/place, timing, and other factors
• What challenges have you found?
VOCATIONAL EDUCATORS’ PERCEPTIONS OF E-LEARNING

- What challenges do you expect / foresee?
- How does place/space impact on types of learners, teaching style, activities.
- Technical challenges mentioned, what were these?
- Are there any other challenges you found (could be technical but could be around students, support, delivery, etc)
- Mentorship – you are a mentor to others, what does this mean to you? How do you feel this could be enacted effectively?

Hopes for future

- What would you like to see them (your learners) do or achieve or come away with?
- What would you like to do in future as far as online learning with your cohorts?
- What would you need in order to achieve this?
- What are you hoping to focus on next year and how would you go about it?
- What would you be thinking about changing for next year?
- Is there anything about the technology that specifically supports or hinders this for you and your cohorts/ways of working?