Blending and flipping learning: A journey in innovative curriculum design and delivery

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A case study exploring teachers' understandings and perceptions of blended, flipped learning

Frances Morgans

A thesis submitted in fulfilment of the requirements for the degree Master in Education (eLearning), Massey University

Abstract

Historically, lecturing has been the dominant form of teaching within tertiary institutions, however the past decade has seen a shift of focus away from the lecturer as the source of all knowledge. As learning and teaching approaches change to meet the needs of a changing society, research is needed into how the academic staff involved in these new methods understand these approaches and deal with them. There is a move towards pedagogies that are more authentic, contextual and social in nature, as these are perceived as more appropriate to equip learners with the skills they will need to participate in a constantly changing societal context.

This research study aimed to gain a deeper understanding of the perceptions and experiences of staff involved in creating and facilitating a curriculum innovation involving new courses that were blended and flipped.

Twenty-five staff members from a tertiary institution in New Zealand took part in the study. Participants held a range of roles and were all actively involved in the curriculum innovation. This thesis adopted a qualitative case study research approach using information gained from a questionnaire and semi-structured interviews.

While understandings of blended and flipped learning were varied among participants**,** the perceived benefits of a blended, flipped model included flexibility, increased digital literacy, opportunities for the improvement of self-directed learning skills among students, the freeing up of class time for exploration, the development of critical thinking and problem-solving skills and allowing learners to lead and direct their learning. The challenges in design were deciding on the best use of online and face-to-face spaces, designing engaging online activities, having knowledge of appropriate online tools and platforms to use and time. Facilitation challenges included managing and building student's self-directed learning skills, keeping students engaged online, giving timely feedback to students, and managing group work.

By gaining valuable insights into teachers' understandings of the blended and flipped methods that they were working with, these findings may help to inform institutions using a similar context.

Acknowledgements

With special thanks to Mandia Mentis and Maggie Hartnett in the Institute of Education who provided academic oversight and support for the thesis. Your consideration, cordiality and expertise have been much appreciated.

Thank-you, also to my family for their never-ending patience, understanding and inspiration. To my sons Max and Alex, and my partner David. I dedicate this thesis to you.

Contribution

I, the researcher, undertook all aspects of this study under the direct guidance of my supervisors. This entailed selecting the appropriate research design, the data collection and analysis, and the publishing of the findings in this thesis.

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Chapter I: Introduction

Society is in transition with rapid, relentless and exponential change driven by technology (Wheeler, 2014). With a shift from the industrial age, where work was predominantly manual, to the information age, where knowledge-work has become the norm (Reigeluth & Carr-Chellman, 2009), the boundaries between learning, work, and leisure are becoming increasingly blurred, and technology is shifting employment from fixed locations, such as assembly lines or office buildings, to more fluid spaces including home environments (Felstead & Jewson, 2014). The nature of work is also evolving, with the rapid growth of technology creating new jobs while eliminating others. Work is becoming more cognitively complex, more team-based and collaborative, more dependent on social skills, more dependent on technological competence, more time pressured and more mobile and less dependent on geography (Heerwagen, 2010).

As the nature of work changes, with digital networks globalising knowledge work, there is a greater requirement for workers to be independent, self-motivated and self-evaluating. While machines can replace some jobs, people who can innovate and generate new value with their skills and knowledge will remain irreplaceable (Heerwagen, 2010; Wheeler, 2013). It is therefore necessary for education to create environments conducive to fostering the critical skills needed in order to prepare learners for the changing workplace, such as problem-solving, reflection, creativity, critical thinking, learning to learn, risk-taking, collaboration, and entrepreneurship (Sharpe, Beetham & de Freitas, 2010). A future tertiary education graduate might fit the description of Moravek's "knowmad" - a nomadic knowledge worker who is a creative, imaginative, and innovative person who can work with almost anybody, anytime, and anywhere" (Moravek, 2013, p. 18).

As society continues its journey within the information age, with technologies and ideologies breaking down physical and human-made barriers, the possibilities for change within education are huge. The tertiary sector must meet the demands of the new age (Seely-Brown, 2006, Windham, 2005) and it is clear that ways of learning and teaching need to evolve in order to be relevant to, and meet, the needs of current

and future tertiary students and prepare them for possible futures in globalised digital networks (Moravek, 2013).

While historically lecturing has been the dominant form of teaching at tertiary institutions, over the past decade there has been a shift of focus away from the lecturer as the source of all knowledge (Freeman, Eddy, & McDonough, 2014; George-Walker & Keefe, 2010; Lai, Pratt & Grant, 2003). Information can be easily accessed online and it can be argued that it is no longer necessary to know facts and procedures, with the focus on being able to locate and use relevant information on a needs basis (Conole, 2014). In addition, individual, behaviourist approaches, where learning is perceived as the formation, strengthening and adjustment of associations and learner responses are shaped through selective reinforcement (Mayes & De Freitas, 2004) are increasingly being replaced with approaches that are more authentic, contextual and social in nature. These new approaches these are perceived as more appropriate to equip learners with the skills they will need to participate in a constantly changing societal context (Mayes & De Freitas, 2004; Siemens, 2004).

As learning and teaching approaches change to meet the needs of a changing society, research is needed into how academic staff using these new approaches understand them and deal with them. This study has focused on staff who have been involved in new models of learning and teaching with the intention of exploring their understandings of these new models and their experiences of working in these new environments. This research is interested in a new learning and teaching model in a tertiary education institution in New Zealand, which involves a blended and flipped approach to learning and teaching. More specifically, this research aims to explore staff understandings and perceptions of the meaning, benefits of and the challenges in creating blended, flipped courses.

The thesis is structured in the following way. Firstly, it explores relevant literature in chapter two and continues by describing the methodology utilised in conducting the study in chapter three. The findings of the study are presented in chapter four, followed by a discussion in chapter five, which explores the findings within the context of current literature. The conclusion and implications from the findings are

highlighted in the final chapter along with the limitations to the study, and recommendations.

Chapter II: Literature review

2.1 Introduction

This literature review explores two themes in this topic. Firstly, a review of the literature on blended learning is undertaken. Secondly, the literature on flipped learning is explored. Both themes have a particular focus on teachers' perceptions and experiences.

2.2 Blended learning and tertiary education

The earliest references to the term 'blended learning' are from the late 1990s and since then the use of some form of blended learning continues to grow in education (Bonk, Kim & Zeng, 2006). Blended approaches are gaining in popularity as the use of digital technologies becomes ubiquitous and flexibility and differentiated learning provision are expected.

2.2.1 Defining blended learning

Defining blended learning is not a straightforward task due to the fact it can mean different things to different people (Beetham & Sharpe, 2013). It is widely recognised that there are many definitions and variations of terminology currently in use to define this emerging and developing field (Bonk & Graham, 2006; Garrison & Vaughan, 2008, Picciano & Dziuban, 2007; Stacey & Gerbic, 2009). The fact that blended learning can also be referred to as hybrid or mixed-mode learning indicates, "no dominant model has yet been accepted as a definitions of standard practice" (Dziuban, Hartman & Moskal, 2004, p. 2).

Many of the definitions of blended learning in the literature simply refer to the combining of face-to-face and online learning environments. The term "face-to-face" used throughout this thesis refers to physically being in the same place. "Combining online and face-to-face instruction" (Graham, 2006, p. 4) and "blending learning systems combine face-to face instruction with computer-mediated instruction" (Bonk and Graham, 2006, p. 12) are both definitions of blended learning which reflect the idea that the blend refers simply to the physical environment in which the learning

and teaching takes place. Similarly, Littlejohn and Pegler (2007) refer to the proportion of online content within the course, which can be a strong blend (almost exclusively online) or a weak blend (virtually not at all). "Blending can be placed somewhere between fully online and fully face-to-face courses and one of the definitional issues is where this might be on such a continuum" (Stacey & Gerbic, 2009).

Other issues relate to the why and how to blend. For example, Garrison and Vaughan (2007) define blended learning as "a blending of campus and online educational experiences for the express purpose of enhancing the quality of the learning experience" (p. 5). This definition offers a reason to blend. Picciano (2007) defines blended learning as "courses that integrate online with traditional face-to face class activities in a planned, pedagogically valuable manner" (p. 9). This definition introduces the concept of pedagogy. Heinze and Proctor (2004) classify blended learning as "learning that is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and founded on transparent communication amongst all parties involved with a course" (p. 21). This definition emphasises the flexibility, diversity and openness that blended learning can offer.

While some feel that ill-defined and inconsistent uses of the term "blended learning" make it "incoherent or redundant as a concept" (Oliver & Trigwell, 2005, p. 24), others consider the lack of agreement on a precise and commonly accepted definition to be a strength, allowing institutions to adopt and use the term in the context of their particular institutions (Graham, 2013). This is reflected in Moskal, Dzubian and Hartman's comment that "blended learning has become an evolving, responsive and dynamic process that in many respects is organic, defying all attempts at universal definition" (2013, p. 4).

Due to the exploratory nature of this research, there will not be one specific definition from the literature used to form the basis of this study. Definitions in the literature range from the very basic description of the use of modes of delivery to the more nuanced descriptions that include a focus on planning, pedagogy, flexibility and

other factors that might be considered important in educational course design. The variety of definitions can be seen to form a continuum. As this research will investigate an innovation, the researcher intends to use this continuum of definitions of blended learning, as the basis for the research study, in order to leave interpretation open for the study participants.

2.2.2 Benefits of blended learning

The literature discusses how blending learning, if done well, can offer a great deal of potential in terms of increased flexibility, pedagogical innovation and developing the skills both learners and teachers need going forward, in education and work.

The flexibility that blended learning offers in terms of access is well documented in the literature (Bonk & Graham, 2006; Shibley, 2009; Vaughan, 2007; Yuen, 2011). Blended courses can work particularly well for institutions that have a diverse student body (Holley and Dobson, 2008). Mature learners with families, part-time students with work commitments, and students living a long distance from the campus can all benefit from having flexible access to online materials. A blended approach can also be used to overcome barriers of acclimatisation and integration with the creation of an introductory module, designed to settle students into tertiary study. This can work well, particularly for first year students with no recent history of academic study (Holley and Dobson, 2008). Flexibility in delivery of content is also considered a benefit. For example, there is literature which advocates that blended learning offers an effective platform for employing different pedagogical strategies within the online and face-to face environment (Wu, Tennyson, & Hsia 2010); that the online space allows for differentiation in learning and teaching (Kelly, 2012); and that there are opportunities to customise learning to work with individual learning preferences (Danielson, 2009).

Blended learning is often associated with pedagogical innovation (Cooner & Hickman, 2008; Hastie, Hung, Chen, & Kinshuk, 2010) and a common claim in the literature is that of the transformative potential of blended learning (Garrison and Kanuka, 2004; JISC, 2009), where innovations are described as valuable exemplars of what is possible with enthusiastic and resourced teachers. Blended learning can

transform teaching practice to become learner-centred with a focus on knowledge construction, authentic activities, and social interaction (Gallini & Barron, 2001). This includes enhanced opportunities for teacher-student interaction, increased student engagement in learning, added flexibility in the teaching and learning environment, and opportunities for continuous improvement (Vaughan, 2007).

Many different approaches to blended learning have been reported, ranging simply from the provision of online resources which provide accessibility, flexibility and opportunities for self-learning (Yuen, 2011), to the use of online spaces for student engagement through collaboration and discussion (Gerbic, 2011). A combination of these offers the potential for the creation of a Community of Inquiry (CoI), a benefit which is well-documented in the literature (Garrison & Kanuka, 2004; Garrison and Vaughan, 2008) due to its ability to offer opportunities for communication as well as offering unlimited access to information online. The combination of synchronous verbal and asynchronous written communication in the context of a cohesive community of inquiry has shown to support deep learning through critical discourse and reflective thinking (Rubin, Fernandes & Avgerinou, 2013).

Blended learning environments also benefit both learners and teachers by helping them develop the skills they need to survive and thrive in the fast-changing world of technology (Conole, 2010; Wheeler, 2013). Young people who have grown up with digital technology have been called "digital natives" (Prensky, 2001) and the "net generation" (Tapscott, 1998). Although Prensky's "digital natives" has been largely disparaged, the argument is that, because of young people's exposure to technology, they can naturally learn successfully with technology. However, it is argued that there are many skills and literacies that that need to be developed for learners to be successful in their studies (Bennett & Maton, 2010; Smith, 2012). These skills include navigating the way through masses of information, making sense of this information, communicating with others in a digital context and operating within an open, public sphere (Conole, 2010; Lim, So & Tan, 2010). Similarly, teachers need to acquire improved digital literacy skills (Vaughan, 2006) and learn the appropriate skills to work in web 2.0-enabled learning environments (Wheeler, 2015) as they increasingly take on a technological role (Gerbic, 2011).

2.2.3 Designing blended learning

Although there is not one agreed way to design a blended course, there is some agreement on what constitutes good design principles for blended learning. There is also some agreement on what does not work.

The introduction of technology into blended learning environments does not automatically bring about pedagogical change. In fact, technology is often used to replicate or supplement existing practice (Kirkwood, 2009; Selwyn, 2007). For example, uploading PowerPoint slides to a learning management system does not necessarily equal good quality eLearning materials, nor transform teaching (Salmon, 2005).

Continuing traditional practice with small changes is not reported favourably in the literature on designing blended learning. "Blended learning moves well beyond the concept of bolting a website onto a traditional classroom-based course" (Skill and Young, p. 25). There is a danger of causing the "course and a half syndrome" (p. 127), which happen as a result of adding online materials to a course without making changes to the face-to face aspect (Brunner, 2007). Cohesion in the online and face-to face elements of a blended course is important (Ellis, Steed & Applebee, 2006; Kaleta, 2006; Kelly, 2012). To achieve this, the recommendation is to redesign and create something new rather than rearrange existing components of a course (Brunner, 2007; Littlejohn and Pegler, 2007).

Research into the use of learning management systems (LMS) in blended learning contexts indicates that these platforms can also create a barrier to transformative practice. An LMS is a web-based technology used to plan, implement, and assess the learning process. It enables teachers to create and deliver content, monitor student participation, and assess student performance. The fact that it can provide students with the ability to use interactive features such as discussion forums and video conferencing would suggest that it promotes student-centred learning. However, there are studies that suggest that some uses of the LMS can be pedagogically biased. The argument is that some uses can promote a teacher-centred, content transmission approach to teaching due to the fact that the LMS was

originally conceived by faculty working in higher education, who typically drew on teacher-centred, transmission models of learning (Apedoe & McGee, 2005). Some uses of LMS's have been criticised for being essentially a page turning tool that encourage passive modes of learning and, therefore, lacking the capability to engage learners in higher level cognitive and social learning. Although there is research that illustrates that a diverse range of pedagogical practices are possible in LMS environments (Holt & Challis, 2007; Papastergiou, 2006), in order to move away from the more obvious ways of using the LMS, teachers require confidence and experience with the technology.

If blended learning has the potential to transform learning (Garrison & Kanuka, 2004; JISC, 2009), teachers who are involved, or who are to become involved in the development of blended courses, need to develop and maintain a certain set of skills.

As teachers move into blended learning environments, they take on new roles as blended course designers (Garrison & Vaughan, 2008; Gerbic, 2011; Littlejohn & Pegler, 2007). Designing a pedagogically informed and cohesive blended course takes time to learn and practice to develop. Significant course transformation includes re-thinking the course design, creating new learning activities and integrating online and face- to- face components (Brunner, 2007; Joosten et al, 2014; Littlejohn & Pegler, 2007). The importance of cohesion in the online and face-to face elements of a blended course is a recurring theme in the literature (Ellis, Steed & Applebee, 2006; Kaleta, 2006; Kelly, 2012). The complexity of designing for two learning spaces includes establishing what is best for each space and connecting them pedagogically to achieve a unified whole (Kaleta et al, 2006). Integration and connection between the online and face-to-face components can be achieved by: acknowledging and extending the interaction in each of the modalities which provides a clear purpose and makes both modes relevant for students (Kelly, 2012); using the online portion as an opportunity to create more exciting face-to-face interactions (Shibley, 2009); expanding on, but not repeating, content in class that has been dealt with online (Weimer, 2014). During the design and development journey, teachers are responsible for making critical decisions as they plan what will happen online or face-

to-face. These decisions will have a significant impact on their teaching role and strategies (McShane, 2004).

As well as learning skills in blended course design, teachers must also acquire new technology skills (Gerbic, 2011; Vaughan, 2007). It is reported that teacher confidence or anxiety can profoundly influence learners' experience with technology (Greener, 2009). Also, in order to develop engaging and interactive online learning activities, teachers will want to select and use relevant tools and technologies. For this they need to understand the affordances that the technology offers in terms of pedagogy (Gerbic, 2011; Wheeler, 2013). Good blended learning design can be seen when technologies are used to support sound, clearly- articulated pedagogical beliefs (Steel, 2009). There has been a gap noted between the potential of technologies and their uptake by teachers in tertiary education (Conole, 2010). Staff reluctance in adopting technology to support/replace face to- face teaching could be a result of disbelief in technology, lack of supporting resources or perception of lower quality, (Benson et al. 2011) or due to a resistance to or rejection of the values embedded in Web 2.0 tools (Veletsianos & Kimmons, 2013).

There continues to be emerging opportunities for good blended learning design, particularly as more informal and mobile elements of learning start to become integrated into the overall blend. City and Guilds Kineo, (2014) describe how learning is moving towards being "more pervasive, continuous, collaborative and connected and not necessarily locked away in classrooms or on an LMS", and that there is a growing move towards "a 'resources' not 'courses' approach" to blended learning (p. 4). The argument here is that there should not be too much rigidity to the design in order to leave space for learners to develop the literacies needed to communicate with others and to make sense of information, specifically in a digital context (Conole, 2010). Having space to encourage a community of inquiry can also support deep learning in an online environment (Ruben, Fernandes & Avgerinou, 2013, p. 125). However, while it is important to leave space and flexibility for the learner to develop and use these skills, for many learners there also needs to be some structure and flow to the learning process. Kineo (2014) describe how "a well-designed building allows free movement around the rooms but it makes it easy for

people to navigate and not get lost" (p. 11). For teachers to transition from developing teaching traditional courses to blended courses, proper training is necessary (Napier, Dekhane & Smith, 2011). Charles & Anthony (2007) recommend a preparation time of at least six months for blended learning integration as well as encouraging the application of blended learning pedagogy and exchanging good practices from those experienced in the effective use of blended learning.

2.2.4 Facilitating blended learning

In order for blended learning to reach its potential and transform teaching practice to become learner-centred with a focus on knowledge construction, authentic activities, and social interaction (Gallini & Barron, 2002), the focus must be on the learning rather than the blended (Oliver and Trigwell, 2005; Shibley, 2009). The role of the teacher is key when focussing on the learning.

Traditionally, in tertiary education, the teacher has the role of knowledge provider. Teachers have taught face to face and have exercised control over how material is taught. In order to move into a learner-centred, blended learning environment requires a change to this traditional role of teacher. While some will make this shift readily and easily, others will find it more difficult (Wheeler, 2015). Some will find discomfort in the loss of control (Brunner, 2007).

There is a body of research that points to a transition period where blended teaching seems to create conditions for change in teacher roles (Gerbic, 2011). This change can be seen in the following ways: the online component of a blended course can be perceived by teachers both as an augmentation of their authority and a threat to their traditional role (Hanson, 2009); teachers in blended learning environments perceive themselves as more teacher-centred in face-to-face settings and more learner-centred in online settings (Kaleta et al, 2006; Stacey and Weisenberg, 2007); teachers using blended learning environments move from basic information transfer style teaching to encouraging students in resource exploration and sharing and collaborative knowledge-creation (Lameras, Paraskasis and Levy, 2008).

It takes skill to create and facilitate an environment which gives students the opportunity to "meaningfully talk, listen, read, write, and reflect on content and ideas, issues and concerns, within a topic area" (Collins & O'Brien, 2011, p. 6). This requires shifting the focus from the instructor delivering content via a lecture, to students engaging with the content and ideas in an active and applied manner supported by a mentor. This shift to mentor has been identified as a potential trend in blended learning (Kim et al, 2006) with "teachers need(ing) to be prepared to leave their previous constructs of what a teacher is behind, and to anticipate how the new model redefines them, their course and their students" (Kaleta et al., 2006, p. 137).

2.2.5 Summary on blended learning

In summary, the literature recognises that the emerging and developing field of blended learning has many definitions. These can be placed on a continuum. At one end of the continuum are the descriptions that are based on the combining of face-to-face and online learning environments. At the other end of the continuum are definitions that give specific examples of why and how to blend. There are many reported benefits of blended learning. These include flexibility of delivery, the opportunity to improve digital literacy, and the potential that blended learning has to transform teaching practice to become learner-centred. This pedagogical innovation will help prepare students for a fast-changing world of work that requires skills such as self-direction, critical thinking and problem solving. If blended learning is to realise these important benefits, teachers must learn the skills required to create effective courses and facilitate in blended learning environments. Teachers who are equipped with the necessary skills to create and facilitate in student-centred, blended learning environments, can then experiment with different approaches to learning and teaching, for example, flipped learning.

2.3 Flipped learning and tertiary education

Advancing digital technologies within the higher education sector are not only challenging the pedagogical stance of traditional didactic teaching which has been seen for decades within tertiary education, but are also offering dynamic and innovative opportunities for student learning. The flipped classroom is part of a

larger pedagogical movement that overlaps with blended learning, enquiry-based learning, and other instructional approaches and tools that are meant to be flexible, active, and more engaging for students (Johnson & Adams, 2011).

2.3.1 Defining flipped learning

The "flipped classroom" is a current catch-phrase for changing the way we teach (Loch & Borland, 2014). It is largely agreed in the literature that there are many different ways of flipping learning and, indeed, there appear to be a variety of understandings of exactly what flipped learning is.

Many definitions of flipped learning focus on a very simple concept of "the flip" which is the moving of lectures and what was previously class content (teacher- led instruction) out of the classroom and replacing it with what was previously homework (assigned activities to complete) to take place within the class (Educause, 2012; Pierce & Fox, 2012, Roehl, Reddy and Shannon, 2013). These descriptions of flipped learning refer to the activities that happen in a particular physical space and at a particular time. It is argued that the flipped classroom is not new because the use of the principles of familiarising students with content prior to class and using class time for concept engagement have been in education for a long time (Watson, 2015).

Some definitions build on this focus of space and time with an emphasis on what learners and teachers do in the group space. For example, The Flipped Learning Network (2014) define flipped learning as:

> *...a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter (p. 1).*

For many educators, the flipped classroom is synonymous with the use of internet technology in general and videos specifically (Overmyer, 2012.) Bishop and Verleger (2013) suggest that multimedia lectures be recorded so students can view them out of class and at their own pace. Ash (2012) describes how learning is being turned upside down by the replacement of traditional class lectures with video tutorials. Educause

(2012) describe how the term is widely used to describe almost any class structure that provides pre-recorded lectures followed by in-class exercises and how "the video lecture is often seen as the key ingredient in the flipped approach, such lectures being either created by the instructor and posted online or selected from an online repository" (p. 1).

There is criticism of this approach to flipped learning which states that the use of videos is just a high-tech, time- shifting version of the lecture. Therefore "flipping" still relies on a didactic approach to teach content and is, therefore, not truly learner focussed nor constructivist (Ash, 2012). This view is well-articulated by Dede (2011):

> *It (the flipped classroom) is still, in my mind, the old person. It's still starting with presentational learning and then trying to sprinkle some learning-by-doing on top of it. I am interested more in moving beyond the flipped classroom to learning by doing at the center... .*

Although many definitions of the flipped classroom focus on the reversing of what happens 'in' and 'out' of the classroom, "the flip" can also be defined in other ways. The Flipped Learning Network's four pillars of flipped learning offer some unifying themes for consideration (Hamden, McKnight, McKnight, Arfstrom, 2013). These four pillars of FLIP are an acronym of flexible environments, learning culture, intentional content and professional educators. Flexible environments identify the need for changing spaces in order to employ a range of learning modes; a shift in learning culture applies to the fact that the students themselves are actively and collaboratively involved in knowledge formation; intentional content refers to decisions being made on how, when and where to deal with content and materials; professional educators emphasises the importance of the skills needed to meet this increasingly demanding role. These pillars are deeper and more significant to transformative learning and teaching in a blended environment, than merely specifying what happens inside and outside the classroom. It has been suggested that while many teachers may flip their classes, in the form of setting reading texts or video tutorials out of class time, without the inclusion of the four pillars of FLIP, flipped learning will not occur (Hamden et al, 2014).

The concept of flipping learning can also be seen as reversing the roles and responsibilities of those within the learning environment. Honeycutt and Glova (2014) describe how the core of flipped learning is actually about shifting the focus from the instructor to the students. These authors explain that this can be done "by inverting the design of the course so students engage in activities, apply concepts, and focus on higher-level learning outcomes" (Para 9). This understanding moves away from reference to physical space and time that is often attached to definitions of flipped learning. The focus here is on the design of the course and the roles and responsibilities of the people in the environment. There is also an implication that online spaces can be flipped by focussing on the learner. This could involve encouraging learners to find and create their own resources and guide and 'teach' their peers. Higher order thinking skills can be practised through participation in activities, application, collaboration and reflection. Honeycutt (2012) identifies FLIP as meaning "Focus on your learners by involving them in the process and suggests ways of re-thinking the online experience in order to successfully FLIP an online class.

As with blended learning, this research will not focus on one specific definition of flipped learning but will consider a range of definitions. Once again, these can be seen to form a continuum. At one end sit the definitions that focus on the reversal of in-class and out-of class activities, while at the other end sit the understanding of flipped learning as involving a focus on the learner in the process of learning. Using a continuum approach in this study will allow participants to interpret flipped learning in their own way.

2.3.2 Benefits of flipped learning

A flipped model of learning has a number of benefits, according to the literature. Students have access to online resources to become familiar with course content which means that they can learn at their own pace when engaging with these materials (Grant, 2013). This allows for individualisation of learning in the way that students can review material, as they feel necessary. Class time can then replace transmission of information with the use of active learning strategies (Becker, 2013).

The use of active learning strategies in flipped learning environments give students practice using higher-level cognitive skills. Active learning is described as the process of having students engage in some activity that forces them to reflect upon ideas and upon how they are using those ideas; the attainment of knowledge by participating or contributing; the process of keeping students mentally, and often physically, active in their learning through activities that involve them in gathering information, thinking, and problem solving (Collins & O'Brien, 2011, p. 6). Meyer (2003) described active learning as giving students the opportunity to meaningfully talk, listen, read, write, and reflect on content and ideas, issues and concerns, within a topic area. These elements by necessity shift the focus from the instructor delivering content via lecture, to students engaging with the content and ideas in an active and applied manner.

Higher order cognitive skills are used through application, analysis, evaluation and creation. As well as learning to communicate more effectively (Restad, 2016), students also learn to think more critically, developing the capabilities to think reflectively and judge skilfully, so as to decide what information is reliable and what actions should be taken during reasoning and problem solving (Ennis, 1989). For example, students might work in pairs to paraphrase newly presented content; they might discuss what they think are key ideas from a specific reading; they could exchange and discuss each other's notes; they might work on problems or discuss issues in small groups (Hosler, 2016). Debates, role playing, problem-based learning, case studies, creating concept maps, open-ended discussions and simulations all offer ways for students to become involved with each other and the content in a meaningful and engaging manner. Communication skills, critical thinking and problem-solving skills, and interpersonal skills will all be necessary for students when going into the workforce (Ravenscroft & Luhanga 2014).

However, not all research on flipped learning in higher education has indicated positive effects. For example, it has been reported that it may not be the best structure for an introductory course due to the fact that students may not have developed a deep interest in the course nor have the skills they need to solve problems that are not clearly defined (Hamdan et al, 2013). Therefore, flipped

learning might be appropriate for certain subjects, courses, lessons or units, but might not be necessarily suitable for every educational context (Bergmann & Sams, 2012). Issues of access need also to be considered. The provision of online resources requires that students are able to use or access the provided resources. Although there may be an assumption by advocates of the flipped classroom model that most students will have easy access to a computer, this cannot always be assumed (Hertz, 2012; Nielson, 2012). A flipped model of learning can meet resistance from students as it takes time for students to become familiar with a new system of learning (Strayer, 2007). The importance of managing students' expectations as they transition into a flipped style of learning is emphasised, particularly when teaching first year students (van der Meer, 2012).

2.3.3 Designing flipped learning

There is agreement in the literature that there are many different ways of designing flipped learning experiences (Hamden et al, 2013) and a variety of methods for flipping the classroom (Ash, 2012). Some advocate for a complete redesign of a course for a flipped environment (Dzubian, et al. 2004; Hosler, 2016) while others suggest starting small or looking for "flippable moments" within a class (Honeycutt, 2013, p. 15). While there are studies that suggest principles and frameworks for designing flipped learning (Kim et al, 2014; Hosler, 2016), it is clear that more research would benefit this area.

One of the greatest obstacles for staff using the flipped classroom model in higher education has been identified as the capacity to design, implement and evaluate the effectiveness of their flipped classrooms (O'Flaherty & Phillips, 2015). Therefore, there is a need for support to develop the skills necessary to effectively guide the systematic use of technologies and translate conceptual thinking into planned learning sequences. As with blended learning, when designing for two spaces in a flipped learning environment, alignment and cohesion between the online and face-to-face elements is important (Kim et al, 2014; Hosler, 2016). The idea of moving lower level content, for example, definitions, simple exercises, timelines, and other strictly factual content, to online resources is popular in the literature on flipped learning (Educause, 2012; Pierce & Fox, 2012, Roehl, Reddy and Shannon, 2013).

The idea of "first exposure" which is "when the student first encounters new information, concepts, vocabulary and procedures" (Walvoord & Anderson, 1998, p. 53) occurring outside of class as a pre-class activity allows for classroom time to be spent on the processing of new concepts and information as well as on more critical-thinking activities as well as active and collaborative work. However, there is a danger that, if the online activities only focus on lower-order skills, the online work becomes an electronic textbook (Shibley, 2009).

Other considerations that are highlighted in the literature on designing flipped learning are the need to address self-study skills and the place of reflection. Careful design work is needed to embed self-study skills into the materials that students work on out of class in order for students to be successful in a flipped environment (Weimer, 2014). The flipped classroom can be seen as a busy, collaborative, and social place where collaboration, and teamwork are highly valued. The importance of allowing time for reflection in such a busy environment is also emphasised, giving students time to pause, think, make connections, and work through an idea before others have any input or criticism (Strayer, 2012; Honeycutt and Warren, 2014).

2.3.4 Facilitating flipped learning

When flipped classrooms are well designed and effectively facilitated, the following benefits for students are documented in the literature: student experiences can be improved (Findlay-Thompson and Mombourquette, 2014); students can become more open to cooperation and innovation (Strayer, 2012); students' confidence in their ability to learn independently can be increased (Enfield, 2013). There follows some discussion of what allows for effective facilitation of a flipped environment.

When involving students in flipped learning, it is essential that teachers ensure that students understand the purpose of the flipped classroom by explaining the concept and expectations behind a flipped approach, and why a flipped approach is being used (Findlay-Thompson & Mombourquette, 2014; Hosler, 2016). Also, a flipped approach generally relies on students engaging with materials and doing some preparation before a face-to face session. Suggestions in the literature to encourage students to prepare for class are: give appropriate warning and include discussion of

the difficulty of participating in in-class activities if the preparation is not completed (Butt, 2013); make sure the time between face-to-face meetings is well-structured and directed in order to help students be clear about what needs to be accomplished outside of class using the resources and materials provided online (Bishop and Verleger, 2013); include online quizzes or in-class quizzes before moving onto interactive activities (Napier, Dekhane, & Smith, 2011); provide incentives or enticements to get students to complete work prior to coming to class, for example, asking students to bring drafts of their first written assignment to class for peer reviewing and small group discussion (Kim et al. 2014; Wells and Holland, 2016).

It has been suggested that class time in tertiary education should focus on knowledge application (Pluta, Richards, & Mutnick, 2013) and a flipped model of learning and teaching can allow for this with its aim to maximise group learning time and utilise various learning methods such as active, peer and problem-based learning. Well-crafted collaborative learning activities challenge students to be active participants in the constructing of knowledge that results in reformatted neuronal networks, thereby promoting deeper learning (Bakely, Major & Cross, 2014). In order to engage successfully in active, class time exercises, students need to take initiative, communicate well, think critically, solve problems and reflect on their learning. In the flipped classroom students are not able to sit as passive observers of the learning process, but rather they have to be actively involved, requiring continual observation by the teachers, who provide them with timely feedback, and continuously assess their work. In order for teachers to facilitate effectively in this space, teachers clearly need to develop the skills to maximise the use of face-to-face time to develop conceptual understanding and procedural fluency, incorporating opportunities for reflection and feedback which is relevant in the moment (Hamden et al., 2013).

Flipped classrooms have been described as "risky" due to the fact that teachers relinquish a degree of control when the energy in the classroom shifts to the students (Honeycutt &Garrett, 2013). While letting go of some control, teachers become guides, facilitating discussions and research, helping learners make connections and offering a deep insight into the skills and the discipline (Flipped Learning Network, 2014). The facilitators' skills are capable of adapting to student misunderstandings or

misconceptions and creating spontaneous examples that help illuminate a concept. They also help identify common problems in understanding, which can be addressed in activities and questions during class (Svinicki, 2013). Becoming a facilitator requires a big shift in thinking for many and advice offered on making this change is as follows: put time and effort into assembling the materials and sequence so students are guided in their learning; participate along with the class and be ready to spontaneously deal with issues (Restat, 2014); give structure and guidance but not straight answers so learners can make meaning for themselves (Honeycutt, 2014). In order to challenge learners' ways of thinking and frames of mind, it is recommended the teacher sometimes needs to move from the "guide on the side" to become the 'meddler-in-the-middle'. This can cause a disruptive effect in order to challenge students' thinking (McWilliam, 2009, p.188).

Finally, institutional acknowledgement that educators and learners are partners in the co-creation of knowledge will enable transformation of roles and learning environments (Wells and Holland, 2016).

2.3.5 Summary on flipped learning

In summary, it is largely agreed in the literature that there are many different ways of flipping learning and understandings range from a simple reversal of in class and out of class activities to generally including learners in the process of learning through use of active learning strategies. The benefits of flipped learning are reported to be the opportunities for learners to learn at their own pace through use of online resources, which then frees up class time for active learning. Active learning is reported to give opportunities for the use of higher cognitive skills through application, analysis, evaluation and creation. A big change in learning culture is needed with adoption of this model which could cause resistance to make it less effective.

2.4 Bringing together blended and flipped learning

Both blended learning and flipped learning have a variety of definitions, and many consider the flipped classroom a form of blended learning (Bart, 2013). The overlap

between these two types of learning can be seen clearly when considering the process approach (Horton, 2006). There are three stages in this approach: absorb (students gain basic knowledge); do (students engage in an activity such as a discussion before the face-to-face session); connect (students apply knowledge to real-world situations). While this can be considered a form of blended learning (Kelly, 2012), the principles of engaging with content before class and using active learning in class time could also classify this approach as flipped learning.

While flipped learning is usually blended in the way that it uses online resources for pre-class activities, it does not have to be. The concepts that define many flipped classrooms are not new, nor do they require new technology (Watson, 2015). Assigning pre-class readings and asking questions in class are teaching techniques, which have been in existence a long time. However, the quality of work students can do and the ability to monitor the students' out- of- class learning has been greatly enhanced through technology, making the flipped classroom much more feasible (Svinicki, 2013).

Blended and modern-day flipped both use technology to maximise learning. Teaching through technology results in a shift in roles for both teacher and learner and necessitates and allows for new kinds of learning in the form of discovery, exploration, creation and design (Blair 2012). Also, blended and flipped models are both recognised as having the potential to transform learning. This transformative potential is characterized by active, purposeful, learner-centred methods, and engaging learning activities, facilitated in a structured, organized manner inside and outside of the classroom (Hosler, 2016).

2.5 Research aims

As publications and mainstream media increasingly report on blended course design or the flipped classroom, an investigation into understandings and perceptions of these terms which are growing in popularity is timely. With this in mind, this study seeks to answer the following research questions:

- What are staff understandings of blended and flipped learning?
- What are the perceived benefits of blended and flipped learning?

- What are the challenges involved in creating courses that are blended and flipped?
- What are the challenges involved in facilitating courses that are blended and flipped?

Chapter III: Research design and process

3.1 Introduction

This chapter outlines the theoretical models and principles that were considered to address the questions that drove this investigation. Qualitative and case study research principles have guided the methods used to address the aims of this research which were to explore the understandings and perceptions of educators who were working with a new style of blended and flipped learning. This chapter discusses the methodological considerations in more detail. This chapter also describes the methods employed to undertake a qualitative study exploring the understandings and perceptions of educators involved in the implementation of a new blended, flipped model of learning and teaching. This includes a description of the participants, the design of the research study and the data collection tools utilised.

3.2 Paradigm

A paradigm can be defined as a way of looking at or researching phenomena, a world-view, or consensus on what problems are to be investigated and how to investigate them (Cohen, Manion, & Morrison, 2011). Paradigms are based on assumptions. The three types of assumptions to be aware of when undertaking research are ontological, epistemological and methodological (Cohen et al., 2011). Ontological assumptions (about the nature of reality and the nature of things) give rise to epistemological assumptions (what one believes about the nature of knowledge; ways of researching and enquiring into the nature of reality and the nature of things). These influence methodological considerations which, in turn, affect issues of instrumentation and data collection (Hitchcock and Hughes 1995).

3.2.1 Interpretive / constructivist

This research falls into an interpretive/constructivist paradigm where the central endeavour is to understand the subjective world of human experience. Reality is seen as socially constructed with multiple realities existing and numerous interpretations of a single event (Merriam & Tisdell, 2015). Individuals develop subjective meanings of their experiences. These meanings are varied and multiple, leading the researcher

to look for the complexity of views (Creswell, 2013). This study looks at the varied understandings and perceptions of the blended, flipped courses that teachers are involved in creating and/or facilitating and "concentrates on meanings people bring to situations and behaviour, and which they use to understand their world' (Punch, 2009, p. 9).

3.3 Qualitative research

This study employs a qualitative methodology. Although "qualitative" is an umbrella term that encompasses enormous variety in strategies, designs, approaches to data and methods for analysis of data (Punch, 2009), there are certain defining characteristics of qualitative enquiry that are particularly relevant to this research study. Qualitative research tends to be holistic in approach and focuses more on understanding phenomena than making predictions or testing hypotheses (Punch, 2009) . The focal point of a qualitative approach is the investigation of situations or events as the participants construct them. In the case of this research, the situation is the implementation of a new blended and flipped learning and teaching model focussing on the understandings and perceptions of academic staff working on these courses. In a qualitative approach, the emphasis is placed on explanation and understanding of the unique and the particular individual case (Burrell & Morgan, 1979; Kirk & Miller, 1986). Merriam (1988) and Walker (1974) have suggested that qualitative case study is a particularly appropriate methodology for exploring problems of educational practice. Although the implementation of a new blended, flipped model of learning and teaching is not specifically an educational problem, the amount of change which is required by all involved can place it within this category.

3.3.1 Case study research

Case studies are in-depth investigations of an individual, group, institution, or other social unit. Case study research provides a unique example of real people in real situations and seeks to provide a picture of the richness and depth of a situation and a construction of the reality of the participants' lived experiences (Cohen et al, 2011; Creswell, 2005). Yin (2009) suggests that case study research can be particularly

appropriate when exploring the "how" and "why", when the investigator has little control over events, and when there is a focus on contemporary phenomena in some real - life context. Simons (2009) comments on the link, historically, between curriculum innovation and case study research, which is a particularly relevant point for this research.

Stake (2005) has identified three basic types of case study: intrinsic, instrumental, and collective. Intrinsic case study involves exploration of one particular case for its own sake, where there is no expectation that results have implications for other case studies. Instrumental case study involves using a case study of one case to gain insights into a particular phenomenon, where there is also an explicit expectation that learning can be used to generalise or to develop theory. Collective means a number of instrumental case studies are used to make comparisons in relation to a particular issue or phenomenon. This research engages in an intrinsic type of case study, undertaken because of the intrinsic interest the researcher has in this particular curriculum innovation. Case study research often uses multiple sources of data in recognition that there are many factors influencing a single case and that to capture these "usually requires more than one tool for data collection and many sources of evidence" (Cohen et al., 2011, p. 289). Case studies often blend numerical and qualitative data (Cohen et al., 2011), as has been done in this research. While the study has been guided by the qualitative, interpretive paradigm the data is comprised of both numerical and qualitative data.

3.3.2 General inductive method of enquiry

General inductive enquiry is an approach to analysing qualitative data which aims to understand meaning in complex data through the development of categories or themes from the raw data (Thomas, 2006). The purpose of using this approach is to: (i) condense extensive and raw data into a brief summary format; (ii) establish clear links between the research objectives and the summary findings derived from the raw data; and (iii) to develop a model or theory about the underlying structure of experiences or processes evident in the raw data. Qualitative data was collected in this research in the open-ended questionnaire responses and the personal interviews, which was used to extend on and examine in more detail some of the issues touched

on in the questionnaire. Content analysis is a method for quantifying the content of narrative communications in a systematic and objective fashion (Thomas, 2006). A variety of units of analysis exist for verbal expressions. In this research, themes were analysed to elicit academic staff's understandings and perceptions of blended and flipped learning, and more specifically, the perceived challenges and enablers for both teachers and learners working within this environment.

3.4 Study design

The study employed a qualitative research design. Qualitative research seeks to explore the experiences and perceptions of participants with no intention to manipulate or organise the research situation, preferring to study people, things and events in their natural settings (Punch, 2009). Common aspects of this approach include elements where the researcher is context sensitive, is immersed in the setting, and focuses on the views, perceptions and interpretations of participants (Cohen et al., 2011). Due to the nature of the research a case study design was selected, which is characterised by an investigation of a setting, single subject, person, or group, or the documenting of an event (Bogdan & Biklen, 1992). The investigation of this study is a curriculum innovation, which is the implementation of a new blended, flipped model of learning and teaching into two programmes in a tertiary institution with the emphasis on the understandings of those involved in the experience.

Consideration was given to the use of focus groups as opposed to a questionnaire but the latter was chosen, as the researcher wanted to encourage maximum participation from staff involved in the blended, flipped model of learning, and questionnaires are recognised as being low cost in terms of time and administration, and allow anonymity as well as reducing interviewer bias. All these factors led to selection of a questionnaire as the main tool for data collection, which is referred to as phase 1. Interviews were chosen as a secondary data source to enable participants to discuss their interpretations of the new environment in which they were working and to express how they regard situations from their own point of view. The interviews are referred to as phase 2. The study design is illustrated in Figure 3.1.

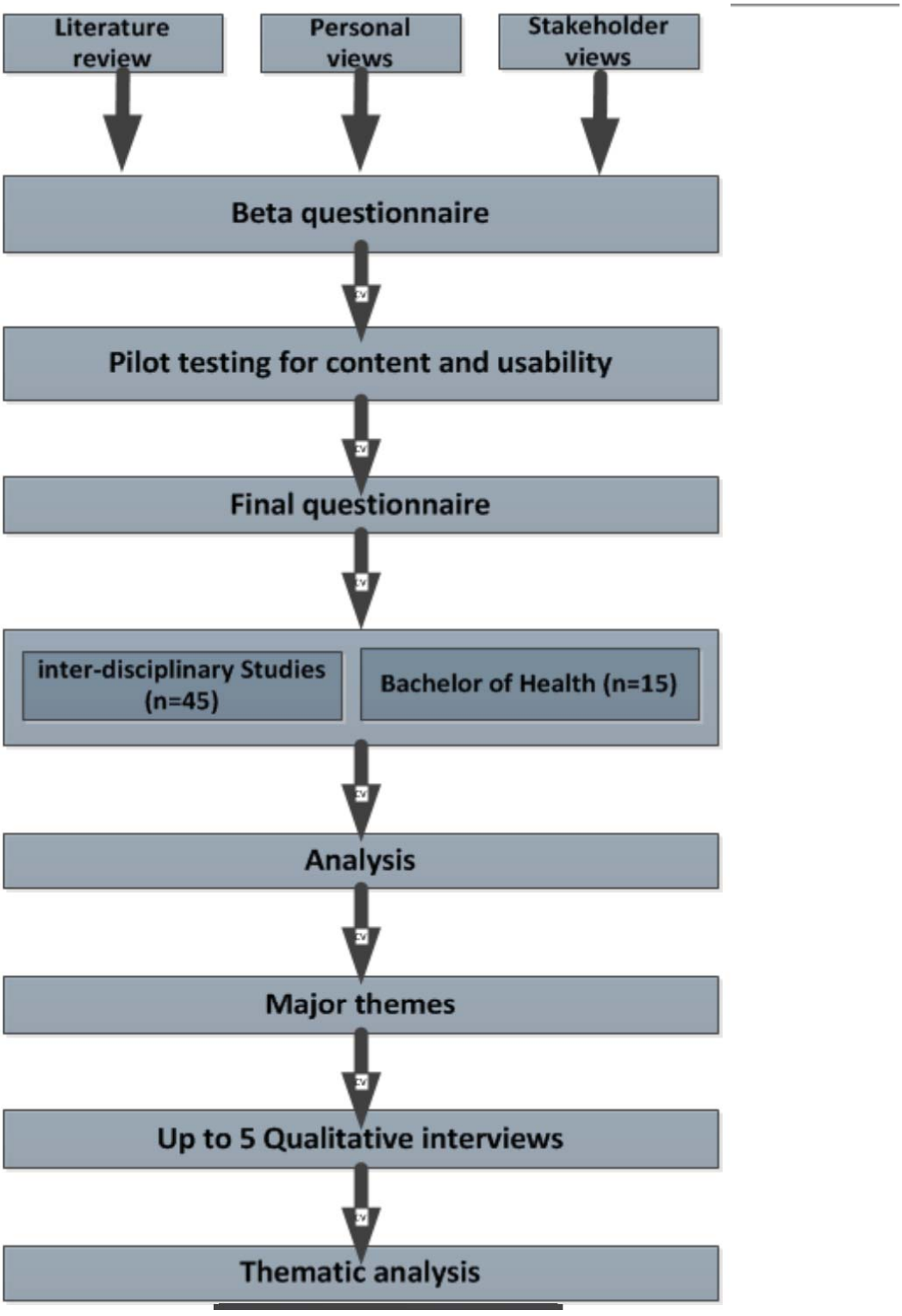

Figure 3.1: Development of study design

3.5 Context of study

The purpose of this section is to describe the context within which this case study research took place. Stake (2005) emphasises the importance of this by stating that

> The real business of case study is generalisation not particularisation. We take a particular case and we come to know it well, not primarily as to how it is different from others but what it is, what it does. There is emphasis on uniqueness and that implies knowledge of others that the case is different from, but first the emphasis on understanding the case itself (p. 8)

The single unit that formed the basis of this case was a curriculum innovation which took place in a campus-based institution within the New Zealand tertiary sector. This institution will be referred to as Institute X for the sake of privacy. The curriculum innovation that provides the boundary of this case study happened between 2011-2013 and data was collected from those involved in 2013 while the innovation implementation was still on going.

Institute X has been evolving its learning and teaching approaches in response to new research and emerging trends in society, education and innovation. It has put in place some new learning and teaching models and is in the process of systematically redeveloping its programmes and courses within the context of a holistic learning programme, which promotes an active, dynamic process of learning that is jointly owned by learners and teachers. This holistic learning programme gives rise to a number of principles that guide learning and teaching that are underpinned by social constructivist theory. These principles state that learners should expect to experience the following as part of their studies: conversation; curiosity/enquiry; collaboration; self-efficacy; problem solving; reflection; creativity. The new models of learning and teaching are all blended to some degree with some having a strong face-to-face focus, some having a strong online focus and some involve work-based learning. At Institute X blended learning is sometimes presented as a mix of the four components: on campus; online; work-based; and independent, with examples of

percentages for the amount of online and face-to-face study for courses within programmes, which change as students move through their programmes. The intention is to provide active, face-to-face and online collaborative experiences, which include the learning and teaching principles described above. These active, blended learning and teaching experiences are underpinned by notions of connectivity, collaboration, active learning, individualisation of education, flexibility, and the promotion of varied interactions in order to facilitate the creation of knowledge (Moore, Dickson-Deane & Galyen, 2011). At the time of this particular research study, the planning and documentation of new models of learning and teaching were still in their infancy at Institute X.

The programmes involved in the curriculum innovation that was the basis of this case study were all new and involved Interdisciplinary Studies, both at undergraduate and post-graduate levels. The undergraduate courses were common semester courses that made up the first semester of various degree courses. On completion of these common semester courses, students entered the degree courses for their specific disciplines. The post-graduate courses ran from one to two years to earn a post-graduate diploma or Masters degree in Applied Practice, which allowed students to choose options and electives from across faculties. The Health/ Social undergraduate programme was a three year degree. These new programmes were the first to use this blended, flipped model at Institute X and the staff in these programmes being mainly new to blended and flipped learning. The professional development plan, designed to help staff gain the knowledge and skills they need to implement the proposed changes, was still also in its infancy, with the intention that all staff completed a certain number of hours through 2015-16.

To develop these new blended, flipped courses a writer, curriculum editor and eLearning designer worked together to create the course. The writers were academic staff at Institute X already in a teaching role and subject matter specialist in the discipline of the new course to be created. The curriculum editor and eLearning designer were either seconded from another role within Institute X or contracted from outside and had skills in course development and learning design. The intention was that each role would offer the knowledge and experience of content,

curriculum design and eLearning to the process and use a collaborative approach that worked around the co-construction of courses. Teams worked collaboratively in face-to-face and online environments to complete the courses within a given time. The writers, curriculum editors and eLearning developers were all invited to take part in the research. The participants in this study held a range of roles within the curriculum innovation, which included Head of Centre, Programme Leader, Course Leader, Course Facilitator, Curriculum Editor and eLearning designer/developer.

3.6 Trustworthiness

The four criteria proposed by Guba (1981) when considering the trustworthiness of a case study are truth value, applicability, consistency and neutrality.

Truth value considers how confident the researcher is with the truth of the study's findings (Lincoln and Guba, 1985). A method of assessing the truth value is the process of peer review (Simons, 2009). This research used both respondent validation and consistency checks as part of the process. Respondent validation involved interviewer respondents being consulted for feedback so that they could verify the accuracy and have the opportunity to suggest changes if they felt necessary Consistency checks involved having another coder, in this case a colleague, take the category descriptions and find the text that belongs to those categories.

Applicability (Lincoln and Guba 1985) refers to the degree to which findings can be applied to other contexts or groups. As this research focuses on one particular case in a particular setting, it makes the findings difficult to apply to a wider population. However, the purpose of this research is to explore understandings and perceptions of a curriculum innovation in one particular setting. A comprehensive and detailed account of the research context can provide "a database for making judgements about the possible transferability of findings to other milieu" (Bryman, 2004, p. 275). Therefore, a reader of this research can decide to what extent these findings can be applied to other contexts or groups.

Due to the naturalistic nature of qualitative research, it could not be expected that the findings from this research would be consistent if the study were to be replicated

(Guba, 1981). However, the dependability of the research findings has been ensured through the use of an audit trail collection (Guba 1981), which has consisted of accurate reporting and the keeping of records of all stages of the research process.

Neutrality is the extent to which findings are the result of the participants in and conditions of the research, and not the result of other influences, biases or perspectives. Triangulation, which is the verification of data by using two or more methods of data collection, is commonly used to establish neutrality in case study approaches (Cresswell, 2005). In this study, data was collected through a survey tool and through interviews. A review of some course Moodle sites was also undertaken. By use of triangulation, the neutrality of the case study should be enhanced (Thompson 2004). The fact that the researcher works at Institute X and had a connection with the curriculum innovation which defined the case study is particularly relevant to the issue of neutrality. Awareness and analysis of potential bias and subjectivity are an important part in minimising their effects (Punch, 2009). Putting distance between the researcher and potential participants during the preliminary stages of the research was achieved by having a member of the administration team send out the email of invitation for the survey. Use of respondent validation and consistency checks were used to minimise bias during data analysis, as discussed earlier in this section.

3.7 Researcher background

The researcher has a background in teaching English as a Second Language and works at Institute X. From 2010, the researcher has undertaken various roles in the area of eLearning in tertiary education. These roles include Faculty eLearning Co-ordinator, Institutional eLearning Champion, and more recently, eLearning designer/developer working with academic staff to develop blended courses across the institution. Qualifications held include BA (Hons) Humanities, CELTA (Certificate in English Language teaching to Adults), Trinity Licentiate Diploma in Teaching English, Post Graduate Diploma in Education (eLearning), and the researcher is currently engaged in the completion of a Master's thesis.

3.8 Participants

As this study aims to explore educators understandings and perceptions of the benefits and caveats of creating and facilitating in a blended and flipped learning environment, the researcher was keen to recruit as many educators as possible involved in these new courses. As these courses were being rolled out in two programmes at this tertiary institute, all academic staff from these programmes were invited to participate.

3.8.1 Participant eligibility

Potential participants were employed at a tertiary institution in a major city within New Zealand. Participants were identified as eligible if they were at the time of investigation actively involved in a blended learning programme delivered by the tertiary institution. Eligibility criteria for both phases of the research were the same, however, phase 2 involved more in depth interviews and participants volunteered their contribution through involvement in phase 1.

3.8.2 Recruitment of participants

For phase 1, 56 potential participants were sent an email which introduced the researcher, outlined the research study and invited participation with a link to the online questionnaire (Appendix 1).

Participants were recruited for phase 2 through the questionnaire. Questionnaire respondents were given an option to leave a name and email address if interested in participating in an interview, on completion of the questionnaire. Three people offered to participate in phase 2.

3.8.3 Phase 1 – The questionnaire

The questionnaire (Appendix 2) aimed to explore relationships and patterns with the purpose of providing a picture of the variety of views and understandings of learning and teaching in a blended, flipped environment.

The development of the questions was informed by the literature and the research questions. The questionnaire was designed to elicit quantitative and qualitative data, with the use of both closed-ended and open-ended questions. The closed questions, although potentially limiting in prescribing the range of responses for the respondent to choose from, were intended to give ideas and inspiration for the open-ended questions, where the respondent was invited to add greater depth and quality to their responses and to answer as fully as they wished. The draft questionnaire was tested with two further individuals not involved in the study. The testing assessed language use, completion time as well as any areas that lacked clarity or potentially omitted material. The questionnaire was developed online using surveymonkey and was admimistered through email using a link to the online questionnaire.

3.8.4 Phase 2 – The Interviews

The use of interviews in research regard knowledge as created by individuals through conversations (Kvale, 1996). Literature on qualitative research often describes interviews in terms of structure, ranging from highly- structured questionnaire- type interviews to unstructured, open-ended conversational type interviews (Merriam, 1998, 2009; Patton, 2002; Simons, 2009,). Semi-structured interviews were chosen for this research for the following reasons. Semi-structured interviews offer topics and questions to the interviewee, but are carefully designed to elicit the interviewee's ideas and opinions on the topic of interest, as opposed to leading the interviewee towards preconceived choices. They rely on the interviewer following up with probes to get in-depth information on topics of interest. Two underlying principles are that one strives to avoid leading the interview or imposing meanings and that one creates a relaxed and comfortable conversation.

Phase 2 of this research study intended to focus in more closely on some of the issues raised in the questionnaire so it was important to ensure that specific information was followed up on from the questionnaire responses, but also needed to include the flexibility to follow unexpected ideas during the interview and explore understandings and perceptions effectively. Therefore an interview schedule was developed (Appendix 3) and emailed to interviewees in advance. There was, however, a great deal of flexibility in using the schedule, particularly as, in order to

reduce interview bias, the participants were invited to lead the interview by giving a guided tour of their Moodle course to demonstrate their understandings of the blended and flipped model. During the interview the researcher also had access to the interviewee's questionnaire responses, which could also influence the direction of the conversation.

3.8.5 Data analysis

Case study research involves collating and synthesising data from different sources (Cohen, Manion & Morrison, 2011). For this study, the data collected in phase 1 is a mixture of quantitative and qualitative data, while in phase 2, the data are purely qualitative.

The quantitative data emerging from the close-ended questions in the survey were summarised using descriptive statistics.

The qualitative data emerging from the open-ended questionnaire questions and semi-structured interviews were analysed using a general inductive enquiry. For the questionnaire, responses were categorised and for the interviews, transcripts were transcribed verbatim. Major themes were then elicited and then thematic analysis was employed to analyse the data. Thematic analysis is a conventional practice in qualitative research, which involves searching through data to identify any recurrent patterns (Aronson, 1994). A theme is a cluster of linked categories conveying similar meanings. Qualitative thematic analysis is analysis based on the identification of themes in qualitative material, often identified by means of a coding scheme. Coding is a widely used approach to qualitative analysis, generally treating accounts as a resource for finding out about the reality or experiences to which they refer.

3.8.6 Coding

Using a general inductive approach, the researcher constructed codes and themes from the qualitative questionnaire and interview data (Thomas, 2006). Categories were developed from the raw data into a framework that captured key themes and processes that were considered important to the research.

3.9 Ethical considerations

This study identified the understandings and perceptions of academic staff who were involved in a curriculum innovation which promoted a new way of learning and teaching at a tertiary polytechnic, using a new blended, flipped model, as a case study. Respecting and safeguarding the rights of participants through the processes of informed consent, privacy and confidentiality is the responsibility of the researcher (Silverman, 2006; Cohen et al., 2000). All participants were invited to participate and provided with an information sheet (Appendix 4) and consent form to complete (Appendix 5) prior to participating. Data was collected through an online survey and through interviews and confidentiality was maintained by ensuring that names and personal details were not disclosed including in the reporting of the findings. The name of polytechnic has also been changed in order to maintain privacy.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application14/049.

3.10 Summary

The purpose of this study was to explore how educators involved in a new model of learning and teaching understand and blended and flipped learning. Perceived challenges and enablers for those and learning and teaching in the environment were addressed, as were the challenges and enablers for creating and facilitating the courses. The study has employed a qualitative case study methodology, which has been determined by the research questions. This study was designed to investigate the views, understandings and perceptions of staff involved in new blended, flipped courses. Data were collected using a questionnaire consisting of a mixture of closed-ended and open-ended questions and then semi-structured to interviews to explore issues in more depth. The next chapter presents the findings of the data analysis.

Chapter IV: Findings

4.1 Introduction

This chapter presents the findings from the questionnaire and interviews in response to the research questions. The open-ended questions and interviews aimed to use qualitative data to provide more depth to these findings. The chapter starts with demographic information relating to participants and is followed by responses as they relate to the research questions starts with demographic information relating to participants and is followed by responses as they relate to the research questions.

4.2 The participants

A total of 25 people participated in the questionnaire. The number of responses to questions ranged from 12-25. The first part of the questionnaire aimed to gather information about experience, roles and reasons for working in this new blended, flipped environment. Table 4.1 shows over half (59%) of the respondents were reasonably new to the tertiary organisation where the research study took place, having been employed there for under two years.

Table 4.1: Length of time at institution

Length of time at organisation	n	%
Less than a year	7	32%
1-2 years	6	27%
3-4 years	1	5%
5-6 years	1	5%
7-8 years	4	18%
8+ years	2	9%
Total respondents	**21**	**100%**

A total of 85% of respondents hold a postgraduate qualification with 63% of participants holding a Masters or Doctorate level degree (Table 4.2).

Table 4.2: Highest level of qualification

Highest level of qualification	n	%
Bachelor degree	2	5%
Postgraduate certificate	2	9%
Postgraduate diploma	4	18%
Master degree	10	45%
Doctorate	4	18%
Total respondents	22	100%

There were three types of courses identified using a blended, flipped model of learning and teaching. There was a fairly even distribution of participants working across these courses with some participants working on more than one course. (Table 4.3)

Table 4.3: Blended, flipped course worked on

Blended, flipped courses worked on	n	%
Undergraduate Interdisciplinary	13	59%
Postgraduate Interdisciplinary	11	50%
Undergraduate Health/ Social	10	45%
Total respondents	22	100%
Total number of courses worked on	34	

Table 4.4 shows the number of different possible roles for those working in the blended, flipped environment. The most common role was Course Facilitator (64%) and the second most common role was Course Writer (36%).

Table 4.4: Role within blended, flipped environment

Role	**n**	**%**
Course Facilitator	14	64%
Course Writer	8	36%
Course Leader	5	23%
eLearning Developer	4	18%
Curriculum Editor	4	18%
Programme Leader	1	5%
Head of Centre/Department	1	5%
Total respondents	**22**	**100%**
Total number of roles	**7**	

The largest number of respondents were very new to their blended, flipped environments with 43% having less than a semester's worth of experience in that particular environment.

Table 4.5: Length of time in blended, flipped environment

Length of time in blended, flipped environment	n	%
Less than 1 semester	9	43%
1-2 semesters	5	24%
3-4 semesters	5	24%
More than 4 semesters	1	5%
Total respondents	**20**	**100%**

Becoming part of the blended, flipped environment was a result of either an invitation or an application. Participants were fairly evenly represented over these two options (Table 4.6).

Table 4.6: How became involved in blended, flipped environment

How became involved in blended, flipped environment	n	%
Invited to participate	9	47%
Applied for the position	10	53%
Total respondents	**19**	**100%**

Table 4.7 shows the amount of previous experience participants had in online, blended and flipped environments. The majority of participants were reasonably or completely new to all these types of environments.

Table 4.7: Amount of previous experience in online, blended and flipped learning environments

	Online		Blended		Flipped	
Amount of previous experience in learning environment	**n**	**%**	**n**	**%**	**n**	**%**
No previous experience	10	48%	11	52%	14	67%
Less than a year	4	19%	2	10%	1	5%
1-2 years	3	14%	1	5%	0	0%
3-4 years	0	0%	2	10%	2	10%
4 years or more	4	19%	4	19%	4	19%
Off and on	0	0%	1	5%	0	0%
Total respondents	**21**	**100%**	**21**	**100%**	**21**	**100%**

To summarise the data gathered in this first part, the majority of participants had been at the institution for less than two years, held post-graduate qualifications, were new to the blended, flipped environment and had very little previous experience of online, blended or flipped teaching and learning. There was an even distribution of participants across the three types of blended, flipped courses identified and over half of the participants held more than one role.

4.2.1 The interview participants

Table 4.8 shows the demographic information of the 3 people who volunteered to be interviewed for phase 2. Each of the types of blended, flipped courses are represented and each interview participant held the role of both Course Writer and Course Facilitator, and had therefore participated in the creation and facilitation of the courses. The researcher felt this was important for the gathering of qualitative data. None of the interview participants had any previous experience of working in blended of flipped environments.

Table 4.8: The interviewees

	Interviewee 1	**Interviewee 2**	**Interviewee 3**
Time at institution	7-8 years	1-2 years	Less than a year
Highest qualification	Doctorate	Masters	Masters
Role(s)	Course Writer Course Facilitator	Course Writer Course Facilitator Course Leader	Course Writer Course Facilitator
Courses worked on	Postgraduate Interdisciplinary	Undergraduate Interdisciplinary Undergraduate Health/Social	Undergraduate Health/Social
Length of time in role	1-2 semesters	2-3 semesters	Less than 1 semester
How became involved in role	Invited	Applied	Applied
Amount of previous experience in online environment	4+ years (with Moodle)	None	Less than a year
Amount of previous experience in blended environment	None	None	None
Amount of **previous** experience in flipped environment	None	None	None

4.3 Understandings of blended learning and perceptions of benefits and challenges for learning and teaching

The questionnaire aimed to gather data on participants' understandings and perceptions of blended learning in order to find out staff's current understandings of blended learning, perceived benefits of blended learning and the challenges involved in designing and facilitating courses that are blended.

For the questionnaire sections on definitions of blended learning, participants could choose only one option. For the sections on perceived benefits and challenges of blended learning, participants could choose as many statements as they felt applied.

4.3.1 Definitions of blended learning

Table 4.9 shows the questionnaire results to definitions of blended learning. Participants were given the option to choose a given definition which best fitted their view of blended learning. A total of 70% of respondents chose from the created definitions, which could be due to the fact they had no prior experience of blended learning, and all of those answers sit in the first three categories.

Table 4.9: Definitions of blended learning

Definition of blended learning	n	%
The integration of online and traditional face-to-face class activities in a planned, pedagogically valuable manner	6	30%
A blending of campus and online educational experiences for the express purpose of enhancing the quality of the learning experience	4	20%
A combination of face-to face and online learning	4	20%
A redesign of the way that courses are developed, scheduled, and delivered through a combination of physical and virtual instruction	0	0%
Instruction that has between 30% and 80% of the course content delivered online	0	0%
Other	5	30%
Total respondents	**20**	

Almost a third (30%) of participants selected "other" and created their own definition of blended learning. The self-created definitions showed that participants were thinking carefully to produce their own meaningful definitions. This was done by mixing phrases from the given definitions and by taking phrases from the given definitions and adding in educational concepts that were possibly important to the participants. Examples of this are co-construction of knowledge, authentic scenario-based work, collaboration, flexibility and accessibility.

> *A blending of campus and online educational experiences for the express purpose of enhancing the quality of the learning experience, including a redesign of the way that courses are developed, scheduled, and delivered through a combination of physical and virtual instruction.*
>
> Questionnaire participant 10

> *Blended learning is more than a combination of face-to-face (with a facilitator) and online learning - it's an integration of online and offline modes of learning; collaboration and interaction; personalised opportunities; and peer-to-peer co-construction of knowledge, with authentic scenario-based work streams*
>
> Questionnaire participant 2

> *The combination of face-to-face and online learning, enabled by technology, allows for flexibility and accessibility, inclusive of planned activities that are pedagogically valuable*
>
> Questionnaire participant 13

The themes of flexibility and increased interaction were also expanded on in two of the interviewees' definitions.

> *It's a mixture of face-to-face and online and it increases that interaction between the facilitator, students and resources.*
>
> Interviewee 3

> *Blended means making the most of both the on campus opportunities with the students and also, after class and online spaces with the students. There's lots of different possibilities that are open when the learning is kind of expanded. Students can keep learning after the classroom session so it's a kind of lifelong learning experience. We can touch base and they can go away I can keep in touch with them and they ask me questions online and we can keep the conversation going.*
>
> Interviewee 2

To summarise, 70% of participants chose almost equally between 3 definitions from the questionnaire. These definitions ranged from a very basic description- *a combination of face-to face and online learning*, which was chosen by 20% of respondents, to a more detailed description focussing on quality enhancement- *a blending of campus and online educational experiences for the express purpose of enhancing the quality of the learning experience,* which was chosen by 20% of respondents. The most popular choice, which was chosen by 30% of respondents, emphasised the importance of pedagogy - *the integration of online and traditional face-to-face class activities in a planned, pedagogically valuable manner.* The remaining 30% of respondents chose to create their own definitions of blended learning, which included the use of educational concepts like co-construction of knowledge, authentic scenario-based work, collaboration, flexibility and accessibility. The concepts of flexibility and accessibility were further supported as being important by 2 out of 3 of the interviewees.

4.3.2 Benefits of blended learning

The theme of flexibility continues in Table 4.10 below, which shows participants' agreement with 6 statements on the benefits of using a blended approach for learning. The flexibility offered by access to online content was the highest-scoring benefit for learning, with respondents unanimously agreeing with this statement. Other high scoring benefits were opportunities for students to develop self-directed learning skills, the flexibility of blended learning to cater for different learning-style preferences, and opportunities to increase digital literacy, all having over 70% of respondents in agreement.

Table 4. 10: Benefits of using "blended" for learning

Benefits of using blended for learning	n	%
Access to online content from anywhere with an internet connection, gives students the flexibility to work when and where they like.	19	100%
Students learn self-management and self-directed learning	15	79%
The different modes of delivery (face to face and online) give opportunities for a variety of different learning styles	15	79%
Blended learning increases digital fluency	14	74%
Students are able to control the pace of their online learning	12	63%
Moving content to online resources, frees up class time to create dynamic classroom learning environments that fully engage all students	11	58%
Total respondents	**19**	**100%**

In terms of the perceived benefits of using a blended approach for teaching, flexible access to courses and improved digital fluency received the highest frequencies, with 85% and 80% of respondents agreeing that these were beneficial (Table 4.11). 55% perceived the redefinition of the role from lecturer to facilitator as one of the benefits of blended learning. Benefits of using a blended approach for teaching, flexible access to courses and improved digital fluency received the highest frequencies, with 85% and 80% of respondents agreeing that these were beneficial (Table 4.11).

Table 4.11: Benefits of using "blended" for teaching

Benefits of using blended for teaching	n	%
Online courses being accessed from anywhere gives teachers the flexibility to work on or off campus	17	85%
Blended learning increases digital fluency	16	80%
The different modes of delivery (face to face and online) give opportunities for a variety of different teaching styles	13	65%
Facilitators are able to monitor student access to online environments	13	65%
The teaching role is redefined from lecturer to facilitator	11	55%
Total respondents	**20**	**100%**

One of the interviewees talked about her changing role from lecturer to facilitator, she did not say directly whether she felt it was a benefit for teaching.

Interviewee- *So my role is just to guide them...rather than…..directly teach*
Researcher- *How do you feel about that?*
Interviewee- *Well, it's difficult to say….it's a very different way*

To summarise staff's perceptions of the benefits of using a blended approach for learning, the flexibility offered by access to online content was unanimously agreed to be a benefit for learning. Opportunities for students to develop self-directed learning skills, the flexibility of blended learning to cater for different learning-style preferences, and opportunities for students to increase their digital literacy were all agreed to be important by over 70% of respondents. The most highly-rated benefits of a blended approach for teaching were the flexibility to work on or off campus, (85% of respondents agreed), the fact that teachers were able to increase their digital literacy (80% of respondents agreed) and the redefinition of the teaching role to one of facilitator (55% of respondents agreed).

4.3.2 Challenges of blended learning

Table 4.12 shows participants' agreements with statements describing challenges when creating the blended environments. There was no unanimous agreement with any of the statements. The statements which were identified as most challenging were deciding the best use of online and facilitated session spaces, the development of activities that engage students online and knowledge of tools and platforms that can be used to create a good blending learning environment.

Table 4.12: The challenges when creating blended environments

Challenges when creating blended environments	n	%
Deciding how best to use the online and facilitated session spaces	13	72%
Developing online materials that engage students	12	67%
Knowing which technical tools are available and appropriate to use	12	67%
Knowing how to use the technical tools available	9	50%
Collaborating with others in the (re) design of the course/facilitated sessions	6	33%
Making the change from lecture mode to using active learning strategies	3	17%
Total respondents	**18**	**100%**

For statement 2, in Table 4. 12, developing online materials that engage students, one interviewee developed her answer more by explaining how she was keen to move away from any kind of rigid structure or template so that students could have plenty of input into the development of the course.

> *how do we allow flexibility ....like I want to have some flexibility so that the students have an input ...more input because I think that's what engages them ...that's what's going to be really meaningful for their learning when they are most engaged in the topics*

For statement 4, knowing how to use the technical tools available, one interviewee commented on how difficult she found it when creating her course to plan for use of a platform that she did not know.

> *It was difficult to imagine students going into eportfolio. I had to trust and rely that they would work in there but didn't really know what it would look like*
>
> Interviewee 1

A number of themes emerged from the open-ended questionnaire responses and the interviews that differed from the statements in Table 4.12, as can be seen below.

1. Time-related issues

41% questionnaire respondents and 2 interviewees referred to challenging issues of time, as follows:

> *Having sufficient time and skills to develop engaging, innovative activities online; Time management - it is hard to walk away from work and be with family when work is*
>
> *calling 24/7; Time commitment upfront; Lack of time*
>
> Questionnaire participants (3,7,18,20)

> *one of the challenges that I had was the lack of time really*
>
> Interviewee 2

> *the amount of time on little bits of training and the amount of meetings we have to go to when we know we've all got this work to do, you know has been challenging as well*
>
> Interviewee 3

2. Limits on Technology/ Issues of power

18% of questionnaire respondents and 1 interviewee commented on the limitations of technology and issues of power related to technology.

> *The technology used by the institute is limiting; Inadequate gear; Techie (non educator) gate-keepers who decide for us what we can use or not; dictate lock down levels, control 'permissions' - often putting barriers up against effective learning and facilitation*
>
> Questionnaire participants (4,12.13,21)

> *(referring to the Moodle course template) I don't know if we can have one standard approach for each course*
>
> Interviewee 2

3. Issues around professional development/support

12% of questionnaire respondents referred to challenges caused by lack of professional development and/or support.

Lack of professional development

Staff induction into the blended environment/ e-Development and Curriculum development support

Table 4.13 shows participants' agreement with a number of statements on the challenges of facilitating blended environments. With part of the learning for the blended courses being online, course facilitators have certain expectations that students will take responsibility for management of their learning. This self-direction and management of learning was perceived as a challenge for 89% of the respondents.

Table 4.13: The challenges when facilitating blended environments

Challenges when facilitating blended environments	n	%
Relying on students to take responsibility for managing and directing their study	16	89%
Knowing how to keep students engaged when facilitating online	12	67%
Giving timely feedback to students	10	56%
Learning to use online synchronous tools (e.g. Blackboard Collaborate)	8	44%
Accepting a degree of chaos in the face to face sessions	5	28%
Total respondents	**18**	**100%**

Two interviewees elaborated this topic on.

The challenges are perhaps the expectations of the students are sometimes not very clear.

Interviewee 1

> *And they are used to, like, I think more rigid ways of teaching like you know, if you don't do it we are going to take 10% of your grade or things like that, like.And when you used to a rigid system and then it's kind of like more flexible, it's hard to engage them sometimes*
>
> Interviewee 2

The second and third most highly ranked statements were related to teaching online, in terms of student engagement and giving feedback. There were some more comments about the challenges of teaching online in the open- ended responses to the questionnaire with 6 (33%) respondents naming "giving timely feedback' as a challenge and 2 of them giving reasons for this.

> *Timeliness of comments- because not all students are working at the same pace, there is repetition*
>
> Questionnaire participant 9

> *Facilitators must track attendance online to see that students participate. This is hard due to the number of students, each with different learning styles*
>
> Questionnaire participant 4

One interviewee also commented indirectly on giving feedback in her identification of the need for having deadlines for online activities.

> *one thing that did not work was not having deadlines for the activities and that kind of appeared as an issue as the course was going along...um...so that's something that I learned about in a course that I took...having deadlines and having deadlines for responding and clear expectations around that*
>
> Interviewee 1

From the open-ended questionnaire responses, time-management also featured as a challenge when facilitating blended environments, with 4 (22%) respondents mentioning it as an issue and 3 respondents giving extra information about this.

Managing students with varying degrees of proficiency in use of technology and varying degrees of self-management abilities/ Managing team members with varying degrees of knowledge of and experience in blended environment and varying degrees of proficiency in use of technology

Questionnaire participant 15

It is VERY time consuming. Workloads have not adjusted to accommodate this

Questionnaire participant 4

Time management - not letting work dominate my home life as well as my work day

Questionnaire participant 7

To summarise, the main identified challenges for creating blended environments, deciding the best use of online and facilitated session spaces was rated as most challenging, with 72% of respondents agreeing. The development of engaging online activities and knowledge of blended learning tools and platforms were both considered challenging by 67% of respondents. In terms of facilitating blended environments, self-management and self-directed learning skills were identified as the biggest challenge to successful learning by 89% of respondents. Keeping students engaged online (67%) and giving timely feedback (56%) were identified as being the second and third biggest challenges.

4.4 Understandings of flipped learning and perceptions of benefits and challenges for learning and teaching

The questionnaire aimed to gather data on participants' understandings and perceptions of flipped learning in order to find out teaching staff's current understandings of flipped learning, perceived benefits of flipped learning and the challenges involved in designing and facilitating courses that are flipped.

4.4.1 Definitions of flipped learning

Table 4.14 shows the questionnaire results of definitions of flipped learning. Respondents were asked to choose just one response, which best fitted their view of flipped learning.

Table 4. 14: Definitions of flipped learning

Definitions of flipped learning	n	%
A pedagogical model which reverses what typically occurs in and out of class	4	21%
Shifting the energy away from the instructor and towards the students and then leveraging educational tools to enhance the learning environment	4	21%
Moving from an instructor-centred learning environment to a student-centred learning environment	3	16%
A learning environment in which the activities traditionally completed outside the class as homework are now completed in class during instruction time. And the activities traditionally completed in class are now completed in students' own time before class	1	5%
Focusing on your learners by involving them in the process	1	5%
An educational technique that consists of two parts: interactive group learning activities inside the classroom, and direct computer-based individual instruction outside the classroom	0	0%
Other	6	32%
Total respondents	19	100%

Over fifty percent of choices were distributed among the top 3 definitions, showing there to be quite a diverse understanding of flipped learning. 21% of respondents chose a definition that focused on the reversal of in-class and out- of-class activities. This focus on the time and physical space where particular learning happened was further reinforced by some of the self-created definitions from respondents who chose the "other" category and by two of the interviewees' definitions.

> *A pedagogical model where content is distributed outside of class, and lessons focus on a discussion driven exploration of content*
>
> Questionnaire participant 1

> *Most didactic learning occurs outside of class, and face-to-face activities progress from there*
>
> Questionnaire participant 3

> *Content/material is, as much as possible and practical, occurs through independent learning on the part of the student.*
>
> Interviewee 1

A total of thirty-seven percent of respondents understood flipped learning to involve a move towards a student-centred environment. Twenty-one percent chose a definition that focuses on a student-centred environment, which uses educational tools to enhance the learning. A further sixteen percent chose a definition that simply defined a move from teacher to student-led learning environments. This view came through very strongly during the interviews.

> *It's about student leading their own learning and doing ...engaging with the content before they come to the class... so there is a strong integration between the online and face-to-face*
>
> Interviewee 2

> *…more learner led, they (the learners) create their resources and guide their peers …they're more active learners*
>
> Interviewee 3

Due to the contrasting literature on what constitutes flipped learning and the different ways to apply it, extra questionnaire statements were created (Table 4.15, 4.16) to further explore participants' understandings of what flipped learning means and how to apply it.

Table 4.15: The meaning of flipped learning

	Agree		Neither agree or disagree		Disagree		Total	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Flipping reverses what happens inside and outside the classroom	10	53%	5	26%	4	21%	19	100%
Online learning can be flipped by inverting the design of the course	8	44%	5	28%	5	28%	19	100%
Flipping means reversing homework and lectures	7	37%	3	16%	9	47%	19	100%
Flipping means reversing students and teachers roles	4	21%	7	37%	8	42%	19	100%

Fifty-three percent of respondents agreed that flipping involves reversing what happens inside and outside the classroom. The statement about flipping online learning through inversion of course design was about moving beyond a focus on the physical space to the consideration of ways of flipping courses that were predominantly online. Forty-four percent of respondents agreed with this statement, with 28% being neutral and 28% disagreeing. Two comments were made about this statement, from participants in the "neither agree or disagree" category, indicating this statement was not necessarily very clear.

> *I'm not understanding the last question*
>
> Questionnaire participant 10

> *I don't even know what that last statement means*
>
> Questionnaire participant 18

Only twenty-one percent of participants agreed with the idea that flipped learning involves role reversal for teacher and student, with 37% being neutral and 42% disagreeing. Further comments in the questionnaire and during the interviews

showed that the concept of role reversal as stated in the questionnaire was perhaps too simplistic.

> *A teacher is still needed for designing the activities and directing the learning*
>
> Questionnaire participant 20

> *Flipping does not mean that students do the teaching, but that the facilitator guides the student's learning and discussion, based on the directions that student interest and understanding takes it*
>
> Questionnaire participant 7

> *my role is just to guide them ….so it's quite different*
>
> Interviewee 3

Forty-seven percent disagreed with the statement that flipping involved the reversal of homework and lectures, while 37% agreed. One participant was confused by the use of the word "homework".

> *I think maybe I am confused. I thought flipping was about students working before class to engage in some learning material to then discuss it more fully in class. I don't really understand the 'homework' component*
>
> Questionnaire participant 10

To investigate staff's understandings of flipping learning further, the statements in Table 4.16 focus on respondents' perceptions of applications of flipped learning.

Table 4.16: Applications of flipped learning

	Agree		Neither agree or disagree		Disagree		Total	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
It's better to start off flipping parts of learning rather than all learning	12	63%	6	32%	1	5%	**19**	**100%**
A flipped model can be effectively used for all courses/ programmes	11	58%	5	26%	3	15%	**19**	**100%**
A flipped model can be used for all subjects	9	47%	5	26%	5	26%	**19**	**100%**

The results show a majority agreement with the statement that it is better to start small with flipping. This point is reinforced by two out of three of the interviewees, who both reported that their pre-class Moodle activities were over- ambitious.

> *The activities need simplifying. It'd be better, for example, to get students to watch a video and be ready to express their ideas in class. The steps in my pre-class activities are too complicated*
>
> Interviewee 1

> *I think we need to go back to basics with the online activities……just focus on remembering and understanding*
>
> Interviewee 3

The results of the second and third statements that "a flipped model can be effectively used for all courses/ programmes" and that "a flipped model can be used for all subjects" show a general positive feeling towards the flexibility of flipped learning for a variety of subjects, courses and programmes. Qualitative data from the questionnaire shows that participants see particular content and class size as being important when considering a flipped format, as illustrated in the comments below.

> *Some topics covered in courses such as Abuse and Trauma would not be appropriate in a flipped model, as the facilitator needs to be physically present with the student to ensure a safe learning environment. I believe these cases to be rare.*
>
> Questionnaire participant 4

> *I think a flipped model can work more effectively in classes with smaller numbers, where there is a strong practice element in the course. There is a problematic relationship between courses with large numbers, theory based courses and the flipped model*
>
> Questionnaire participant 9

To summarise understandings of flipped learning, the majority of respondents understood flipped learning to involve a student-centred environment, with 21% choosing a definition which focuses on a student-centred environment which uses educational tools to enhance the learning and 16% choosing a definition which simply defined a move from teacher to student-led learning environments. This view also came through very strongly during the interviews. Another 21% of respondents chose a definition that focused on the reversal of in-class and out- of-class activities, a theme which was also prevalent in some of the self-created definitions and was agreed by 53% of respondents to be a characteristic of flipped learning. There was a majority agreement by respondents that it was a good idea to start small with flipping and also that flipped learning could be used for all courses or programmes.

4.4.2 Benefits of flipped learning

Table 4.17 below shows participants' agreement with a number of statements on the benefits of using a flipped model for learning. The statement with the most agreement (79%) was about class time being used for activities that encourage higher order thinking, as opposed to information transfer.

Table 4.17: Benefits of flipped for learning

Benefits of flipped for learning	n	%
Because content is online, class time is freed up for deeper exploration of ideas and concepts	15	79%
Critical thinking is practised through projects and discussions	13	68%
Students learn self management and self-directed learning	13	68%
Students can control the pace of their online learning	10	52%
Flipped learning increases digital fluency	8	42%
Total respondents	**19**	**100%**

Open-ended responses to the questionnaire also showed that the idea of moving content to online resources and therefore freeing up class time for deeper exploration of ideas and concepts was perceived to be the greatest benefit of flipped learning, with it appearing 12 times (75%). In some cases it was worded differently, but nonetheless had a similar meaning.

> *Class times can be more fun/students more involved and less passive*
>
> Questionnaire participant 14

> *There is time and preparation for deep discussion in the classroom*
>
> Questionnaire participant 2

> *Class time can be used to take students further in their thinking*
>
> Questionnaire participant 7

> *Facilitated sessions now give rise to ensuring greater levels of understanding, greater instances for group interaction and personal enrichment and extension*
>
> Questionnaire participant 19

This way class time is used differently from traditional teaching to benefit learning was echoed by 2 interviewees.

> *It's good because what happens in the classroom builds on that (learning of content out of class), and grounds it and puts it into practice*

Interviewee 1

> *They come to the session with questions and prepared for a debate*

Interviewee 2

The opportunity to learn and practice self-directed learning and critical thinking skills both had 68% of respondents' agreement. Open-ended responses found these statements to rank second and third highest with self-directed learning appearing 10 times and critical thinking appearing 6 times (35%.)

The idea of critical thinking and the development of higher order thinking was touched on by one interviewee.

> *When I was in school and college and you sort of take on board what people tell you and sometimes you have huge respect for people and, actually, you don't always check what they're saying, you just accept it so I suppose it's just not accepting what people say*
>
> *…there's also reflection in there so it's about that deeper level of learning*

Interviewee 3

Table 4.18 below shows participants' agreement with a number of statements on the benefits of using a flipped model for teaching.

Table 4.18: Benefits of flipped for teaching

Benefits of flipped for teaching	n	%
Because content is online, class time is freed up for deeper exploration of ideas and concepts	16	89%
Teachers can allow sessions to be shaped by the learners	14	78%
Teachers can involve their learners in the process of learning	13	72%
The teaching role is redefined from lecturer to facilitator	11	61%
Total respondents	**18**	**100%**

Each of the statements about the benefits of flipping for teaching received a majority agreement, indicating that staff felt reasonably positive that the statements (table 4.18) added to the overall teaching experience.

To summarise, perceptions of benefits of flipped learning focussed on the fact that class time can be freed up for deeper exploration of ideas and concepts, as well as having time to practice critical thinking through discussions. Learners having opportunities to develop self- management and self-directed learning skills was also agreed to be an important benefit for learning. Benefits for teaching are perceived to be around the issues of having opportunities for creating time for deeper cognition and creating more autonomous student environments, where students are involved in and leading the learning.

4.4.3 Challenges of flipped learning

Table 4. 19 below shows participants' agreement with a number of statements on the challenges when creating a flipped environment.

Table 4.19: Challenges creating flipped environments

Challenges when creating flipped environment	n	100%
Deciding how best to use the online and facilitated session spaces	11	73%
Having limited time to design course/sessions/activities	11	73%
Knowing how to design flipped learning	7	47%
Knowing how to use the technical tools available	7	47%
Making the change from lecture mode to using more active learning strategies	6	40%
Knowing what technical tools are available	5	33%
Collaborating with others in the (re) design of the course/facilitated sessions	3	20%
Total respondents	**15**	**100%**

There was a majority agreement on statements about deciding on the best use of online and facilitated spaces and having limited time to design course/sessions/activities. There were 4 open-ended comments which focussed on the challenges when designing flipped learning which were as follows:

> *Deciding how much to specify for students within the course design*
>
> Questionnaire participant 1

> *Designing facilitated and online spaces to be sufficiently directed that students obtain the key learning, but open enough that they are able to place themselves at the centre of that learning*
>
> Questionnaire participant 14

> *making activities that don't just focus on literacy skills - most involve some writing at the end*
>
> Questionnaire participant 2

balancing and integrating online and classroom teaching/learning. We sometimes need to explore/explain a topic before students understand the content

Questionnaire participant 12

Designing the course so students grasp complex theories

Questionnaire participant 1

Table 4.20 below shows participants' agreement with a number of statements on the challenges when facilitating flipped environments.

Table 4.20: Challenges facilitating flipped environments

Challenges when facilitating flipped environments	**n**	**%**
Relying on students to learn material out of class	15	94%
Encouraging students to work in groups when they sometimes want to work alone	10	63%
Handing over responsibility to students for managing and directing their study	8	50%
Accepting a degree of chaos in the facilitated classroom	4	25%
Making the change from lecturer to facilitator	4	25%
Total respondents	**16**	**100%**

Relying on students to learn the material out of class was the main tension by far with 94% of respondents agreeing with this statement. Open-ended responses showed that 12 or 75% of respondents stated this as a challenge. All three interviewees reported this as a tension in the facilitation of the flipped learning environment.

We have to be trusting a lot the students as they are going to be doing that part so that it works

Interviewee 2

Students are turning up to class but many haven't done the prep activities

Interviewee 1

I feel I need some PD around facilitation skills. How do I get the students to participate in the pre-class online activities?

Interviewee 3

The second most agreed with statement in Table 4:20 focussed on the problems associated with group work. 63% of respondents agreed with this statement, 9 or 56% named it as a challenge in the open-ended responses and 2 of the interviewees commented on it as problematic.

I think my course has too much group work. Actually, groupwork is a high level skill and difficult for students to manage at this level.

Interviewee 3

They've struggled with learning with groups, they are used to being independent like, working alone

Interviewee 2

Interviewee 2 talked about ways groups had overcome some the problems they experienced.

I organised them in groups from the beginning and the group helped bring the weaker students up to speed. It wasn't only me say to say "let's organise an extra session". no... it was the groups ...and it worked ..it was fine

Interviewee 2

To summarise, deciding on the best use of online and face-to-face sessions and having limited time to design flipped learning experiences, were both perceived as being challenging when designing flipped experiences. Relying on students to learn material out of class, and managing groupwork were perceived to be the biggest challenges when facilitating flipped learning.

4.5 Summary

In summary, survey respondents unanimously agreed that blended learning involved the integration of online and face-to face learning. Concepts that were agreed to be an important part of this definition were *for the express purpose of enhancing the quality of the learning experience,* and *in a planned, pedagogically valuable manner.* The respondents, who created their own, more nuanced definition, added the use of educational concepts like co-construction of knowledge, authentic scenario-based work, collaboration, flexibility and accessibility. The biggest perceived benefits of blended learning included flexibility in terms of access to online content for both learners and teachers and the flexibility to cater for different learning-style preferences. Also, opportunities for learners and teachers to become more digitally literate was perceived as an important benefit, as was students becoming more self-directed in their learning. The main challenges identified for creating blended environments involved deciding on the best use of online and face-to-face spaces, designing engaging online activities, and having knowledge of appropriate online tools and platforms to use. Challenges when facilitating a blended course involved managing and building student's self-directed learning skills, keeping students engaged online and giving timely feedback to students.

Understandings of flipped learning focussed around two main ideas. Firstly, there was a move towards a learner-centred environment and secondly that flipping involved the reversing of in-class and out- of-class lectures. There was also a majority agreement that flipping should start small and that flipped learning was suitable for all types of courses and programmes. Benefits of flipped learning were perceived to be centred on time, space and leadership. With class time being freed up for exploration, critical thinking and problem-solving, learners are seen to be leading and directing their learning. The challenges for designing flipped learning were based around deciding how best to use the online and face-to face spaces and having enough time to create flipped experiences. Challenges for facilitating flipped learning involved students preparing successfully for class by completing the out-of-class work and successfully engaging in group work.

Chapter V: Discussion

5.1 Introduction

In this chapter, the findings from the study are discussed with reference to the research literature. The research was conducted in order to find out the following from the study participants:

- Current understandings of blended and flipped learning
- The perceived benefits of blended and flipped learning
- The challenges involved in designing courses that are blended and flipped
- The challenges involved in facilitating courses that are blended and flipped learning experiences

The key themes emerging from the data will be discussed under the headings of the research questions and linked to the literature:

5.2 What are staff understandings of blended and flipped learning?

To explore staff understandings of blended and flipped learning, participants could choose a definition provided in the questionnaire. Alternatively, they could create a definition of blended and flipped learning that was meaningful to them. For blended learning, the majority of responses fell into 3 out of 5 given definitions with the remainder of participants choosing to create their own definitions. Similarly, for flipped learning, the majority of responses fell into 3 out of 6 of the given definitions with the remainder of participants creating their own definitions.

5.2.1 Understandings of blended learning

When asked about definitions of blended learning, the majority of responses were almost equally distributed between 3 given definitions. One of these definitions simply referred to the combining of face-to-face and online modes of delivery. Another expanded on the combination of the face-to-face and online by including the enhancement of the quality of the learning experience as the purpose

for blending. The third one emphasised the importance of planning and pedagogy when integrating the online and face-to-face modes of delivery. The remaining respondents chose to create their own definitions of blended learning incorporating educational concepts which they felt were important, for example, co-construction of knowledge, authentic scenario-based work, collaboration, flexibility and accessibility. There clearly exists a spectrum of understandings from the very basic definition which focused on mode of delivery, to the much nuanced descriptions, where participants mixed phrases from the given definitions with educational concepts they felt should be included in descriptions of blended learning. This variety of understandings is not surprising when considering the amount of experience the participants had in blended learning environments. While the majority had less than a year's experience, 24% of participants had between 1 year and 4+ years' experience. Also, the concept and practice of blended learning has been in existence and gaining popularity for over a decade and so many participants would familiar with it through literature and media.

It can be induced, from these results, that there is a common understanding at a very basic level, where blended learning involves a combination of face-to-face and online learning. 20% of participants chose the definition of blended learning as *a combination of face-to-face and online learning,* making it the joint-second most popular choice. The problem for Institute X, if the understanding stops there, is that as academic staff increasingly moving into the area of blended course design, it is necessary for them to understand the importance of integration between the two modes of delivery. This definition of blended learning simply as the combination of face-to-face and online learning has been contested by some researchers as insufficient because it could encourage 'bolting on' technology into traditional course as an add-on or extra content and ignores the need for rethinking the course design or pedagogy (Bleed 2001; Vaughan 2007). A lack of understanding of the principles of good blended learning design could inhibit the transformative process at Institute X.

The understanding of blended learning as *the combination of the face-to-face and online with the express purpose of enhancing the quality of the learning experience* was the joint-second most popular definition, chosen by 20% of participants. This is an understanding

that could help Institute X move forward in transforming its learning and teaching. Investigation and exploration into what constitutes an enhanced learning experience would be needed. This may differ depending on discipline, level of course, type of student and stakeholder expectations. Discussion and transparency around how to provide higher quality learning experiences is part of the process of moving from the traditional and the accepted to innovative and transformational (Wheeler, 2013).

The understanding of blended learning as *the integration of online and traditional face-to-face class activities in a planned, pedagogically valuable manner* was the most popular definition, chosen by 30% of participants. The idea of planning and using a pedagogical approach to the design and use of blended learning could be particularly valuable to Institute X as it moves forward in its transformation. The combination of blended courses and Institute X's learning principles of conversation; curiosity/enquiry; collaboration; self-efficacy; problem-solving; reflection; creativity could realise the transformative potential of blended learning that is discussed in the literature (Cooner & Hickman, 2008; Gallini & Barron, 2001; Garrison and Kanuka, 2004; Hastie, Hung, Chen, & Kinshuk, 2010; JISC, 2009).

The fact that there is not agreement on one precise and/or consistent definition of the term across the participants aligns with the variety of understandings in the literature and the claims that blended learning can mean different things to different people (Bart, 2014; Beetham & Sharpe 2013). Also, it can be seen as advantageous for applications of blended learning to be flexible and for the term not to be too rigidly defined in order to be responsive to a diverse and changing landscape. However, there does need to be transparency and ongoing conversations at institutional, programme and course level about what understandings are and what the use blended learning at Institute X is trying to achieve. Since this research study, Institute X has introduced a definition of blended learning to be "the thoughtful integration of online and face-to-face teaching and learning". The use of the word "thoughtful" implies that planning and pedagogy should be considered. This definition would seem to work in that it provides a degree of guidance and yet remains open and flexible enough for staff to interpret in their own contexts allowing for "an evolving, responsive and dynamic process" (Moskal, Dzubian & Hartman,

2013, p. 4). However, discussions around what "thoughtful" means are needed in order for individuals to work towards a common understanding.

5.2.2 Understandings of flipped learning

The findings showed that understandings of flipped learning were almost equally divided between three themes: reversal of in-class and out-of-class activities, student-centred environments which use educational tools to enhance the learning, and a move from teacher-led to student-led learning.

The understanding of flipped learning as the reversal of what typically happens in and out of class refers to the type of activities and when and where they happen. This was the joint-first most popular definition of flipped learning, chosen by 21% of participants. At Institute X, although what happens in class and out of class very much depends on the discipline, the programme and the course, the predominant method of face-to-face teaching has been the lecture, with out of class activities consisting mainly of assignments. If staff who predominantly use lectures at Institute X implement this understanding of flipped learning into their teaching, it would entail moving the lecture material to outside the classroom and working on assignments in class. As Institute X is promoting an active, dynamic process of learning and has the principles of conversation, curiosity/enquiry, collaboration, self-efficacy, problem-solving, reflection and creativity to embed into its courses, a simple reversal of what happens when and where will not cause transformation. For transformation to happen, there needs to be a focus on pedagogy. Moving lecture content out of the class space can be done through the use of videos, a method which is well-documented in the literature (Ash, 2012; Bishop and Verleger, 2013; Educause, 2012; Overmyer, 2012). However, the danger for Institute X, if the understanding of flipped learning stops here, is that flipping is still relying on a didactic approach to teach content and therefore not truly learner focussed nor constructivist (Ash, 2012; Honeycutt and Garrett, 2014). This would not create the transformation that Institute X is aiming for.

The definition of flipped learning as *shifting the energy away from the instructor and towards the students and then leveraging educational tools to enhance the learning environment* was the other first most popular definition, also chosen by 21% of participants. The educational tools that were used and supported across these new courses were Moodle, MyPortfolio, Blackboard Collaborate and Turnitin. There were also many other tools that were used as was deemed appropriate by the development team including, but not limited to, mind mapping tools, wikis, Google Docs and Facebook. Tools were chosen as a result of conversations around the kind of activities that could be used to meet the learning outcomes of the course. Activities that were being used in courses were designed to encourage and enable student-created content, collaboration and peer feedback. The fact that tools were being selected to enable these kinds of activities would indicate that this understanding of flipped learning was being put into practice.

The definition of flipped learning as *moving from an instructor-centred learning environment to a student-centred learning environment* was the second most popular definition, chosen by 16% of participants. This definition indicates a focus on the use of active learning strategies, which would encompass Institute X's learning and teaching principles of conversation, curiosity/enquiry, collaboration, self-efficacy, problem-solving, reflection, and creativity. In the follow-up review of several course sites undertaken as part of this study, the use of active learning strategies were evident in the form of group work, discussion forums, collaboration and peer feedback.

Since this research study, Institute X has described flipped learning as a change from traditional teaching in the way that students are exposed to new material outside of class, often through short lecture videos or readings, with class time then being used to do the harder work of assimilating that knowledge through strategies such as problem-solving, hands-on experimenting, discussion or debate. This description of flipped learning aligns most closely with the reversal of what typically happens in and out of class, which was discussed first in this section. This is what is sometimes called *flipping the classroom* and can be differentiated from *flipped learning,* which could be considered more transformational and should include the four pillars of flipped learning: flexible environments; a shift in learning culture; consideration of the best

way for students to learn different kinds of content and skills; professional educators (Hamden et al, 2013).

Promoting this more nuanced and transformative understanding of flipped learning through publicity around the four pillars of flipped learning and through targeted professional development could progress Institute X's mission to transform learning and teaching.

5.2.2 Summary of understandings of blended and flipped

In summary, the staff involved in the creation and facilitation of these blended, flipped courses had a variety of understandings of what blended and flipped meant. The findings show that while some had a basic understanding, others had a more nuanced perception. This variety of understandings is consistent with the literature on flipped and blended learning, where there are many definitions. While it can be considered a positive thing to have a variety of applications of blended learning, which allow for interpretation and flexibility, in order for academic staff to work together to transform the learning and teaching environment at Institute X, there needs to be transparency and continued conversations around what blended courses are trying to achieve. It is also important that there are some common understandings of the principles of good blended and flipped learning models.
The fact that common descriptions of blended and flipped have now been provided by Institute X means that staff have a starting place for their conversations.

5.3 What are the perceived benefits of blended and flipped learning?

All statements in the questionnaire on benefits of blended learning had a majority agreement indicating that there was an overall positive attitude to blended learning by participants. In particular, blended learning was perceived by staff to be beneficial for learning and teaching due to the flexibility it offers and the opportunities it can make available. Flexibility is offered by access to online content, allowing students to study off campus and teachers to work remotely. Flexibility is also offered in the ability blended learning has to cater effectively for different learning preferences.

Opportunities are provided for students to develop self-directed learning skills as they control the pace of their online work and prepare work for their face-to-face sessions. Students and teachers also gain opportunities to increase their digital literacy as they regularly work in online environments. While the benefits of blended learning were perceived to exist mainly in the online space, the spotlight tends to be very much on the face-to-face environment for a flipped model of learning. The freeing up of face-to-face time to engage with activities that encourage higher-order cognitive skills, and the opportunity for students to learn and practice self-directed learning and critical thinking skills were perceived to be favourable for learning. For teaching, perceived benefits of the flipped classroom included students taking more of a lead and being involved in the process of their learning and, as a result of this, the lecturer could adopt the role of facilitator. The redefinition of the role from lecturer to facilitator was perceived as a benefit for both blended and flipped learning.

5.3.1 Benefits of blending

Many of the students studying on the blended, flipped courses at Institute X were reported by staff to be either mature learners with families, part-time students with work commitments or students living a distance from campus. Therefore, from the staff perspective, the blended structure of these courses could be seen to benefit these students. The provision of online resources, which could be accessed anywhere and at anytime meant that students could work when and where was most convenient for them. However, in order for learners to benefit from their blended, flipped courses, they needed to perceive the online portion of the course as important as the face-to-face sessions. The students on these courses were only physically in class for 2 hours a week but had 7 hours work to do online and as part of the preparation for their face-to-face sessions. The biggest design challenges staff reported were creating engaging online activities and one of the biggest facilitation challenges was the use of learning approaches that relied on students to do work outside of the physical classroom. Therefore, this perceived benefit of a blended mode of delivery could, when affected by other factors, be a barrier to learning. Also, the convenience offered by a blended environment means allowing

for choice. During the interview phase, two of the participants revealed that, because many of the students in these blended, flipped courses wanted to do their online work on campus, a collaborative study space was created for students to meet and work together in an informal setting. With such a high proportion of the course being online, it could have been, as Graham (2006) found, that these students did not want to sacrifice the social interaction and human touch they were used to in the face-to-face environment.

The ability that blended learning has to cater effectively for different learning preferences was perceived by staff as another benefit. It is clear from this finding that staff see their learners as individuals and are keen to create and adapt learning experiences that are relevant and appropriate for their students, and see the blended model as beneficial for this. In the follow-up review of several course sites undertaken as part of this study, the use of resources and activities to employ different pedagogical strategies within the online environment was evident. In one course, there was also an example of use of differentiation with a selection of reading materials. This use of variety and individualisation aligns with literature which advocates that blended learning offers an effective platform for employing different pedagogical strategies within the online and face to face environment (Wu, Tennyson, & Hsia 2010) and that the online space allows for differentiation in learning and teaching (Kelly, 2012; Danielson, 2009). However, designing effectively to cater for different learning preferences within a blended learning model needs both skills and time. Without these, the benefit is only theoretical.

The findings show that the development of digital literacy skills was perceived by staff to be a benefit for both learners and teachers. This finding would indicate, firstly, that staff did not have unrealistic expectations of their students' digital literacy skills. The fact that staff recognised that students need support in this area is positive when considering the issue of quality course design, as it means that plenty of scaffolding can be allowed for. This understanding is in contrast to use of the terms "digital natives" (Prensky, 2001) and the "Net generation" (Tapscott, 1998). These terms have been used to describe young people who have grown up with digital technology with a view that they have an expert knowledge in this area.

However, the literature argues that this a dangerous assumption to make and that, in fact, there are many skills and literacies that that need to be developed for learners to be successful in their studies (Bennett & Maton, 2010; Smith, 2012).

Secondly, this finding indicates that staff also understood the importance of developing their own digital literacy skills. This would not only allow for sufficient scaffolding for learners to be put in place during the creation and the facilitation of the course, but would also improve their own practice generally. As technology develops at a fast rate, it is important for staff at Institute X to keep up skilling in this area. This aligns with the literature which follows the development of technology from Web 1.0, where information was passively consumed, to Web 2.0 where learning has become more participatory and collaborative. Both learners and teachers need to learn the appropriate skills to study and work in web 2.0-enabled learning environments (Wheeler, 2015). These skills include navigating the way through masses of information, making sense of this information, communicating with others in a digital context and operating within an open, public sphere (Conole, 2010; Lim, So & Tan, 2010). The literature identifies the importance of teachers acquiring improved digital literacy skills (Vaughan, 2006) as they are increasingly expected to take on a technological role (Gerbic, 2011). There is also evidence in the literature of staff reluctance in adopting technology to support/replace face-to-face teaching, which could be a result of disbelief in technology, lack of supporting resources or perception of lower quality, (Benson et al. 2011) or due to a resistance to or rejection of the values embedded in Web 2.0 tools (Veletsianos & Kimmons, 2013). It would appear from these results that this reluctance does not apply to the majority of participants in this research but rather signifies a willingness and an understanding of the importance, necessity and value of development in this area.

5.3.2 Benefits of flipping

The greatest perceived benefit of flipping for both learning and teaching was the freeing up of class time for deeper exploration of ideas and concepts, agreed with by 79% of participants. This refers to the use of active learning strategies in the face-to-face classroom and might include use of debates, role playing, problem-based

learning, case studies, creating concept maps, open-ended discussions, simulations and anything else which offers ways for students to become involved with each other and the content in a meaningful and engaging manner.

This finding has a number of implications. Firstly, the fact that the majority of participants perceived this to be a benefit can be seen as positive for Institute X in their aim to promote and increase the use of active learning and teaching in the face-to-face classroom. It could mean that staff participating in this study saw value in using active learning strategies to explore topics and processes more deeply with students. However, it is worth noting that the staff who took part in this research study had either been invited or voluntarily applied to work in an innovative curriculum environment and therefore may have been more receptive to moving away from traditional ways of doing things. In order for Institute X to move forward with blended and flipped learning models, consideration should be given around new learning spaces to accommodate active learning and access to technology, possibly through the use of a BYOD (Bring Your Own Device) expectation. Secondly, in order to free up class time, what was previously class-content had to be moved out of the classroom. A large amount of the hours in these courses were dedicated to online learning and so the way the online space was used to free up face-to-face time was also important. Institute X's description of the flipped classroom as exposing students to new material outside of class, often through short lecture videos or readings could discourage the creation of more engaging, online activities that embed active learning strategies for the online space. Thirdly, with a flipped model being new to Institute X and the predominant way of teaching at Institute X being the lecture, it can be assumed that the majority of staff were reasonably inexperienced in using active learning strategies to challenge students. One of the four pillars of the flipped Learning Network (2014) is the need for professional educators who have the skills to meet the increasingly demanding role of facilitating in an active classroom. While staff in this research study did not necessarily have access to the support required in this area, it can be noted that active learning and teaching is one of the mandatory professional development topics for staff through 2015-2016.

Further perceived benefits of flipping were opportunities for students to learn and practice self-directed learning and critical thinking skills, agreed with by 68% of participants. The fact that the majority of participants felt it was beneficial for students to learn critical-thinking and self-directed learning could mean they were already putting the student at the centre of the learning environment. This indicates that a shift in learning culture was already in process on the part of the teaching staff. There is literature, however, that emphasises the importance of students understanding and taking up their new role in a learner-centred environment. It explains how students in blended, flipped classes are sometimes reluctant to move away from their reliance on the teacher as the primary source of learning in favour of a more participatory mentality that requires them to take up some responsibility for their own learning experiences (Findlay-Thompson & Mombourquette, 2014; Nielsen, 2012;).

In the follow-up review of several course sites undertaken as part of this study, there was evidence of scaffolded self-directed learning skills throughout a number of the courses. This could be seen, for example, in the reduction of the number of steps provided in the instructions for activities as the course progressed and in the use of student-selected criteria in one of the assessments. Knowles (1975) describes students with good self-directed learning skills as students who can take the initiative to diagnose their own learning needs, formulate their own learning goals, identify resources for learning, choose the appropriate learning strategies and evaluate their own learning outcomes. The evidence of scaffolded self-directed learning skills in these first-year degree courses could be considered a good starting point in this area. As critical thinking and self-directed learning are necessary graduate skills required in future work, this finding aligns with institute X's educational goal to support graduates to develop capabilities and skills for success in their careers.

It was interesting that the statement *the teaching role is redefined from lecturer to facilitator* got the lowest percentage of agreement from participants, for both blended and flipped learning, with just over half agreeing that it was a benefit for blended and 61% agreeing that it was a benefit for flipped. There could be a number of reasons for this statement being considered less beneficial than other statements. The idea of

a redefined teaching role was presented in an earlier question on the meaning of flipped learning as "*Flipping means reversing students and teachers roles".* This statement was only agreed with by 21% of participants and provoked a few comments. One participant commented on the fact that students did not do the teaching, but were, in fact, guided by the teacher. Another commented that a teacher was still needed for directing the learning. The statement *flipping means reversing students' and teachers' roles*, therefore, might have influenced participant's perception of what a redefined teaching role was and caused them to disagree. Another reason that the teaching role being redefined from lecturer to facilitator might have been considered the least beneficial of the statements is that, as students participate in active learning, acquire and develop self-directed learning skills and become generally more involved in the process of their learning, the traditional role of the teacher, as the provider and driver of the learning naturally changes to one of observer, guide and helper (Flumerfelt & Green, 2013; Fulton, 2012). Therefore, a redefined teaching role can be seen as naturally occurring consequence of the benefits of flipped learning, rather than a benefit in its own right. A third reason for the fact that a redefined teaching role was considered the least beneficial of all the statements might be because the participants were still transitioning into this new role. There is research that says that shifting the locus of control from teacher to learner takes time to transition into (Lim *et al.*, 2010). As the majority of participants in this research study were fairly new to working in a blended, flipped environment, they might not yet have perceived this to be a benefit.

5.3.3 Summary of the benefits of blending and flipping

The findings show that the perceived benefits by staff of blended learning exist mainly in the online space that offers flexibility in terms of access, it's ability to differentiate with resources and caters for different learning preferences. However, in order for these benefits to enhance the learning environment, staff at Institute X must have the necessary skills and time to create online activities that successfully engage students and effectively cater for different learning preferences, and to create a learning culture where students take responsibility for preparing the work that needs to be done outside of class time. The fact that the opportunity to develop

digital literacy skills was seen by staff as an important skill for both teachers and students implies that staff could not only see value in increasing their skills in this area, but also that they were not over-estimating their students' ability to learn effectively in an online environment.

The findings on the benefits of flipped learning indicate that staff could see real value in replacing information transfer type learning in the face-to-face time with active learning strategies, which aligns well with Institute X's learning and teaching principles of conversation; curiosity/enquiry; collaboration; self-efficacy; problem-solving; reflection; creativity. Physical spaces for active learning to take place should be available for staff and students who are using a flipped model. Consideration should also be given the variety of ways that the online space can be used to flip learning and make use of active learning strategies. This is something that could be included in future professional development at Institute X.

The importance of critical thinking, along with information literacy, which was found to be a perceived benefit of flipped learning aligns with institute X's educational goal to support graduates to develop capabilities and skills for success in their careers

5.4 What are the challenges involved in creating courses that are blended and flipped?

5.4.1 The challenges for creating blended and flipped learning experiences

The results show that the creation of the blended environment was perceived by participants as having more challenges than the creation of the flipped environment. Deciding on the best use of online and facilitated session spaces, how to develop engaging online activities, and having knowledge of blended learning tools and platforms were all considered challenges in the area of blended learning design. For creating flipped environments, the main challenges were deciding on the best use of online and facilitated session spaces, as well as having sufficient time to create the sessions and activities.

Deciding on the best use of online and face-to-face spaces was considered the biggest challenge when creating blended environments, with 72% of participants identifying this as a challenge. It was also considered a challenge when creating flipped environments for 73% of participants. Qualitative results from both the questionnaire and the interviews that offer deeper insight into this finding are mainly around balance. As already mentioned, these blended, flipped courses were designed for the majority of the learning and teaching to happen online. Research supports the claim that the complexity of designing for two learning spaces, including establishing what is appropriate for each space and connecting them pedagogically to achieve a unified whole can be challenging, especially for those new to these environments (Kaleta et al., 2006). As previously discussed, while these staff were experienced teachers in a face-to-face environment, designing for online and blended learning was relatively new for the majority of participants in this study.

One of the challenges identified in the qualitative data from the questionnaire was getting a balance between building in some structure and flow to the learning process while also leaving enough space and flexibility for the learner to develop their skills. There is literature which expresses the challenge and importance of this in blended course design by comparing it to architectural design: "a well-designed building allows free movement around the rooms but it makes it easy for people to navigate and not get lost" (City and Guilds Kineo, 2014, p. 11). While the courses that were reviewed as part of the research appeared to have clear navigation, there was clearly some concern around the amount of free movement within some of the courses. Since this study, Institute X has developed some professional development materials to outline standard for Moodle design. Consideration and inclusion of these standards, along with conversations at programme and course level will help to achieve a balance between structure and flow, and consistency and flexibility.

Another decision that proved challenging was around the introduction of new ideas, topics or concepts. One participant explained how they felt that a new topic sometimes needed to be explained/explored with students in a face-to-face class rather than in the online component. This view is in contrast with research that suggests using the online space to expose students to new information, concepts,

vocabulary and procedures (Hosler, 2016). It was also in contrast to Institute X's description of how the flipped classroom is used to expose new material to students outside of class. The participants in this study were clearly responsible for making critical decisions as they planned for their online and face-to-face spaces. McShane (2004) claims that the decisions that teachers, as course designers, make when creating their blended courses have a significant impact on their teaching role and strategies (McShane, 2004). Talking through these decisions with others, rather than working in isolation could be helpful here, and it was interesting to see that collaborating with others in the re(design) of the course was not considered a challenge by the majority of participants, implying that working with others in the creation of these blended, flipped courses was helpful for most. Therefore, consideration could be given in future to working in teams to co-create blended and flipped spaces.

The findings showed that the development of engaging online activities were perceived to be the joint-second biggest challenge when creating blended learning environments, as identified by 67% of participants. As the staff involved in this study were largely new to the area of online course design, it is understandable that this was a demanding area. Creating time and opportunities for professional development in this area will allow for the necessary up-skilling going forward.

A review of several courses, which was undertaken as part of the study during the interview phase showed that these courses had carefully considered pedagogy. Moodle (Institute X's learning management system) had been used in these courses to promote "learning by doing", with the inclusion of online activities and collaboration, with the use of group work and peer feedback. There was evidence of the use of scaffolding within the courses, the use of online interactive activities that aimed to put the learner at the centre of their learning and the presence of communities of enquiry that existed through the use of online tools such as forums and wikis. These considered elements of the courses in no way reflected poor pedagogical approaches that have been identified in some research studies. The concern in the literature around the centralised and closed Learning Management Systems used in many tertiary institutions, which promote a didactic approach to

learning and teaching (McLoughlin & Lee, 2010; Holland Judge, 2013) was not evidenced in this research study. Neither were learners simply directed to a bank of online resources (Yuen, 2011) or subjected to lecture-format recordings (Lee, McLoughlin and Chan, 2008). There was evidence, however, of the use of interactive communications that are available through web 2.0 technologies (Moran, Seaman & Tinti-Kane, 2012).

While there had clearly been good planning and thought put into the creation of the online activities for these blended, flipped courses, there was concern from two of the interviewees that they were, perhaps, asking too much from students from the online component. One interviewee reported that her students were not engaging in the online activities because, in her view, the activities needed simplifying. Another interviewee reported a similar thing, saying that she thought it would be better to focus on the cognitive skills of remembering and understanding in the online activities. As both of these participants were referring to first-year level undergraduate courses, students would most likely be new to the blended, flipped environment in which they were studying and need scaffolded support and guidance. While developing an online community is reported in the literature to be key in engaging students (Garrison & Kanuka, 2004; Conole & Alevizo, 2010; Ruben, Fernandes & Avgerinou, 2013, it is claimed that the promotion of meaningful discussion and peer critique is dependent on the design of the task, and the ability of the teacher to promote and facilitate a culture among learners of valuing and contributing to peer critique (Bennett et al., 2012). It is also claimed that one of the key challenges for designing engaging, pedagogically sound activities for blended learning is in creating authentic or what Herrington, Reeves & Oliver (2009) call "*ill-defined problems*". An absence of these is reported to cause students to produce descriptive and surface level knowledge (Häkkinen & Hämäläinen, 2012). By identifying the development of engaging online activities as a challenge indicates that participants from this research study felt the need for up-skilling in this area. Therefore, in order for Institute X to transform learning in their blended courses, there needs to be a strong focus on developing the skills to create pedagogically sound and relevant engaging online activities.

Knowing which tools and platforms to use when creating blended learning environments was perceived by staff to be the joint-second biggest challenge along with creating engaging online experiences. In the blended, flipped courses being developed in this research, teams consisted of an eLearning support person to help with the choice of tools and platforms during the course development. One course writer was encouraged to use MyPortfolio in her new course. She had no previous experience of using this platform and expressed how difficult it was when creating her course to plan for use of a platform that she did not know. In this case, the platform was acting as a barrier rather than enabler to her course development, which could also have implications for her facilitation of the course. It is, once again, worth noting that the majority of staff were new to online and blended learning environments and, as Benson, Anderson & Ooms (2011) found in their study, could feel overwhelmed by the variety of resources. The fact that knowledge of tools and platforms was perceived by 67% of staff as a challenge indicates that the majority of staff found it difficult to make decisions on tools and platforms during course creation. Although for these developments, there was an e-developer in the team whose overall responsibility was to deal with the tools and platforms, this will not always be the case. Gerbic (2011) points out that staff are increasingly expected to take on more of a technological role while Arbaugh (2008) argues teachers will continue to encounter the challenge of how to effectively integrate technology into their course developments and teaching practices. These points are very relevant to Institute X. Insufficient support, along with the necessity of acquiring new teaching and technology skills, have been identified as risks associated with the development of blended learning courses (Vaughan, 2007) and therefore something which Institute X needs to build into the transformative process.

The findings show that, for creating flipped learning environments, staff found the two biggest challenges to be deciding on the best use of online and facilitated session spaces along with a lack of time to create flipped courses/sessions/activities. Both of these were considered a challenge by 73% of participants.

Possible reasons for a lack of time being identified as a major challenge are around workload, tight time frames and lack of experience. As the majority of study hours

for these new blended, flipped courses were online, there was a lot of work to do to develop the online activities. As well as this, these courses were being developed to a very tight time-frame meaning there was a lot to do in a limited time. Also, as these courses were being produced as a collaborative effort, there was more time needed to schedule meetings, have conversations and reach agreements on important issues. The fact that the course writers were new to this blended, flipped model meant that they needed time to become accustomed to new ways of doing things. Working with new pedagogies as well as new technologies is a process.

The literature on blended and flipped learning is in line with the finding that time constraints as perceived as a major challenge. The development of online-based activities are perceived as time-consuming (Charles and Anthony 2007) and the amount of work involved, even when given support by e-developers, can be underestimated by those staff who are new to blended learning (Ooms et al. 2008). Furthermore, the amount of time it takes to create course content or reformat existing content for a flipped learning model of learning is considerable (Bart, 2013).

5.4.2 Summary of the challenges for creating blended and flipped learning experiences

The major challenges experienced for blended learning related to creating the online part of the course, which was not surprising when considering that the majority of staff participating in this research had less than a year's experience working in an online environment. The creation of flipped environments were perceived to have fewer challenges. These challenges of deciding on the best use of online and facilitated spaces and having enough time to create sessions and activities agreed with the existing literature on flipped learning. The literature identifies the importance of support for staff in blended learning design, in the use of e-tools and the pedagogy of creating engaging online activities as essential for the development of successful blended learning courses. Consideration and inclusion of the Moodle standards that have been developed at Institute X will support staff in online course development. Also, working in teams to co-create blended and flipped spaces will allow for the

necessary conversations needed to make the critical decisions needed to be made when designing for two spaces.

5.5 What are the challenges involved in facilitating courses that are blended and flipped?

5.5.1 The challenges involved in facilitating blended and flipped courses

The biggest challenges identified by staff for facilitating blended courses were the development of learners' self-management and self-directed learning skills, keeping students engaged online and providing timely feedback to students. All of these related to the online part of the course. However, with the integrated nature of blended learning, they clearly impact the face-to-face sessions. For flipped learning the challenges identified by staff were relying on students to learn material in preparation for class, which can be considered one part of self-directed learning, and successfully facilitating group work.

Self-management and self-directed learning skills/ relying on students to learn material in preparation for class

As discussed earlier in the chapter (see Section 5.3), the learning and practising of self-directed learning skills were perceived by staff to be a benefit for learning in both blended and flipped environments. It was also identified as a challenge in the facilitation of blended and flipped environments, which suggests that things that are beneficial to learning are not necessarily easy to achieve. For blended learning, 89% of staff identified students' self-management/self-directed learning to be a challenge. For flipped learning, the self-directed learning was specific to undertaking the online activities in preparation for the face-to-face class. This was identified as a challenge for 94% of survey respondents and all three interviewees commented on it as a challenge.

There are a couple of possible reasons for the learning and practising of self-directed learning skills being identified as a major challenge. Firstly, it could be due to the fact the blended, flipped environment is relatively new to both teachers and students. For

staff to set and maintain new expectations for students takes time. Students also need time to become accustomed to new ways of doing things. The shift in learning culture that needs to happen for students become more responsible for their learning is a process and therefore happens over a period. Secondly, part of the challenge for staff could be that they are not actually in full control of this process. They are, in fact, sharing the control and responsibility with students.

The fact that a number of Institute X's learning and teaching principles aim to develop the skills of self-directed learning will help this process. Using *curiosity/enquiry*, learners become investigators, seekers and problem-solvers, therefore driving the direction of their own learning. By *collaborating*, learners take responsibility for their own learning and participate actively within a wider learning community. Self-efficacy helps learners to become independent self-monitors of their learning and therefore giving them the skills to improve their self-management and self-directed learning.

This finding is in line with research that has found that both blended and flipped learning promote opportunities for a learner-centred curriculum that can change the traditional roles of teacher and student (Bart, 2013). Students in blended, flipped classes are required to take up some responsibility for their own learning experiences in the form of self-directed learning skills (Arnold-Garza, 2014; Findlay-Thompson & Mombourquette, 2014; Nielsen, 2012;). For this to happen there need to be changes in perspectives on the role that that learners play in their own learning process (Ossiannilsson, 2015). Explanation to students of the new way of doing things and the setting of clear expectations for students by teachers is an important part of this process. It is also important to embed scaffolded self-directed learning skills into the online and face-to-face activities that give students increasing freedom as they gain more skills.

The challenge of getting students to complete the online activities in preparation for the face-to-face class is an issue that arises in the literature on both blended and flipped learning and overlaps with another identified challenge of keeping students engaged online. In the literature there are reports of students not having prepared for

class and not being able to successfully participate in the in- class activities (Napier, Dekhane & Smith, 2011). This causes teachers to cover the online activities in class rather than expand on them.

Keeping students engaged when facilitating online/ giving timely feedback

There was a majority agreement that keeping students engaged online was a challenge, with 67% of questionnaire participants agreeing with this statement. As the participants in this research study were creating and facilitating courses in which the majority of the student hours involved learning online, online engagement of students was essential for a successful learning experience.

As discussed in the context section (see Section 3.4), the Moodle shells for these courses used a specific institutionally-designed template. One interviewee found this too rigid and wanted, as part of her online facilitation, to have more flexibility in her Moodle course with space for students to upload their work. This kind of flexibility aligns with research on online engagement. The posting of articles, videos, and audio that relate to daily events, the workplace, new research and professionals in the fields can keep a course live and interesting. Including students in the uploading of relevant course content can help increase engagement by giving ownership to students (Salmon, 2005).

The findings show that one interviewee found the issues of expectations for students and deadlines an issue. She commented on the fact that she did not think expectations had been made clear enough to students and that she had not included deadlines for online activities and ran into trouble because of this. In terms of expectations, there is research that says that students understanding the amount of time they need to dedicate to online activities and having clear expectations and deadlines for activities can keep students moving forward (McClure, 2007). This can be seen as particularly important when forming online communities, which are considered an important part of online student engagement in that they offer opportunities for communication and collaboration (Garrison & Kanuka, 2004). However, for meaningful learning to occur, it is necessary for enough learners with a common interest to engage within the environment within a specific time-

frame (Conole, 2012). Having clear expectations and deadlines would help this to occur.

One open-ended response from the questionnaire commented on the fact that, due to the demands of online facilitation, the boundaries around working hours were blurred. Clearly, there is a different dynamic when moving from face-to-face teaching to online facilitation, which needs to be addressed by Institute X as more courses become blended. There is literature which reports that teacher presence is critical to students staying active in the online component of a course (Garrison & Kanuka, 2004; Kelly, 2012) and interaction and/or the provision of feedback to learners is expected outside of what traditionally would be considered office hours (Hollinderbaumer et al. 2013).

Encouraging students to work in groups when they sometimes want to work alone

The findings show that managing groupwork was the second biggest challenge associated with facilitating flipped learning, as identified by 63% of participants. Much of the groupwork activities took place online, adding further complexity to this challenge.

One interviewee commented on the fact that groupwork was new to her students and that they were used to working on their own. Another survey respondent felt that use of groupwork was too difficult for her first-year students. Neither of these participants appeared to have seen benefits of online collaboration during their work in the blended, flipped environment. This is different from a body of literature which reports numerous benefits of groupwork including the fact that learning is more effective if peers collaborate and share ideas when solving a task as a group rather than as individuals (Johnson & Johnson, 2008) and that *collaborative* learning activities challenge students to be active participants in the constructing of knowledge (Bakely, Major & Cross, 2014). However, this finding does align with literature which reports on the challenging aspects of collaboration for learners particularly when trying to reach consensus or mutual understanding (Häkkinen & Hämäläinen, 2012). These challenges include uneven contributions by participants in

collaborative settings (Häkkinen & Hämäläinen, 2012), reluctance to engage in critical review or editing of others' contributions and a tendency to work cooperatively (dividing up the work on an individual basis) rather than collaboratively on group activities (Bennett et al. 2012).

5.5.2 Summary of the challenges for facilitating blended and flipped learning experiences

Once again here, the fact that staff were mostly new to working in an online environment meant that the challenges around facilitation of blended learning were mainly focussed on the online space. Areas that were new to staff teaching on blended, flipped courses were how to keep students engaged and when to be present online in terms of giving guidance and feedback. A flipped classroom requires a paradigm shift in order to move from a teacher to learner- centred environment. This can take time and cause challenges in the areas of developing learners' self-directed learning skills and preparing learners for participation in successful collaborative activities. Teachers need support and professional development opportunities in the areas of online and active learning facilitation. Also, use of a team-teaching approach, particularly for new facilitators, could help to maintain energy and interest, and ensure all details are addressed.

5.6 Summary of chapter

In summary, this chapter has discussed the findings from the study with reference to the current research literature. The findings have shown that participants in this research study had a variety of understandings of the meaning of blended and *flipped* ranging from the basic to the refined. While this difference in understanding aligns with literature on this topic and allows for a certain amount of flexibility in interpretation and application, it is suggested that conversations and discussions around blended and flipped learning are on-going at Institute X. This will help to create and maintain transparency around the fact that there are different understandings and perceptions of the terms and that that some common understandings of the principles of good blended and flipped learning models are shared. The perceived benefits by staff of blended and flipped learning aligned with

the literature, which emphasises the importance of flexibility of access and opportunities for differentiation and individualisation of learning.

The use of class-time for the pursuit of active learning including critical thinking was highlighted. This calls for consideration around new learning spaces to accommodate active learning and access to technology, possibly through the use of a BYOD (Bring Your Own Device) expectation. Also, the part that these blended, flipped courses played in the improvement of digital literacy (for both learners and teachers) and information literacy (for learners) was also considered beneficial by staff. The challenges involved in designing courses that are blended and flipped were around the best use of online and face-to-face spaces, creating engaging online activities and knowing which tools and platforms to use as well as having enough time to create sessions and activities. These identified challenges were in line with the literature. Keeping students engaged giving guidance and feedback online were challenges identified for blended and flipped course facilitation. Also identified as challenging was the shared responsibility that comes with a learner-centred curriculum, in terms of relying on learners to prepare for class and preparing learners for participation in successful collaborative activities. Once again this aligned with literature on these subjects. Use of a team-teaching approach, particularly for new facilitators, could help to maintain energy and interest, and ensure all details are addressed.

Chapter VI: Conclusion

This research aimed to gain a deeper understanding of teachers' perceptions of blended and flipped learning including the benefits of using these models and the challenges involved in creating and facilitating learning in these environments. This chapter concludes the thesis by summarising the main findings followed by a summary of the implications for practice. The significance of this research study is then presented with an acknowledgement of the limitations and recommendations for further research.

6.1 Summary of the main findings

This study has focused on staff who have been involved in new models of learning and teaching in order to explore their understandings of these new models and their experiences of working in these new environments. The first noteworthy finding was that that there was a common understanding of blended learning among participants at the level where blended learning involves a combination of face-to-face and online learning. Beyond this, there were a variety of perceptions of what it meant to blend learning. While some were limited to very general definitions of the terms, others created detailed descriptions that conveyed exactly what the terms meant to them, with some participants including clearly-articulated pedagogical beliefs within their descriptions.

In this research study, flexibility, improved digital and information literacy and increased time for active learning and critical thinking were all perceived to be benefits of a blended and flipped model of learning. Knowing how to create blended and flipped learning environments and having the time to produce quality learning experiences were identified as the main challenges in creating courses that are blended and flipped. Teachers need to develop skills in learning design for blended environments if they are to create and iteratively develop blended, flipped courses, which is a finding that aligns with other research (Garrison & Vaughan, 2008; Gerbic, 2011; Littlejohn & Pegler, 2007). Developing effective online facilitation skills, specifically in the areas of maintaining student engagement and giving

feedback, were considered challenges for the facilitation of blended courses. Shifting learners thinking to new ways of learning, particularly in the areas of participation in the pre-class preparation activities and in group work, were the challenges identified for facilitating flipped environments.

6.2 Summary of the implications for practice

It could be argued that it is an advantage to have a variety of understandings of blended and flipped learning, allowing for flexibility and movement rather than rigidity, and ensuring that teachers are able to create a blended and flipped model which works for their particular course, programme and institution. However, for Institute X, having a common understanding of blended learning at the very basic level of combining online and face-to-face learning could result in a continuation of traditional practice with simply adding on of an online component. Similarly, understandings of flipped learning as the reversal of in-class and out-of class activities could continue traditional practice, with a change of when and where particular activities take place. Therefore, in order to ensure transformation and quality in the new blended and/or flipped courses at Institute X, it is important to emphasise the driving force of pedagogy in understandings of these models of learning and that there are some common understandings of the principles of good blended and flipped learning models. Therefore, it is suggested that regular conversations are held at institution, programme and course level and that the sharing of good practice is utilised at programme and institute level. This way what courses/programmes/institute are trying to achieve by using these models will be a continuing topic of conversation.

While flexibility in terms of access and differentiation of content are well-documented benefits of blended learning (Bonk & Graham, 2006; Danielson, 2009; Shibley, 2009; Vaughan, 2007; Wu, Tennyson, & Hsia 2010; Yuen, 2011;), in order for Institute X to fully transform learning and teaching, staff need to gain new skills in course design as well as course facilitation. As course designers, staff need to be able to create engaging online activities and produce a variety of modes of content. As course facilitators, staff are tasked with creating a learning culture where students take responsibility for preparing the work that needs to be done outside of class time.

Participants in this study recognised that students need the digital literacy skills to engage in new environments. This is positive for Institute X's transformation process, particularly because, as staff continue to improve their own digital literacy they will become more skilled at scaffolding the development of learners digital literacy within their blended, flipped courses. The fact that participants in this study perceived the use of active learning strategies to be a benefit of flipped learning aligns well with Institute X's learning and teaching principles of conversation; curiosity/enquiry; collaboration; self-efficacy; problem-solving; reflection; creativity and also calls for consideration around new learning spaces to accommodate active learning and access to technology, possibly through the use of a BYOD (Bring Your Own Device) expectation.

As teachers move into blended and flipped learning, there are physical and online spaces to plan for as well as synchronous and asynchronous modes of learning and teaching. With increased choice and flexibility comes the challenges of designing for different spaces, including the effective use of tools to maximise the potential for learning. For staff at Institute X to succeed in creating effective and engaging blended, flipped environments, support is needed at an institutional level. Working in teams to co-create courses could give opportunities for conversation and collaboration. Workload should also be considered.

Transitioning learning from face-to-face to blended and from teacher-centred to learner-centred requires a significant paradigm shift. While staff may move into this space and set new expectations for students, the staff are not fully in control of this process but are sharing the responsibility with the learners. Being present in online communities, giving effective and timely online feedback and promoting and supporting group work are all skills that teachers facilitating blended, flipped courses need to develop experience in. Use of a team-teaching approach, particularly for new facilitators, could help to maintain energy and interest, and ensure all details are addressed.

6.3 Significance of this research

The way in which teachers perceived their blended, flipped courses was the focal point of this research study. Insights were gained into teachers' understandings of the blended and flipped methods that they were working with. The benefits and challenges of working with these new blended, flipped models were also explored.

This study has contributed some knowledge of what is known about new models of teaching and learning. Firstly, the introduction of new models of learning and teaching do not automatically bring about educational change. In this study, while some staff understood blended and flipped learning as closer to a traditional way of teaching, others saw it as a completely reconceptualised approach. Definitions of new models, which lack a focus on pedagogy, could result in a continuation of traditional practice or bring about some change, but smaller changes and not what was intended. Secondly, the significant paradigm shift to move from teacher-centred to student-centred learning that was needed by staff in this study caused a number of challenges that needed support at institutional, programme and/or course level. The skills that teachers need to develop to become effective learning designers and online and active learning facilitators require time as well as on-going professional development. Finally, without a shared responsibility between students and teachers for a new, learner-centred models to be successful in enhancing learning, there needs to be a shared responsibility between students and teachers.

6.4 Limitations of the research study

While this study makes a contribution to the understanding of staff perspectives of blended and flipped learning, there were a number of limitations.

The study was carried out within a single tertiary institution and comprised a small number of participants. As the research design was a case study and the findings unique to this particular group, the results cannot be transferred to other situations (Merriam, 1998; Yin, 2009). However, readers can make their own decisions on transferability depending on the particulars of the case study (Cohen et al., 2000; Stake, 1995).

Also, there are a number of factors within the context of the case study that could be considered to limit the research. Firstly, the fact that researcher works at Institute X and had a connection with the curriculum innovation which defined the case study provides a potential conflict of interest. Secondly, the participants had all either applied or been invited to work in a curriculum innovation and were largely novices in the areas of blended and flipped learning. Therefore, their perspectives and experiences may not reflect the wider academic staff community. Finally, it should be noted that this study captured a single snap shot in time and that understandings and perceptions of blended and flipped learning in this context will have moved on since this study.

6.5 Recommendations for future research

It is recommended that further research on teachers' perspectives of blended and flipped learning would be useful as these appear to be less substantively represented in the literature (Gerbic, 2011). As this research study was light and broad, there are many possibilities for a more detailed focus.

The researcher recommends that, as a result of this study, a particularly useful area of future research would be deeper exploration of some of the key challenges involved in the implementation of blended and flipped courses within tertiary education. An initial exploratory study into the kind of pedagogical practices that are used within blended, flipped environments and the temporal challenges of using online technologies to facilitate blending and flipping the learning in tertiary education could be particular areas of focus. In order to shift the learning process from passive to active and to one that is jointly owned by learners, further research into students' perceptions and experiences of learner-centred environments is suggested.

In closing, workloads for staff involved in blended and flipped learning are increasing due to the need for up-skilling in new technologies and the increased flexibility required to facilitate online learning. Also, the expectation of learners in accessing and receiving feedback is increasing (Hartz and Uckert, 2013; Hollinderbaumer). The new flexible modes of delivery inherent in the blended and flipped models could have a negative impact on teachers working in these environments where they need

to prepare for online and face-to-face teaching as well as be available for feedback in the online environment (Hollinderbaumer et al. 2013). The researcher recommends, therefore, that more research into the temporal challenges of teachers working in blended, flipped environments be undertaken, in order to offer guidelines to tertiary institutions on revised working hours for staff in this area.

References

Allen, K., Seaman, J., & Garrett, R. (2007). *Blending in. The extent and promise of blended education in the United States.*: The Sloan Consortium.

Anderson, V., & Walvoord, B. (1998). Effective grading: A tool for learning and assessment. *San Francisco*, *1*.

Apedoe, X., & McGee, P. (2005). The Interplay of Teaching Conception and Course Management System Design. *Research Implications and Creative Innovations for Future Design*, 57-68.

Aronson, J. (1995). A pragmatic view of thematic analysis. *The qualitative report*, *2*(1), 1-3.

Arnold-Garza, S. (2014). The flipped classroom: Assessing an innovative teaching model for effective and engaging library instruction. *College & Research Libraries News*, *75*(1), 10-13.

Ash, K. (2012). Educators view the "flipped" classroom with a more critical eye. E*ducation Week* **32**(2): S6-S7.

Barkley, E. F., Cross, K. P., & Major, C. H. (2014). *Collaborative learning techniques: A handbook for college faculty*. John Wiley & Sons.

Bart, M. (2014). Blended and flipped: Exploring new models for effective teaching and learning. *Faculty Focus*. Magna Publications.

Becker, B. W. (2013). Start flipping out with guide on the side. *Behavioural & Social Sciences Librarian*, 32(4), 257–260.

Beetham, H., & Sharpe, R. (Eds.). (2013). *Rethinking pedagogy for a digital age*. London: Routledge.

Bennett, S., & Maton, K. (2010). Beyond the digital natives debate: Towards a more nuanced understanding of students' technology experiences. *Journal of Computer Assisted Learning,* 26(5), 321-331.

Benson, V., Anderson, D., & Ooms, A. (2011). Educators' perceptions, attitudes and practices: Blended learning in business and management education. *Research in Learning Technology*, *19*(2).

Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. International Society for Technology in Education.

Bishop, J. L., & Verleger, M.A. (2013). The flipped classroom: A survey of the Research. *120th ASEE Annual Conference and Exposition.* Atlanta, American Society for Engineering Education.

Blair, N. (2012). Technology integration for the new 21st century learner. *Principal,(January/February)*, 8-13.

Bleed, R. (2001). A hybrid campus for a new millenium. *Educause 36* (1), 16-24

Bogdan, R. G., & Biklen, S. K. (1992). *Qualitative research for education (second edition)*. Boston, MA: Allyn and Bacon.

Bonk, C. J., & Graham, C. R. (2006). The handbook of blended learning. *San Francisco, CA: Pfeiffer*.

Bonk, C. J., Kim, K.J., Zeng, T. (2006). Future directions for higher education and workplace learning settings. Bonk, C.J. & Graham, C.R (Eds.), *Handbook of blended learning: Global perspectives, local designs*. San Francisco, CA: Pfeiffer.

Boud, D. and Associates (2010). *Assessment 2020: Seven propositions for assessment reform in higher education*. Sydney: Australian Learning and Teaching Council.

Boyle, T. (2005). A dynamic systematic method for developing blended learning. *Education Communication and Information, 5*(3), 221-232.

Brunner, D. (2007). "Using "Hybrid" effectively in Christian higher education." *Christian Scholar's Review* **36**(2): 115-126.

Bryman, A. (2004). *Social research methods (2nd ed.*). USA: Oxford University Press.

Burrell, G., & Morgan, G. (1979). Social paradigms and organizational analysis: *Elements of the sociology of corporate life*.

Caravias, V. (2014). Teachers' conceptions and approaches to blended learning: a literature review. In *The Third International Conference on E-Learning and E-Technologies in Education (ICEEE2014)* (pp. 61-75).

Charles, D., & Anthony, P. (2007). *Blended learning: Research perspectives*.

Cohen, L., Manion, L., & Morrison, L. (2000). *Research methods in education*. London, England: Routledge.

Collins, J. W., & O'Brien, N. P. (2011). *The Greenwood dictionary of education*. ABC-CLIO.

Conole, G. (2013). *Designing for learning in an open world*. New York, NY: Springer.

Conole, G. & Alevizo, P. (2010) *A literature review of the use of Web 2.0 tools in higher education*.Availableat: http://www.heacademy.ac.uk/assets/EvidenceNet/Conole_Alevizou_2010.pdf

Cooner, T. S., & Hickman, G. (2008). Child protection teaching: students' experiences of a blended learning design. *Social Work Education*, *27*(6), 647-657.

City and Guilds Kineo. (2014). *Blended learning today*. Oxford, UK: The Oxford Company.

Creswell, J. (2005). Educational Research. Planning, conducting, and evaluating quantitative and qualitative research. New Jersey, US: Pearson Prentice Hall.

Danielson, C. (2009). *Improving professional practice: Matching student learning styles to how we teach* (2nd ed.). Alexandria, Va: ASCD Press.

Dede, C. (2011). *Keynote.* Paper presented at the Global Education.

Domonell, K. (2013). Staying online. Retrieved from www.universitybusiness.com/stayingonline.

Donelly, R. (2006). Blended problem-based learning for teacher education: Lessons learned. *Learning, Media and Technology, 31*(2), 93-116.

Downes, S. (2005). E-learning 2.0. *eLearn Magazine; Where Thought and Practice Meet*. Retrieved from http://elearnmag.acm.org/featured.cfm?aid=1104968

Dron, J., & Anderson, T. (2009). Lost in social space: Information retrieval issues in Web 1.5. *Journal of Digital Information*, 10(2). Available from http://journals.tdl.org/jodi/article/ view/443/280

Dziuban, C., Moskal, P., & Hartman, J. (2005). Higher education, blended learning, and the generations: Knowledge is power: No more. *Elements of quality online education: Engaging communities. Needham, MA: Sloan Center for Online Education.*

Educause (2012). 7 things you should know about flipped classrooms. Retrieved from https://library.educause.edu/resources/2012/2/7-things-you-should-know-about-flipped-classrooms

Ellis, R., Steed, A., & Applebee, A. (2006). Teacher conceptions of blended learning, blended teaching and associations with approaches to design. *Australasian Journal of Educational Technology*, *22(3)*, 312–335.

Enfield, J. (2013). Looking at the impact of the flipped classroom model of instruction on undergraduate multimedia students at CSUN. *TechTrends*, *57*(6), 14-27.

Ennis, R (1989). Critical thinking and subject specificity. *Educational Researcher, 18* (3), 4-10

Felstead, A., & Jewson, N. (2012). New places of work, new spaces of learning. *Changing Spaces of Education: New Perspectives on the Nature of Learning*, *137*.

Ferreri, S., & O'Connor (2013). Instructional design and assessment. Redesign of a large lecture course into a small-group learning course. *American Journal of Pharmaceutical Education, 77*(1), 1–9.

Findlay-Thompson, S., & Mombourquette, P. (2014). Evaluation of a flipped classroom in an undergraduate business course. *Business Education & Accreditation*, *6*(1), 63-71.

Flumerfelt, S., & Green, G. (2013). Using Lean in the Flipped Classroom for At Risk Students. *Educational technology & society*, *16*(1), 356-366.

Freeman, S., Eddy, S.L., & McDonough, M. (2014). "Active learning increases student performance in science, engineering, and mathematics." *Proceedings of the National Academy of Sciences of the United States of America* ***111***(23).

Fulton, K. (2012). The flipped classroom: transforming education at Byron High School: a Minnesota high school with severe budget constraints enlisted YouTube in its successful effort to boost math competency scores. *THE Journal (Technological Horizons In Education)*, *39*(3), 18.

Gallini, J. K., & Barron, D. (2001). Participants' perceptions of web-infused environments: A survey of teaching beliefs, learning approaches, and communication. *Journal of research on technology in education*, *34*(2), 139-156.

Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, *7*(2), 95-105.

Garrison, R., & Vaughan, H. (2008). *Blended learning in higher education: Framework, principles and guidelines*. San Francisco, CA: Jossey-Bass.

George-Walker, L. D., & Keeffe, M. (2010). Self-determined blended learning: a case study of blended learning design. *Higher Education Research & Development*, *29*(1), 1-13.

Graham, C. R. (2006). Blended learning systems. Definition, current trends, and future directions. In C. J. Bonk and C. R. Graham (Eds.), *Handbook of blended learning: Global perspectives, local designs*. San Francisco, CA, Pfeiffer**:** 3-21.

Graham, C. R. (2013). Emerging practice and research in blended learning. In M. G. Moore (Ed.), *Handbook of distance education*. New York, NY: Routledge.

Graham, C. R., Henrie, C. R., & Gibbons, A. S. (2014). Developing models for blended learning research *Blended learning: Research perspectives*. New York, NY: Routledge.

Grant, C. (2013). First inversion: a rationale for implementing the 'flipped approach' in tertiary music courses. *Australian Journal of Music Education*.

Greener, S. (2009). e-Modeling- helping learners to develop sound e-learning behaviours. *Electronic Journal of e-Learning, 18*(1), 77-83.

Gerbic, P. (2011). Teaching using a blended approach - what does the literature tell us? *Educational Media International 48*(3): 221.

Guba, E.G. (1981) Criteria for assessing the trustworthiness of naturalistic enquiries. Educational Resources Information Centre Annual Review. 29, 2, 75-91.

Häkkinen, P., & Hämäläinen, R. (2012). Shared and personal learning spaces: Challenges for pedagogical design. *The Internet and Higher Education*, *15*(4), 231-236.

Hamdan, N., McKnight, P., McKnight, K., & Arfstrom, K. M. (2013). *The flipped learning model: A white paper based on the literature review titled A Review of Flipped Learning.*

Hanson, J. (2009). Displaced but not replaced: The impact of elearning on academic identities in higher education. *Teaching in Higher Education 14*(5): 553-564.

Hastie, M., Hung, I. C., Chen, N. S., & Kinshuk. (2010). A blended synchronous learning model for educational international collaboration. *Innovations in Education and Teaching International*, *47*(1), 9-24.

Heerwagen, J. (2010). *The Changing Nature of Organizations, Work, and Workplace/ Whole Building Design Guide.* Retreived from https://www.wbdg.org/resources/chngorgwork.php

Heinze, A., & Procter, C. T. (2004). *Reflections on the use of blended learning.* Routeledge.

Hellgren, J., Sverke, M., & Näswall, K. (2008). Changing work roles: new demands and challenges. *The individual in the changing working life*, 46-66.

Herrington, J., Reeves, T. C., & Oliver, R. (2009). *A practical guide to authentic e-learning.* Routledge.

Hertz, M. B. (2012). The flipped classroom: Pro and con. *www. edutopia. org/ blog/ flipped-classroom-pro-and-con-mary-beth-hertz.*

Hitchcock, G., & Hughes, D. (1995). *Research and the teacher: A qualitative introduction to school-based research.* Psychology Press.

Holland, C., & Judge, M. (2013). Future learning spaces: The potential and practice of learning 2.0 in higher education.

Holley, D., & Dobson, C. (2008). Encouraging student engagement in a blended learning environment: The use of contemporary learning spaces. Learning, Media, & Technology, 33(2), 139-50.

Hollinderbäumer, A., Hartz, T., & Ückert, F. (2013). Education 2.0-How has social media and Web 2.0 been integrated into medical education? A systematical literature review. *GMS Zeitschrift für Medizinische Ausbildung*, *30*(1).

Holt, D., & Challis, D. (2007). From policy to practice: One university's experience of implementing strategic change through wholly online teaching and learning. *Australasian Journal of Educational Technology*, *23*(1).

Honeycutt, B. (2012). *101 ways to flip.* Flip it Consulting. Raleigh. NC.

Honeycutt, B. & Garrett, J. (2013). *The flipped approach to a learner-centered class*. Magna Publications.

Honeycutt, B. & Glova, S. (2013). *101 ways to flip your online class*: *Can technology disrupt education?* Flip It Consulting & Reify Media. Raleigh, NC.Magid, L. (February 26, 2013 Forbes Available online.http://www.forbes.com/sites/larrymagid/2013/02/26/can-technology-disrupt-education/

Horton, W. (2011). *E-learning by design*. John Wiley & Sons.

Hosler, K. A. (2016). Instructional re-design for an active flipped classroom: Two frameworks are better than one. In J. Keengwe, & G. Onchwari (Eds.), *Handbook of research on active learning and the flipped classroom model in the digital age* (pp. 91-105). Hershey, PA: IGI Global. doi:10.4018/978-1-4666-9680-8.ch005

Joint Information Systems Committee. (2009). *Effective practice in a digital age*.

Johnson, L., & Adams, S. (2011). Technology Outlook for UK Tertiary Education 2011-2016: An NMC Horizon Report Regional Analysis. *New Media Consortium*.

Johnson D. W. & Johnson R. T. (1989). *Cooperation and competition: Theory and research*. Edina, MN: Interaction Book Company.

Kaleta, R., Skibba, K., & Joosten, T. (2006). Discovering, designing and delivering hybrid courses. In C. Picciano and C. Dzuiban (Eds.), *Blended learning: Research perspectives* . Needham, MA, The Sloan Consortium**:** 111-143.

Kelly, R., (2012). The process approach to online and blended learning. Online Classroom (Oct. 2011): 1,3

Kuh, G., J. Kinzie, J. Schuh, and E. Whitt. 2005. *Student success in college: Creating conditions that matter*. San Francisco: Jossey-Bass.

Kim, M. K., Kim, S. M., Khera, O., & Getman, J. (2014). The experience of three flipped classrooms in an urban university: an exploration of design principles. *Internet and Higher Education, 22*, 37-50.

Kim, K. J., Bonk, C. J., Teng, Y. T., Zeng, T., & Oh, E. J. (2006, October). Future trends of blended learning in workplace learning settings across different cultures. In *Annual Convention of the Association for Educational Communications and Technology* (pp. 10-14).

Kirk, J., & Miller, M. L. (1986). *Reliability and validity in qualitative research*. Beverly Hills, CA: Sage.

Kirkwood, A. (2009). E-Learning: You don't always get what you hope for. *Technology Pedagogy and Education,* 18(2), 107–121.

Knowles, M. S. (1975). Self-directed learning.

Kvale, S. (1996). InterViews. An introduction to qualitative research writing.

Lage, M., Platt, G., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment source. *The Journal of Economic Education, 31*(1), 30-43.

Lai, K.-W., et al. (2003) *State of the art and trends in distance, flexible and open learning: A review of the literature*. University of Otago, Higher Education Development Centre website.

Lameras, P., Paraskakis, I., & Levy, P. (2008). *Conceptions of teaching using virtual learning environments: preliminary findings from a phenomenographic inquiry*. Paper presented at the 6th International Conference on Networked Learning, May.

Lee, M. J., McLoughlin, C., & Chan, A. (2008). Talk the talk: Learner-generated podcasts as catalysts for knowledge creation. *British Journal of Educational Technology*, *39*(3), 501-521.

Lim, W. Y., So, H. J., & Tan, S. C. (2010). eLearning 2.0 and new literacies: Are social practices lagging behind?. *Interactive Learning Environments*, *18*(3), 203-218.

Lincoln, Y.S., & Guba, E.G. (1985) Naturalistic Enquiry. Sage, Thousand Oaks, CA.

Littlejohn, A. and C. Pegler (2007). *Preparing for blended e-learning*. London, Routledge.

Loch, B., & Borland, R. (2014). The transition from traditional face-to-face teaching to blended learning–implications and challenges from a mathematics discipline perspective. In *Proceedings of Ascilite* (pp. 708-712).

Mason, G., Shuman, T. R., & Cook, K. E. (2013). Inverting (flipping) classrooms—advantages and challenges. In *Proceedings of the 120th ASEE annual conference and exposition, Atlanta*.

Mayes, T., & De Freitas, S. (2004). Review of e-learning frameworks, models and theories. *JISC e-learning models desk study*.

McClure, J. W. (2007). A blended approach in a graduate teaching assistants' pre-service course to promote self confidence. In *ICT: Providing choices for learners and learning. Proceedings Ascilite Singapore 2007*.

McLoughlin, C., & Lee, M. J. (2010). Personalised and self regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology*, *26*(1), 28-43.

McShane*, K. (2004). Integrating face-to-face and online teaching: academics' role concept and teaching choices. *Teaching in Higher Education*, *9*(1), 3-16.

McWilliam, E. (2009). Teaching for creativity: from sage to guide to meddler. *Asia Pacific Journal of Education*, *29*(3), 281-293.

Merriam, S. B. (1988). *Case study research in education*. San Francisco, CA: Jossey-Bass.

Merriam, S. B., & Tisdell, E. T. (2015). *Qualitative research: A guide to design and implementation* (4th ed.). San Francisco, CA: John Wiley & Sons.

Meyer, K. A. (2003). Face-to-face versus threaded discussions: The role of time and higher-order thinking. *Journal of Asynchronous Learning Networks*, *7*(3), 55-65.

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). e-Learning, online learning, and distance learning environments: Are they the same?. *The Internet and Higher Education*, *14*(2), 129-135.

Moran, M., Seaman, J., & Tinti-Kane, H. (2012). Blogs, wikis, podcasts and Facebook: How today's higher education faculty use social media. *Babson, MA: Babson Survey Research Group and Pearson. Mukherjee, D., & Clark, J.(2012). Students' participation in social networking sites: Impli cations for social work education. Journal of Teaching in Social Work*, *32*, 161-173.

Moravec, J. W., Ed. (2013). *Knowmad society*. Minneapolis, Education Futures.

Moskal, P., Dzuiban, C., & Hartman, J. (2013). Blended learning: A dangerous idea? *Internet and Higher Education, 18*, 15-23.

Napier, N. P., Dekhane, S., & Smith, S. (2011). Transitioning to Blended Learning: Understanding Student and Faculty Perceptions. *Journal of Asynchronous Learning Networks*, *15*(1), 20-32.

Nielsen, L. (2012). Five reasons I'm not flipping over the flipped classroom. *Technology & Learning*, *32*(10), 46-46.

Oblinger, D. (2006). *Learning spaces* (Vol. 2). Washington, DC: Educause.

O' Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The Internet and Higher Education, 25*, 85-95.

Oh, E. and S. Park. (2009). How are universities involved in blended instruction*? Educational Technology & Society*, *12* (3): p. 327-342.

Oliver, M., & Trigwell, K. (2005). Can 'blended learning' be redeemed?. *E-learning and Digital Media*, *2*(1), 17-26.

Osguthorpe, R., & Graham, C. (2003). Blended learning environments. Definitions and directions. *The Quarterly Review of Distance Education, 4*(3), 227–233.

Ossiannilsson, E. (2015). Challenges and Opportunities for Active and Hybrid Learning related to UNESCO Post 2015. *Handbook of Research on Active Learning and the Flipped Classroom Model in the Digital Age*, 333.

Overmyer, J. (2012). Flipped classrooms 101. *Principal* (September/October), 46–47.

Palmquist M (2006) Writing at Colorado State University: Writing Guides – Case Studies. http:// writing.colostate.edu/guides/research/casestudy/.

Papastergiou, M. (2006). Course management systems as tools for the creation of online learning environments: Evaluation from a social constructivist perspective and implications for their design. *International Journal on ELearning*, *5*(4), 593.

Patton. (2015). *Qualitative research and evaluation methods* (4th ed.). Thousand Oaks, CA: Sage.

Pierce, R., & Fox, J. (2012). Vodcasts and active-learning exercises in a "flipped classroom" model of a renal pharmacotherapy module. *American journal of pharmaceutical education*, *76*(10).

Picciano, A. G. (2006). Blended learning: Implications for growth and access. *Journal of asynchronous learning networks*, *10*(3), 95-102.

Picciano, A. G., Dziuban, C. D & Graham, C. R. (2014). Blended Learning: Research perspectives, Volume 2. New York, NY Routledge.

Pluta, W. J., Richards, B. F., & Mutnick, A. (2013). PBL and beyond: Trends in collaborative learning. *Teaching and learning in medicine*, *25*(sup1), S9-S16.

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the horizon*, *9*(5), 1-6.

Punch, K. F. (2009). *Introduction to research methods in education*. London: SAGE Publications Ltd.

Ravenscroft, B., & Luhanga, U. (2014, June). Developing Employability Skills in Humanities and Social Sciences Using the Flipped Model. In *ICEL2104-Proceedings of the 9th International Conference on e-Learning: ICEL 2014*(p. 142). Academic Conferences Limited.

Restad, P. (2013*).* I don't like this one little bit: Tales from a flipped classroom. *Faculty Focus.* Retrieved from http://www.facultyfocus.com/articles/teaching-with-technology-articles/i-dont-like-this-one-little-bit-tales-from-a-flipped-classroom/

Reigeluth, C. M., & Carr-Chellman, A. A. (2009). Understanding instructional theory. *Instructional-design theories and models: Building a common knowledge base*, *3*, 3-26.

Roehl, A., Reddy, S. L., & Shannon, G. J. (2013). The flipped classroom: An opportunity to engage millennial students through active learning strategies.*Journal of Family & Consumer Sciences*, *105*(2), 44-49.

Rose, R. (2012, June 18). 6 tips for the online learner, *THE Journal.* Retrieved from http://thejournal.com/Articles/2012/06/18/6-must-have-skills-for-online-teachers.aspx?Page=2#i9yEGiUGdoS95WoY.99

Rubin, B., Fernandes, R., & Avgerinou, M. D. (2013). The effects of technology on the Community of Inquiry and satisfaction with online courses. *The Internet and Higher Education*, *17*, 48-57.

Salmon, G. (2005) Flying not flapping: a strategic framework for e- learning and pedagogical innovation in higher education institutions. *ALT-J,13* (3): p. 201-218.

Seely-Brown, J. (2006), New Learning Environments in the 21st Century: Exploring the Edge, *Forum Futures 2006*. http://www.educause.edu/ir/library/pdf/ff0604S.pdf

Selwyn, N. (2007). The use of computer technology in university teaching and learning: A critical perspective. *Journal of Computer Assisted Learning, 23*, 83–94.

Sharpe, R., & Palwyn, J. (2008). The role of the tutor in blended e-learning: experiences from interprofessional education. In R. Donnelly & M. F (Eds.), *Applied elearning and eteaching in higher education*. New York: IGI Global.

Sharpe, R., Beetham, H., & de Freitas, S. (2010) *Rethinking Learning for a Digital Age*. Routledge. London.

Shibley, I. (2009) Online classroom. *Blended and flipped: Exploring new models of effective teaching and learning.*Magna Publication.

Siemens, G. (2004, October 18). Categories of e-learning. Retrieved from http://www.elearnspace.org/Articles/elearningcategories.htm

Silverman, D. (2006). *Interpreting qualitative data: Methods for analyzing talk, text and interaction*. Sage.

Simons, H. (2009). *Case study research in practice*. Thousand Oaks, CA: Sage.

Skill, T.D. and B.A. Young. (2002) *Embracing the hybrid model: Working at the intersections of virtual and physical learning spaces*. New Directions for Teaching and Learning. (92): p. 23-32

Smith, E. E. (2012). The digital native debate in higher education: A comparative analysis of recent literature. *Canadian Journal of Learning & Technology, 38*(3), 1-18.

Stacey, E., & Gerbic, P. (Eds.). (2009). *Effective blended learning practices: Evidence-based perspectives in ICT-facilitated education*. Hershey, PA: Information Science Reference.

Stacey, E., & Gerbic, P. (2009a). Introduction to blended learning practices. In E. Stacey & P.Gerbic (Eds.), *Effective blended learning practices: Evidence-based perspectives in ICT-facilitated education* (pp. 1-19). Hershey, PA.

Stacey, E., & Wiesenberg, F. (2007). A study of face-to-face and online teaching philosophies in Canada and Australia. *Journal of Distance Education, 22*(1), 19–40.

Stake, R.E. (2005). *The art of case study research*. Thousand Oaks. CA: Sage.

Steel, C. (2009). Reconciling university teacher beliefs to create learning designs for LMS environments. *Australasian Journal of Educational Technology, 25*(3), 399–420.

Strayer, J. F. (2007). *The effects of the classroom flip on the learning environment: A comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system* (Doctoral dissertation, The Ohio State University).

Svinicki, M. (2013). Flipped classrooms—old or new?. In *The National Teaching & Learning Forum 22* (5)12.

Tapscott, D. (1998). Wer ist die Netz-Generation?. In *Net Kids* (pp. 35-58). Gabler Verlag.

Temple, P. (2008). Learning spaces in higher education: an under-researched topic. *London Review of Education 6*(3): 229-241.

The Changing Nature of Organizations, Work, and Workplace | Whole Building Design Guide. (2016). *Wbdg.org*. Retrieved 31 October 2016, from https://www.wbdg.org/resources/chngorgwork.php

The Three Principles | National Center On Universal Design for Learning. (2016). *Udlcenter.org*. Retrieved 5 September 2016, from http://www.udlcenter.org/aboutudl/whatisudl/3principles

Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American journal of evaluation*, *27*(2), 237-246.

Thompson T.D.B. (2004) Can the caged bird sing? Reflections on the application of qualitative research methods to case study design in homeopathic medicine. *British Medical Council Medical Research Methodology. 4*, 4, 1-17.

van der Meer J., & Scott C. (2008). Shifting the balance in first-year learning support: From staff instruction to peer-learning primacy. *Journal of Peer Learning, 1*(1), 70–79.

Vaughan, N. (2007). Perspectives on blended learning in higher education. *International Journal on E-Learning, 6*(1), 81–94.

Veletsianos G. Kimmons R. (2013). Scholars and faculty members' lived experiences in online social networks.*The Internet and Higher Education, 16*(1), 43–50. 10.1016/j.iheduc.2012.01.004.

Walker, R. (1974). The conduct of educational case study. In B. MacDonald & R. Walker (Eds.), *Safari I: Innovation, Evaluation and the problem of control*. Norwich, UK University of East Anglia, Centre for Applied Research in Education.

Washburn, A. M. (2009). Education for exponential times. *Journal of Transformative Education 7*(1): 3.

Watson, J. (2015). *Is the flipped classroom new and noteworthy?* Retrieved from http://www.kpk12.com/blog/2015/05/is-the-flipped-classroom-new-and-noteworthy/

Weimer, M. (2014). Blended learning: A way for dealing with content. *The Teaching Professor 26.5 (2012): 2*

Weisenberg, F., & Stacey, E. (2009). Blended learning and teaching philosophies: Implications for practice. In E. Stacey & P.Gerbic (Eds.), *Effective blended learning practices: Evidence- based perspectives in ICT- facilitated education* (pp. p 203-219). Hershey, PA: Information Science Reference.

Weller, M. (2011). *The Digital Scholar: How Technology Is Transforming Scholarly Practice*. London: Bloomsbury Academic. Retrieved September 18, 2015, from http://dx.doi.org/10.5040/9781849666275

Wells, M., & Holland, C. (2016). Flipping Learning!: Challenges in Deploying Online Resources to Flipped Learning in Higher Education. In J. Keengwe, & G. Onchwari (Eds.) *Handbook of Research on Active Learning and the Flipped Classroom Model in the Digital Age* (pp. 1-18). Hershey, PA: . doi:10.4018/978-1-4666-9680-8.ch001

Wheeler, S. (2015). *Learning with 'e''s*. Wales, UK, Crown House.

Windham, C. (2005), '*The Student's Perspective*', in D. Oblinger and J. Oblinger (eds), *Educating the Net Generation*,Boulder, CO: Educause.pp. 5.1–5.16. Available at http://www.educause.edu/6061&bhcp=1

Wu, J. H., Tennyson, R. D., & Hsia, T. L. (2010). A study of student satisfaction in a blended e-learning system environment. *Computers & Education 55*/2010: 155-164.

Yin, R. K. (2009). *Case study research: Designs and methods*. Beverly Hills, CA: Sage.

Young, T., Bailey, C., Guptil, M., Thorp, A., & Thomas, T. (2015). The flipped classroom: A modality for mixed asynchronous and synchronous learning in a residency program. *Western Journal of Emergency Medicine, 15*(7), 939–944.

Yuen, A. H. (2011). Exploring teachers' approaches in blended learning. *Research and Practice in Technology Enhanced Learning, 6*(1), 3-23. http://dx.doi.org/10.5040/9781849666275

Appendices

Appendix 1: Participant letter of invitation

Kia ora,

My name is Frances Morgans and I am a staff member at Institute X. I am contacting you in my role as student researcher for a project that I am doing entitled, '*Flipping and Blending- a journey in innovative curriculum design and delivery in tertiary education'*.

As department Y leads the way at Institute X in innovative curriculum design and delivery, your experiences and observations of the ongoing process of designing blended and flipped learning environments are invaluable to department Y and the institution as a whole. It is intended that the findings from this research, as well as contributing to my Masters in Education (eLearning) will also help inform the institution in preparing staff for ongoing curriculum design.

I would like to formally invite you to participate in this research project. Participation on your part is entirely voluntary and will require consent. Participation will involve completion of a survey, which will take a maximum of 20 minutes.

Thank you for taking the time to consider this request.

Kind regards,

Frances

Appendix 2: Questionnaire

Flipping and blending learning- a survey

2. About you

This page contains 10 questions about you and your involvement with theflipped, blended environment at Unitec.

1. Please indicate how long you have been working at Unitec.

- ○ Less than a year
- ○ 1-2 years
- ○ 3-4 years
- ○ 5-6 years
- ○ 7-8 years
- ○ More than 8 years
- ○ Other (please specify)

2. Please indicate your highest qualification.

- ○ Bachelors degree
- ○ Postgraduate certificate
- ○ Postgraduate diploma
- ○ Masters degree
- ○ Doctorate
- ○ Other (please specify)

3. Please indicate which flipped, blended course(s) you work on.

- ☐ CIS Undergraduate
- ☐ CIS Postgraduate
- ☐ BHSD
- ☐ Other (please specify)

4. Please indicate your role(s) within the flipped, blended environment.

- [ ] Course writer
- [ ] Course leader
- [ ] Course facilitator
- [ ] Programme leader
- [ ] Curriculum editor
- [ ] eLearning developer
- [ ] Head of centre/department
- [ ] Other (please specify)

5. Please indicate how long you have been involved in your flipped, blended role at Unitec.

- ( ) Less than 1 semester
- ( ) 1-2 semesters
- ( ) 3-4 semesters
- ( ) More than 4 semesters
- ( ) Other (please specify)

6. Please indicate how you became involved in this role in the flipped, blended environment.

- [ ] I was invited to participate
- [ ] I applied for the position
- [ ] Other (please specify)

7. Please indicate how much previous experience you have had of working in*a blended learning environment* (before starting in your current role).

- ○ No previous experience
- ○ Less than a year
- ○ 1-2 years
- ○ 3-4 years
- ○ 4 years or more
- ○ Other (please specify)

8. Please indicate how much previous experience you have had of working in*a flipped learning environment* (before starting in your current role).

- ○ No previous experience
- ○ Less than a year
- ○ 1-2 years
- ○ 3- 4 years
- ○ More than 4 years
- ○ Other (please specify)

9. Please indicate how much previous experience you have had of working in*an online learning environment* (before starting in your current role).

- ○ No previous experience
- ○ Less than a year
- ○ 1-2 years
- ○ 3-4 years
- ○ More than 4 years
- ○ Other (please specify)

10. Please feel free to add any other comments relating to questions 1-9 above.

Flipping and blending learning- a survey

3. Your thoughts on blended learning

This page consists of 11 questions on blended learning and covers definitions, benefits and challenges.

11. Defining blended learning

Please indicate which definition of blended learning fits best with your own view. If you would like to create your own definition of blended learning, please choose "other".

- ○ The combination of face to-face and online learning.
- ○ A redesign of the way that courses are developed, scheduled, and delivered through a combination of physical and virtual instruction.
- ○ The integration of online and traditional face-to-face class activities in a planned, pedagogically valuable manner.
- ○ Instruction that has between 30 and 80 percent of the course content delivered online.
- ○ A blending of campus and online educational experiences for the express purpose of enhancing the quality of the learning experience.
- ○ Other (please specify)

12. The benefits of blending for learning

Please indicate which of the below you believe to *benefit the learning experience*. Please choose as many as you think apply.

- ☐ Access to online content from anywhere with an internet connection, giving students the flexibility to work when and where they like.
- ☐ Students being able to control the pace of their online learning.
- ☐ Blended learning increasing digital fluency.
- ☐ Students learning self management and self-directed learning.
- ☐ Moving content to online resources, freeing up class time to create dynamic classroom learning environments that fully engage all students.
- ☐ The different modes of delivery (face to face and online) giving opportunities for a variety of different learning styles.

13.

Please write what you think are the *3 most important benefits when learning in a blended environment.* Please feel free to choose from the options in question 12 above or, alternatively, decide on your own.

1

2

3

14. The benefits of blending for teaching

Please indicate which of the below you believe to *benefit the teaching experience*. Please choose as many as you think apply.

- [ ] Online courses being accessed from anywhere, giving teachers the flexibility to work on or off campus.
- [ ] The different modes of delivery (face to face and online) giving opportunities for a variety of different teaching styles.
- [ ] Blended learning increasing digital fluency.
- [ ] The teaching role being redefined from lecturer to facilitator.
- [ ] Facilitators being able to monitor student access to online environments.

15. Please write what you think are the *3 most important benefits when teaching in a blended environment.* Either choose from above or decide on your own. Please feel free to choose from the options in question 12 above or, alternatively, decide on your own.

1

2

3

16. The challenges for creating blended environments

Please indicate which of the below are *challenging for you when creating a blended environment*. Please choose as many as you think apply.

- ☐ Developing online materials that engage students.
- ☐ Making the change from lecture mode to using learning active learning strategies.
- ☐ Collaborating with others in the (re)design of the course/facilitated sessions.
- ☐ Deciding how best to use the online and facilitated session spaces.
- ☐ Knowing which technical tools are available and appropriate to use.
- ☐ Knowing how to use the technical tools available.

17. Please write what you think are the *3 biggest challenges when creating a blended environment* Please feel free to choose from the options in question 16 above or, alternatively, decide on your own.

1 _____

2 _____

3 _____

18. The challenges for learning in a blended environment

Please indicate which of the below you believe to be *challenging when learning in a blended environment*. Please choose as many as you think apply.

- ☐ Students taking responsibility for managing and directing their study.
- ☐ Students becoming accustomed to a new system of learning and teaching.
- ☐ Students having to adapt to new technologies.
- ☐ Students understanding, and being committed, to the blended model.
- ☐ Students being expected to offer peer support/feedback.
- ☐ Students being required to undertake group activities online.

19. Please write what you think are the *3 biggest challenges when learning in a blended environment*. Either choose from above or decide on your own. Please feel free to choose from the options in question 18 above or, alternatively, decide on your own.

1 _____

2 _____

3 _____

20. The challenges for facilitating in a blended environment

Please indicate which of the below you believe to be *challenging when facilitating in a blended environment.* Please choose as many as you think apply.

- [ ] Relying on students to take responsibility for managing and directing their study.
- [ ] Knowing how to keep students engaged when facilitating online.
- [ ] Accepting a degree of chaos in the face to face sessions.
- [ ] Learning to use online synchronous tools (eg Blackboard Collaborate).
- [ ] Giving timely feedback to students.

21. Please write what you think are the *3 biggest challenges* when *facilitating in a blended environment.* Please feel free to choose from the options in question 20 above or, alternatively, decide on your own.

1 _____

2 _____

3 _____

10

Flipping and blending learning- a survey

4. Your thoughts on flipped learning

The following page contains 11 questions on flipped learning and covers definitions, benefits, challenges and clarifications on what, where, when and how to flip.

22. Defining flipped learning.

Please indicate which definition of flipped learning fits best with your own view. If you would like to create your own definition of flipped learning, please choose "other".

- ○ A pedagogical model which reverses what typically occurs in class and out of class
- ○ A learning environment in which the activities traditionally completed outside of class as homework are now completed in class during instruction time. And, the activities traditionally completed in class are now completed on students' own time before class.
- ○ Moving from an instructor-centered learning environment to a student-centered learning environment
- ○ An educational technique that consists of two parts: interactive group learning activities inside the classroom, and direct computer-based individual instruction outside the classroom.
- ○ Shifting the energy away from the instructor and toward the students and then leveraging educational tools to enhance the learning environment
- ○ Focusing on your learners by involving them in the process
- ○ Other (please specify)

23. The benefits of flipping for learning

Please indicate which of the below you believe to benefit the learning experience. Please choose as many as you think apply.

- ☐ Because content is online, class time is freed up for deeper exploration of ideas and concepts.
- ☐ Students can control the pace of their online learning.
- ☐ Blended learning increasing digital fluency.
- ☐ Students learning self management and self-directed learning.
- ☐ Collaboration is practised through group work
- ☐ Critical thinking is practised through projects and discussions.

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24. Please write what you think are the *3 most important benefits for the learning experience*. Please feel free to choose from the options in question 23 above or, alternatively, decide on your own.

1
2
3

25. The benefits of flipping for teaching

Please indicate which of the below you believe to *benefit the teaching experience*. Please choose as many as you think apply.

- [ ] Because content is online, class time is freed up for deeper exploration of ideas and concepts.
- [ ] The teaching role is redefined from lecturer to facilitator
- [ ] Teachers can involve their learners in the process of learning.
- [ ] Teachers can allow sessions to be shaped by the learners.

26. Please write what you think are the *3 most important benefits for the teaching experience*. Please feel free to choose from the options in question 25 above or, alternatively, decide on your own.

1
2
3

12

27. What/when/how and where to flip

Please indicate how much you agree with the following statements.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
A flipped model can be used effectively for all subjects.	○	○	○	○	○
A flipped model can be used effectively for all courses/programmes.	○	○	○	○	○
It is better to start off flipping parts of learning rather than all learning.	○	○	○	○	○
"Flipping" means reversing homework and lectures.	○	○	○	○	○
"Flipping" means reversing teachers' and students' roles.	○	○	○	○	○
Flipping reverses what happens inside and outside the classroom.	○	○	○	○	○
Online learning can be flipped by inverting the design of the course.	○	○	○	○	○

28. Please feel free to expand on any of your answers to question 27 above

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Appendix 3: Interview schedule

Key question	Prompts
1. How have you found the overall experience of being involved with the design/facilitation of your flipped, blended course?	• Fit of flipped, blended model with subject • Fit of flipped, blended model with beliefs on learning and teaching • Overall experience of writing/creating the course • Overall experience of facilitating the course
1. What are some of the enablers you have experienced while being involved in the design/facilitation of your, flipped, blended course?	• while writing/creating the course o initially o ongoing • while facilitating the course o initially o ongoing
2. What are some of the tensions you have experienced while being involved in the design/facilitation of your, flipped, blended course?	• while writing/creating the course o initially o ongoing • while facilitating the course o initially o ongoing • Areas of support o For students o For sudents
3. What works particularly well in your flipped, blended course? Why?	• Specific examples
4. What would you most like to change for next time in your flipped, blended course? Why?	• Specific examples
5. Have there been any changes in your perspectives on learning and teaching since being involved in the design/facilitation of this course? Why have you changed?	
6. What have you learned from your experience of being involved in the design/facilitation of this course?	
7. What changes will you make for next time ? Why?	

Appendix 4: Participant information sheet

Participant information sheet

Title of project

Blending and flipping learning-A journey in innovative curriculum design and delivery.

An invitation

My name is Frances Morgans. I am a staff member at Institute X and a Postgraduate student at Massey University. I would like to invite you to participate in the research project entitled "*Blending and flipping learning-A journey in innovative curriculum design and delivery*." Your agreement to take part in this study would be greatly appreciated.

What is the purpose of this research?

The aims of the project to explore understandings and perceptions of flipped and blended learning here at Institute X. This will entail capturing the experiences of the academic staff involved in creating these new courses with a view to gaining a deeper insight into the different understandings and perceptions of flipped and blended as well as identifying perceived benefits of and barriers to designing flipped and blended courses. It is intended that the findings from this research be fed back into the institution to help to inform future projects.

How were you chosen for this invitation?

All academic staff involved in the writing and creating of flipped and blended courses within Department Y are invited to take part in this research.

What will participation involve?

Taking part will involve completion of a survey, which will take a maximum of 20 minutes. In addition, two or three participants will be invited to discuss their courses in more detail. This would involve examination of the Moodle site followed by an interview, which will take **maximum of one hour.**

If you participate, what are the benefits?

The greatest benefit that you will gain from participation will be the opportunity to inform the ongoing development of pedagogical models at Unitec.

If you participate, what are your rights?

You are under no obligation to accept this invitation. In addition completing the survey implies consent and you have the right to ask any questions about the study at

any time during participation. You have the right to decline to answer any particular questions and you provide information on the understanding that your name will not be used and the results will not be reported individually.

When the project is concluded you have the right to be given access to a summary of the project findings. This project has been approved and reviewed by the massey University Human Ethics Committee: Nothern 14/049. If you have any concerns about the conduct of this research please contact Dr Andrew Chrystall, Acting Chair, Massey University Human Ethics Committee: Nothern. Tel 09 414 0800 x 4338

Appendix 5: Participant consent form

Flipped and blended- a pedagogical journey in curriculum design at a tertiary institution

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded. *(if applicable include this statement)*

I wish/do not wish to have my recordings returned to me. *(if applicable include this statement)*

I wish/do not wish to have data placed in an official archive. *(if applicable include this statement)*

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: ..... **Date:** .....

Full Name - printed .....