Exploring the use of Communities of Practice and Communities of Inquiry in online postgraduate Higher Education settings

A thesis submitted for the degree of Doctor in Education (D.Ed.)

by

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Submitted to the University of Dublin, Trinity College

February 2023

Declaration

I hereby declare that this is entirely my own work, and it has not been submitted as an exercise for the award of a degree at this or any other University. I agree that the library may lend or copy this dissertation on request.

Miriam O Donoghue
2023

Abstract

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A supportive, collegial environment which fosters engagement and persistence is considered to be fundamental to learner success. Higher education online learning options are available to students which allows them to complete their programme of study without attending the University campus. This is popular due to the flexibility and ease of access but is not without issues. One of the most common criticisms of online higher education is that individuals believe they may not have what is referred to as 'the full college experience.' Added to this they report feelings and/or experience of isolation. For online learners', participation in an online learning community which supports them through their studies may provide a mechanism to create a sense of belonging, ease their feelings of isolation and go some way to helping with engagement and persistence. From these the following research questions were devised:

R1: What constitutes, i.e., the characteristics of, an online community in the context of postgraduate higher education with specific reference to collegiality and persistence of a diverse student population?

> R1.1 How, if at all, is the community affected by the cultural diversity of the students' backgrounds?

R2: Are the communities formed within the context of a programme in online higher education Communities of Practice, Communities of Inquiry, or a hybrid of the two?

> R2.1 Does the community formed (if any) support student connectedness, collegiality, and engagement? If so, how is this manifested and sustained?
> R2.2 What effect do these communities have on students' sense of belonging as learners?

The qualitative research design utilised for the study was informed by phenomenology and theoretically drew on two community models: 1) Community of Practice and 2) Community of Inquiry. These models were used as heuristic devices to explore the extent, or not that community plays in learners' sense of belonging and collegiality. In terms of participants the study explored the perspectives of the four main groups involved with programmes of study online: 1) postgraduate students, 2) the lecturers, 3) the designers of the online environment and 4) the university managers and policy makers. The 36 participants were drawn across a variety of universities from around the world. It explores the experiences of these groups as they have described them in semi-structured interviews which have been coded and thematically analysed.

The findings suggest that community and belonging are important however the type of community created and how it is supported varies. The study identifies a number of barriers to the engagement with communities for learners and suggests a number of ways to overcome them. It suggests adaptations of both the Community of Practice and Community of Inquiry models in how they may be used in online higher education to support learners but also to the more fundamental approach by universities to the online higher education. The findings from this study provide the potential for further exploration and discussion for the future of communities of learning in online higher education, how they fit with online programmes and with the overall university challenge of supporting students in their various modes of engagement.

Thesis Summary

The provision of online learning programmes by higher education institutions has grown rapidly with the increase in home computers, mobile devices and internet connectivity. While the technology involved has been widely discussed as part of the "knowledge society" and Web 2.0, there is an equal and somewhat greater need to examine other aspects of online learning in higher education, in particular those which directly impact learners. As regional and global population numbers rise so too does the need to provide education and to promote lifelong learning. The importance is emphasised by its inclusion in the UN Sustainable Development Goal No.4 which states: *"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*" (UN, 2016, p. 14). While online learning can form part of the approach to attaining this goal it is not without its challenges such as high drop out and/or non-completion rates and the students' feelings of isolation. Increasing opportunities to connect with peers and to be involved in a community have the potential to alleviate these challenges. This study sets out to explore communities of learning in online higher education through setting out and answering the following research questions:

R1: What constitutes, i.e., the characteristics of, an online community in the context of postgraduate higher education with specific reference to collegiality and persistence of a diverse student population?

R1.1 How, if at all, is the community affected by the cultural diversity of the students' backgrounds?

R2: Are the communities formed within the context of a programme in online higher education Communities of Practice, Communities of Inquiry, or a hybrid of the two?

R2.1 Does the community formed (if any) support student connectedness, collegiality, and engagement? If so, how is this manifested and sustained?

R2.2 What effect do these communities have on students' sense of belonging as learners?

This phenomenological study explores the experiences of those who interact with communities of learning in online learning environments in postgraduate higher education across a range of geographical regions. It focuses on two community models: Community of Practice and Community of Inquiry. The study includes semi-structured interviews with thirty-six participants from four key stakeholder groups: students (5), instructional designers (6), lecturers (8) and managers/policy makers (17). These were selected using purposeful sampling from a variety of geographical regions, where the language of instruction in their

universities was English: Europe (including Ireland and UK), USA and Canada, Africa, Asia and Australia.

The findings have been set out by participant group through the use of four main themes: Building Connections, Culture, Influences on Community Formation and the Working Community. Consistent across all stakeholder groups was their support for the inclusion of a community model or a space where a community could be formed. While the type and location of the community differed between participants, they were involved with several types of communities and their role in supporting connectedness and a sense of belonging was often described. Communities of Practice were more often described than Communities of Inquiry. The importance of a teaching presence supported by designers was seen as key to the formation and sustainability of the community. The participants also spoke of those that should be included in the community including past students, industry experts and those from other similar communities. One of the key findings from a policy perspective was the need to look at communities not just on a modular level but at a programme level and to look for sufficient time for formation, continuity, and consistency to improve the student experience. Barriers to getting involved in a community including cultural differences, social anxiety and time to form relationships and develop trust emerged within the findings.

A community of learning, CoP, CoI or a hybrid of both comprises interactions between students and students with their lecturers. The environment in which the community is designed and is accessed by students and lecturers requires a space which is accessible and supported. Within its environs there is sufficient trust where an individual can be their “real” selves. This trust and authenticity form the basis for collegiality and support for students. In such an environment the potential for persistence and programme completion is increased. There is a need to recognise the variety of cultural backgrounds from which the student cohorts come from and design with this in mind giving more than one way to engage with fellow students and lecturers. This study showed that communities come in a variety of forms - CoPs, CoIs, combinations and hybrids and this depended primarily on the lecturer and the instructional design approach. Key to the formation of the community was the space within the VLE or elsewhere within the university system where it could be cultivated or formed. The diverse nature of any student cohort will have students who wish to engage with communities and those who do not, and this was also borne out by the experiences described in this study. The student participants spoke about feeling of belonging and wanting to be part of a community as a learner.

The study concludes with the presentation of a number of possible hybrid models of communities of learning. There are recommendations for university policy including the time

needed to build a community within the online environment. No one university, designer or lecturer believed they had the perfect model and there was no one widely adopted approach to online communities of learning. There was however general agreement that they were worthwhile and should be included in online learning programmes.

Acknowledgements

To my supervisor, husband, children, participants in the study, and all who helped and supported me for the duration of this process. I thank you all, sincerely.

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List of Abbreviations

AI	Artificial Intelligence
CEC	Communication of the European Commission
CoI	Community of Inquiry
CoL	Community of Learning
CoP	Community of Practice
CP	Cognitive Presence
CPD	Continuous Professional Development
CSCL	Computer Supported Collaborative Learning
HEFCE	Higher Education Funding Council of England
ICT	Information and Communication Technology
ID	Instructional designer/ designer
IT	Institute of Technology
JE	Joint Enterprise
LMS	Learning Management System
LPP	Legitimate Peripheral Participation
ME	Mutual Engagement
MF	Male Female
MIM	Mobile Instant Messaging
MOOC	Massive Open Online Course
OECD	Organisation for Economic Co-operation and Development
OLE	Online Learning Environment
PC	Personal Computer
PDI	Power Distance Index
PM	Policy Maker Manager
QA	Quality Assurance
Q+A	Questions and Answers
QM	Quality Matters Rubric
QQI	Quality and Qualifications Ireland
SASE	Social Anxiety Scale for E-Learning Environments
SME	Subject Matter Expert/ Lecturer
SP	Social Presence
SR	Shared Repertoire
STU	Student (A, C, F, G, J)
TP	Teaching Presence
TU	Technological University
UDL	Universal Design for Learning

UK	United Kingdom
UN	United Nations
USA/US	United States of America
VLE	Virtual Learning Environment
WEF	World Economic Forums

Chapter 1 Introduction

1.1 Background to the study

Online learning provides an opportunity to widen access and participation in education. It can enable online students, who through choice or need to access their education programme via a university's online course catalogue, to collaborate with one another and their lecturers. The interactions and collegiality between students are changing as a product of the rise in globalisation of technologies (Kim, Song, & Luo, 2016; Lee & Stensaker, 2021). Where social presence and connectedness are promoted within the learning environment and students adapt both socially and culturally then the educational possibilities abound. For other students, the advantages of online learning are outweighed by feelings of isolation and disconnection leading to disengagement and not persisting with their programme. Online learners' collegiality and sense of connectedness can make a significant impact on the learners' ability to attain their educational goal and complete the programme of study they have undertaken (Byrd, 2016).

Many definitions of online learning and e-learning can be found in the literature. It is agreed that it is mediated using technology and the internet (Eynon & Malmberg, 2021; Hiltz & Turoff, 2005; Kelly & Bauer, 2003; Rapanta, Botturi, Goodyear, Guàrdia, & Koole, 2020; Sumuer, 2018). For the purposes of this study the following definition of e-learning/online learning will be used: - "web-based learning which utilises web-based communication, collaboration, multimedia, knowledge transfer, and training to support learners' active learning without the time and space barriers" (Lee, Yoon, & Lee, 2009, p. 1321). Technology, Information and Communication Technology (ICT), the internet and social media all combine to form the ecosystem of the technological world in which education, educators and learners find themselves. In 2016, Ed TechX Global predicted that the size of the EdTech market would reach $252bn by 2020 (EDTech, 2016). In 2021 it was estimated to be worth $252bn with a forecast to reach $605.4bn by 2027 (Global EdTech, 2021). One could argue that it is not technology for technology's sake but in response to a growing need for additional education provision and in particular, higher education offerings. "*By 2035, there are expected to be 2.7bn students worldwide, and in order to meet higher education demand under the current structure; two universities need to be built per day, over the next twenty years*" (EDTech, 2016, p. 2). As technology develops and more students pursue their education through online provision, the need to understand the issues that are associated with it and enhance the learning environment increases. It is necessary to evaluate the current situation as it pertains to higher education online learning to understand the issues facing students and provide a context for the way in which student collegiality and experience might be enhanced.

The widespread adoption by higher education institutions both nationally and internationally of online learning models provides evidence that a need exists which can possibly be met in this way. In particular in developing countries e-learning could possibly be of benefit to those who would not otherwise have access to higher education (Van de Heyde & Siebrits, 2019). Historically a student would go to a college or university to study their chosen discipline with the learned faculty and professors. When the geographical location became an issue and a postal service had evolved, the correspondence course and distance learning became an alternative for many learners. The Open University in the UK, for example, provided materials to its learners as hard copy notes and readings by post with additional materials provided via TV transmissions. Similarly, in Australia, off-campus students received their materials by post (Stone, 2019). These distance learners were, in some cases, further supported by residential summer schools or weekend tutorials either on campus or similar locations. For these distance learners their educational materials are now largely available to them online, with the additional components provided by the internet and social media. The impact of being able to access your higher educational materials and lectures online rather than by postal delivery has resulted in changes greater than the mere mode of delivery of hard copy materials. More institutions than ever are making their undergraduate and postgraduate programmes available online. For instance, in Australia approximately 20% of all enrolled students are categorised as online/distance learners (Norton & Cakitaki, 2016). While in the US, one in every three higher education learners is participating in an online course (Cook & Ley, 2017). In Ireland overall numbers of students studying online is more difficult to calculate. However, the list of institutions who offer programmes online is growing: - Hibernia College, Atlantic Technological University, and Dublin City University as examples.

The need for access to education by both undergraduate, postgraduate, and lifelong learning students in a flexible mode are some of the main drivers towards e-learning. The World Economic Forum's (WEF) 2018, Global Competitiveness report includes in its twelve pillars the need to acquire new skills to increase competitiveness in the ever-changing world economy (World Economic Forum, 2018). Throughout the report the need for access to quality education is highlighted as it is in the WEF 2016 report on Global Information Technology. In particular the latter report recognises the need for such education provision to support the growth of industry. "*Education and life-long learning will have key roles to play in the years to come as even more fundamental changes are to be expected in the Fourth Industrial Revolution*" (World Economic Forum, 2016, p. 4). The majority of twenty-first century students, both undergraduate and postgraduate have either a full time or part time job, so the ability to study at a time that suits them is extremely important (Ilgaz & Gulbahar,

2017; Stone, 2019; Toufaily, Zalan, & Lee, 2018). Additionally, accessibility and flexibility, the issues of physical distance and the need for lifelong learning are also among the reasons that students provide for choosing online learning.

The challenge for practitioners and universities is to create a community of learning suited to third level education through the use of the internet, computer moderated communication and technology that is engaging and supportive of the students (Garrison, Anderson, & Archer, 1999, 2001). Learning in such a community is a construct of knowledge and experience of the subject which are critically analysed and reflected upon by the students in a collaborative way (Dewey, 1938). In meeting this challenge, there are many factors involved from the technology itself, to the design of the materials, the learning management system to the lecturer's adaption of materials, activities, assessments, and their methods of providing feedback to the students (Shuey, 2002; Wijekumar, Ferguson, & Wagoner, 2006). More importantly, though, are the students that are educated online. They face challenges similar to those that their physical classroom peers face, but also the additional challenges of being remote from the university campus and the wider student body (Kebritchi, Lipschuetz, & Santiague, 2017).

Student engagement has long been seen as a predictor of student learning and personal development (Astin, 1993; Kuh, 2003, 2009; Pace, 1980). Kuh (2009) discusses two important types of engagement which lead to overall student success: - engagement in the classroom and engagement outside the classroom in relevant educational activities. It can be further described by its components: behavioural, emotional, cognitive, and academic engagement and of these, behavioural and emotional engagement are included in most studies (Lee, 2014). Behavioural engagement is identified as being involved in the learning activities both in the class and outside of it and being positively disposed to the learning experience (Fredricks, Blumenfeld, & Paris, 2004). Emotional engagement includes a sense of belonging to the university or class group, connectedness and attachment, characteristics of which are being accepted, included, and respected by those in the class group and university or college (Finn & Voelkl, 1993; Goodenow & Grady, 1993; Willms, 2003).

While studies suggest that students are attracted to the convenience of online learning and its flexibility, it also has its problems, not least its high drop-out and/or non-completion rates and students' feelings of isolation (Bolliger & Inan, 2012; Xu & Jaggars, 2013). Emotional engagement and connectedness of online learners may be less than that of their face-to-face counterparts due to the physical distance that exists between them and their lack of peer-to-peer interaction (Carr, 2000; Rovai, 2002a, 2002b; Rovai & Wighting, 2005). Rovai observes in his 2002 works that the separation between students leads to a

lack of a sense of community which gives rise to a feeling of being disconnected and isolation. These feelings of isolation in turn lead to students lacking persistence with their programme and eventual drop-out (Angelino, Williams, & Natvig, 2007; Kanuka, Jugdev, Heather, & Kam, 2006; Phirangee, 2016). According to Tinto (1987), students who feel they belong to a community tend to persist with their course more so that those who feel isolated. Thus, fostering a community has potential to assist in the reduction of the student's feelings of isolation and so lead to increased persistence with the course. However, bringing together a group of students of different ages, gender, cultural background, and subject knowledge does not necessarily lead to the formation of a supportive learning community. Certain interactions can weaken a student's sense of community, when they have differing cultural or personal beliefs or when the sense of belonging has not been fostered (Rovai & Wighting, 2005). Therefore, the type of community and the support of the community of learning are vital to it providing a sense of belonging to the online education students.

The provision of higher education through the medium of online technology has developed over the last number of years. The change in the learning space from face to face to online can have the students feeling isolated and missing the experience of learning with and from others (Abdous, 2019; De Paepe, Zhu, & Depryck, 2018; Xu & Jaggars, 2013). The central question of this study looks at ways of tackling this issue. As technology and the cohorts change, there is an ongoing need for further research in this area as we endeavour to continually improve the learning experience of those who choose or have to study online. Social isolation in the online learning environment remains one of the main reasons for students discontinuing their studies (Ali & Smith, 2015). Communities of learning involving communities of practice and communities of inquiry, where social presence is part of the learning environment and therefore promotes persistence and collegiality, may alleviate the sense of isolation.

1.2 Research Questions

This study sets out to explore the use of communities of learning, CoP and CoI, in online postgraduate higher education. The experiences of participants are important in understanding how these communities are created and supported. It was envisaged that a greater understanding of individuals' experience of these communities of learning could influence practice and policy in their design and development.

Research questions are then as follows:

R1: What constitutes, i.e., the characteristics of, an online community in the context of postgraduate higher education with specific reference to collegiality and persistence of a diverse student population?

R1.1 How, if at all, is the community affected by the cultural diversity of the students' backgrounds?

R2: Are the communities formed within the context of a programme in online higher education Communities of Practice, Communities of Inquiry, or a hybrid of the two?

R2.1 Does the community formed (if any) support student connectedness, collegiality, and engagement? If so, how is this manifested and sustained?

R2.2 What effect do these communities have on students' sense of belonging as learners?

While initially the questions were framed to explore the views of the students alone, early in the study it became clear that to fully explore the phenomenon of communities, practice and inquiry the other community members also needed to be included, lecturers, designers, and the policy makers. The questions were modified to ensure that they included this expanded participant group.

1.3 Communities in an Online Learning Environment

This study will look at three specific types of community, Communities of Practice, Communities of Inquiry, and a hybrid of the two which will be referred to as a Community of Learning. Communities of Practice (CoP) are "*groups of people who share a concern or a passion for something they do and learn how to do it better, as they interact regularly*" (Wenger-Trayner & Wenger-Trayner, 2015, p. 1). The combination of the three aspects of Communities of Practice: Joint Enterprise, Mutual Engagement and Shared Repertoire are what constitutes a Community of Practice and differentiates it from other communities. Garrison et al. (1999) present a model for a Community of Inquiry which has three core components which intersect, Cognitive Presence, Teacher Presence and Social Presence, the interaction of all three being a place which supports deep and meaningful learning. These communities need to be set-up, maintained and supported if they are to enhance the student experience, sense of belonging and identify with the community, the programme of study and the University. Online learning is a global phenomenon and so participants were sought from the Universities and Institutes of Higher Education where English was the language of instruction from around the world.

This study was designed and commenced prior to the start of the Covid 19 pandemic. This world event has had a significant impact on the area of online education as a whole and particularly online higher education. Most third level institutions needed to change their learning environment for their students and pivot quickly to remote learning in Spring 2020 and throughout the academic year 20/21 (Mishra, Gupta, & Shree, 2020). This involved moving online with teaching, tutoring and assessment in response to the emergency situation. In many cases this was in response to the situation and there was little time to plan and design. For the purposes of this study, I have not included this type of remote learning experience, because time did not allow in many cases for the design, planning and consideration of the embedding of a community of practice or inquiry model within the environment.

1.4 My Position as the Researcher

As the researcher of this study, my background and current role in Higher Education are relevant as they give context to my position regarding the research questions. I have spent the last twenty plus years working in education in a variety of roles. I began my career in education as a Lecturer in Science having previously spent more than ten years working in the pharmaceutical industry. In my role as a Lecturer, I also had opportunities to work with colleagues in my home institution and with others interested in online education. In 2013 I took a career break from my lecturing role and went to work in private sector education where I was part of a team working with an online medical education company and with other private education providers on their online education offerings. On my return my university I took on the role of Head of Lifelong Learning which included the Centre for Education, Learning and Teaching which supports one of the university's virtual learning environments, Moodle, and the online programmes within it. I can identify with two of the stakeholder groups involved in this study as a lecturer developing and conducting lecturers for an online audience and on the university management side setting-up the environment for online students to thrive.

I have seen the struggle which students have in staying engaged in online programmes. As a lecturer I reflect on how I can make this better, more engaging, more exciting for them and I wonder would they be any different if they were seated in front of me in a lecture theatre. As a head of department, I am tasked with supporting the design of online learning programmes for students situated in other countries, whose view of education and culture is quite different to mine in Ireland. My motivation in taking on this study was to explore the mechanisms by which online learning could be made more engaging for the students and how I could better understand the phenomenon of community in the online education setting so that I could implement in my own practice but also share with others.

There are many reasons why people study online and for my early career I understood that for many the balance of home, work and study makes it difficult to have the time to physically attend college or university. So online education opens up opportunities for many who would not otherwise have the opportunity. I also understand that it is not possible to replicate a face-to-face learning environment in an online setting. My search then is for a better way to support students in the online education environment so that its drawbacks can be minimised, and a student can have a positive and fruitful learning experience within this environment. While the Covid 19 pandemic had not begun when I started my research it is now to the forefront for many educators when they look at online learning. In the future it will form part of the solution to education for those who cannot attend in person in class and while the full remote learning employed during the pandemic is not a suitable mechanism there is a need to improve, upskill and develop our understanding of how to provide education for those who cannot attend in person.

As a practitioner/researcher it is important to reflect on my own position, views, and beliefs. How I, as a researcher, acknowledge my opinions and experience, and distance them from those of the participants. The value I place on education as a social construct may not be held by all. I understand that education can be seen as a means to an end rather than the lifelong learning journey that I see it as being. I must acknowledge my place within the study and not unduly influence the participants with my perspective on education. For me it is about the practical and applied nature of learning, the application of the theory into the practical and the solving of the challenges that present themselves. So, I have looked in this study to those involved in the policy, creation, maintaining and participating in learning communities to understand the landscape, confirm the challenges that have previously been identified in the literature and through my own practice look to the creation of ways to overcome such challenges and create a better experience for online students.

1.5 Research Approach

In the design and development of online learning provisions in Higher Education, a sizeable proportion of time and resources are placed on the technical aspects of the VLE and the tools which are used by Lecturers and embedded within their modules. As the growth continues in the online learning space and efforts are made to widen its access to more students, it seems timely to look again at the area of supporting the student and the student experience within the online learning context. While it is not possible to replicate exactly the experience of a traditional university face to face education model in an online setting, it is important that there is an understanding of the needs of students, support for their communities of learning, sense of identity and belonging. Four viewpoints are important in

looking at the phenomenon of communities of learning in online higher education: students, lecturers, designers, and university managers. As phenomenological research looks at how individuals construct meaning of their experience (Moerrer-Urdahl & Creswell, 2004), tenets of phenomenology are woven throughout the research design to ensure appropriate representation of the experiences of those being investigated. Demonstrating the essence of the participants' perspectives improves accuracy in representing the phenomenon (Moustakas, 1994). As a qualitative investigation it has developed a broad foundation of relative knowledge in order to adequately develop themes through both an inductive and deductive approach (Strauss & Corbin, 1990). In doing so the study proposes to answer the research questions as outlined previously.

1.6 Research Design

Thirty-six participants were selected using purposeful sampling (Patton, 2014). The participants spanned those with involvement in online learning in higher education from a variety of locations around the world including five students, eight lecturers, six designers and seventeen managers in higher education who influence policy. By employing this approach, it is hoped to understand the meaning as it was represented through the voice and experiences of the participants (Moustakas, 1994). Forty semi structured interviews were conducted, in the case of the student group some were interviewed more than once as they progressed through their programme, participants in all other groups were interviewed once. These interviews were recorded, transcribed verbatim and with the assistance of MAXQDA Plus 2020, the data was analysed, coded both deductively and inductively and themes identified. Deductive related to experiences of existing community models and inductive is the experience of learning in the virtual learning environment. The thematic analysis was framed with reference to Strauss and Corbin (1990) and Tesch (2013). Several stages of analysis culminated in the identification of four final themes and subthemes (Miles, Huberman, & Saldaña, 2014) which are described in the later chapters.

1.7 Outline of the Thesis

The following is a brief overview of the structure of the thesis.

1.7.1 Chapter 2 and 3 Literature review

Chapter 2 presents an overview of the literature regarding Online learning. It includes definitions, nature, and context both nationally and internationally. It goes on to explore the design of online education models and how these are applied in Higher Education settings. Chapter 3 presents an overview of literature concerning the community models, practice and

inquiry which have been used in online education in the past. It also includes other models used in the provision of online education that are associated with connectiveness, and relationship building, including Moore's (1993) model of transactional distance and McMillan and Chavis' (1986) community model . As a basis for the cultural aspects of the study Hofstede's (1980) cultural dimensions are reviewed considering how they apply to communities in online education.

1.7.2 Chapter 4 Methodology

Chapter 4 includes a detailed account of the research methodology used to generate and analyse the data from the participant interviews. It presents the conceptual framework which incorporates the ontological and epistemological underpinning of the study. This is a qualitative, phenomenological study, conducted in a realist, constructivist style.

1.7.3 Chapter 5 to Chapter 8 Findings

These chapters present findings from the interviews with students, lecturers, designers, and university managers/ policy makers. Research findings are presented in a thematic manner regarding each participant group. This allows for the experience of each group to be examined individually prior to the collective community experience being explored. A flexible qualitative model of coding was employed from which themes were identified which relate to the data generated from the study and the literature. The findings are thematically presented under the headings of: (i) connection, (ii) culture, (iii) Influences in the community and (iv) the working community.

1.7.4 Chapter 9 Discussion

The discussion chapter attempts to draw together the overarching themes from the participant groups to answer the research questions as presented. It looks to connect the experiences as demonstrated through the themes identified to develop a deeper understanding of the complexities facing online learners regarding their community participation. It concludes by proposing the significant lessons that emerge from the data and two possible models: a hybrid and a combined model for online community engagement.

1.7.5 Chapter 10 Conclusions, Reflections and Recommendations

This concluding chapter puts the recommendations into the context of a post Covid world where there has been a shift in the opinion of individuals towards online learning and communities of learning. It looks to the future of what can be created and how education in

these settings can be enhanced and supported for the students through policy and practice. It will also address the limitations of the study. Ultimately the research presented valuable insights into how the construct of communities, the cultural underpinnings and student connection in an online environment shapes the development of communities, and the challenges posed by changing student perceptions in a modern digitally enhanced and social media influenced world.

1.8 Summary

This chapter has outlined the research topic of online communities of learning in the higher education environment with emphasis on the significance, background, and rationale for the study. The research questions have been presented as central components of this thesis and provide a starting point for the layers of the inquiry exploring the student experience and understanding the perspectives of the others involved in the communities formed: lecturers, designers, and university managers. The benefits associated with investigating the phenomenon of communities of learning in an online environment include enhancing the student experience, possibilities for collaboration, collegiality, and persistence of students in their programmes. The research methodology has been briefly described. This chapter further provides a summary of the chapters in this thesis. In the following chapters the study is put into the context of the existing body of knowledge and literature which exists relating to, online learning, communities of practice and inquiry in the context of online learning, the effect of culture on the participation in such communities and the underpinning learning theories, models, and philosophies.

Chapter 2 Learning Online

2.1 Introduction

The literature review which provides background and context for this study has been divided into two chapters. In this chapter the landscape of learning online will be explored through reviewing background, growth, nature, purpose, and policy context. Learning online has for many years provided an alternative to the traditional on-campus or in school education model; as such it is important to describe the phenomenon of learning online itself before looking more specifically at communities of learning in the context of online learning which will be done in Chapter 3. This chapter begins with an examination of the debates surrounding the nature and purpose of online learning.

Distance education can have its origins traced back over the last two centuries (Anderson & Elloumi, 2004; Spector, Merrill, Elen, & Bishop, 2014). From the postal delivery of books and materials to the technology enabled video conferencing via the internet, learners have embraced new ways to access their education over the years (Moore, Dickson-Deane, & Galyen, 2011). With the rise in availability and use of the internet in the 1980s and 1990s came the terms online learning and e-learning (Volery & Lord, 2000). E-learning as a term generally refers to learning via electronic means which can be as narrowly defined as materials being accessible via the web, web-based or web-distributed (Nichols, 2003). Alternatively it can be much wider to include CD-ROM, audio and video, TV, the internet, and intranet which is the opinion held by Ellis (2004). Following the constructivist view that learning should include interaction with others, for the definition of e-learning to be complete it should also include interactivity and collaboration with others to fully describe a learning experience (Ellis, 2004; Triacca, Bolchini, Botturi, & Inversini, 2004). They concluded that e-learning was a type of online learning.

Online learning can be described as a more recent version of distance learning and one in which the learner can access a learning experience through the use of technology (Benson, 2002; Conrad, 2002a). In 2019 just prior to the Covid-19 pandemic, Singh and Thurman (2019) published a systematic review of the definitions of online learning from 1988 to 2018. They found forty-six different definitions. Through their use of content analysis a number of terms key to the definition were identified and they are:- 1) Use of technology, 2) Time element: Activity could be Synchronous and Asynchronous. 3) confusion regarding lack of a clear definition, 4) level of interactivity between students and student/lecturer and 5) Physical distance (Singh & Thurman, 2019). Anderson and Elloumi (2004) also refer to the number and variety of definitions of online learning however they do put one forward which includes the key terms identified by Singh and Thurman (2019) which is as follows:-

> *The use of the Internet to access learning materials; to interact with the content, instructor, and other learners; and to obtain support during the learning process, in order to acquire knowledge, to construct personal meaning, and to grow from the learning experience* (Anderson & Elloumi, 2004, p. 5).

Building on this definition and fulfilling the criteria named by Singh and Thurman (2019) is the definition put forward by Lee, Yoon, and Lee (2009) which states: -

> *Online learning is web-based learning which utilises web-based communications, collaboration, multimedia, knowledge transfer and training to support learners' active learning without time and space barriers* (p. 1321)

This definition is of particular interest as it specifically calls out the active learning by the student and also refers to collaboration and knowledge transfer. Online learning removes time and space barriers so that instructional materials are more readily available. However, learning as an active pursuit requires students to engage in the process in a meaningful way. Furthermore, this definition includes reference to collaboration which suggests a constructivist approach is possible in online learning (Lee et al., 2009).

While there is agreement that online learning occurs at a distance from the university, Scagnoli (2009) concludes that online learning is often used as a synonym for distance education as most distance education is conducted online . There is some difference of opinion, however, as to whether online learning refers to wholly online or a blended or hybrid approach (Crawford, Barker, & Seyam, 2014; Moore et al., 2011). The blended approach allows higher education institutions to harness the advantages of online learning while still retaining the option of some face-to-face interaction (Christensen, Horn, & Staker, 2013; Means, Bakia, & Murphy, 2014). The mix of face-to-face and online can vary depending on programme, faculty, and university, as can the level and amount of interactivity, the type and style of content, incorporation of assessments, etc., making it difficult to have one definition (Anderson & Elloumi, 2004). This then shifts the emphasis from defining online learning to focus instead on the learner and the learning process. Before looking at the online learner and learning process in more detail, staying with the broader nature of online learning the national and international context and policy will be reviewed.

2.2 National and International Strategies for Online Learning

Higher Education institutions exist within a variety of contexts: - social, cultural, and political, which impact on their policy and practice (Hammond, 2003). As national policy relates to social and economic development, the role of education in the support of such priorities and the advancement in technology collectively drive the adoption of online learning within higher education institutions as they are linked to funding mechanisms and support structures (Hammond, 2003; MacKeogh & Fox, 2009). The UN (United Nations) Sustainable Development Goals (SDG) 2030 are being incorporated into the strategy and policy of many higher education institutions (Leal Filho, Pallant, Enete, Richter, & Brandli, 2018). Online learning has a role to play in SDG 4 which states "*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*" (UN, 2016, p. 14). Its lack of barriers in time and location, promotion of human interaction through collaborative learning and interactivity and its ability to provide flexibility to the learning/learner make it a key component of meeting this goal.

The Organisation for Economic Co-operation and Development (OECD) Report (2019) *Thriving in a Digital World*, highlights the importance of online learning in the context of the growing need for upskilling, re-skilling, and lifelong learning. It goes on to highlight that technology on its own cannot achieve the full potential of online learning without the appropriate pedagogy and that when technology, pedagogy, innovative teaching and learning methods are combined it can be advantageous to students' performance and motivation (OECD, 2019). Furthermore, the OECD see the advantages to online learning in Higher Education as being able to expand access and increase participation in adult education. It goes on to discuss extensively the potential of MOOCs (Massive Open Online Course) while acknowledging the lack of assessment and internationally recognised certification on some MOOCs as a disadvantage. Finally, the report concludes that governments can co-operate with education and training to realise the full potential of such modes of education (OECD, 2019).

From a European Union (EU) perspective the European Commission's 2018 Digital Education Action Plan specifically highlights the benefits to education provided by online learning, in particular referring to it being able to empower the learner by online collaboration (CEC, 2018). Similar to the OECD 2019 report it suggests that online learning may assist in bridging the learning gap between students from high and low socioeconomic backgrounds. Given the date of its first publication pre-pandemic, the Digital Education Action plan has been updated in 2020 to take account of the lessons learnt during the pandemic regarding online education and to reset the plan, giving it the support and prominence it needs (CEC, 2020). This revised plan has four key objectives the fourth of which states the importance of improved quality including the quality of teaching, the support of online pedagogies and the

provision of an infrastructure which supports inclusive and resilient online learning (CEC, 2020).

Within the context of the UK, the Higher Education Funding Council of England (HEFCE) published their strategy for online learning in 2005. In that document it suggests that a strategy of embedding online learning by all higher education institutions be adopted. Indeed, their intent is quite clear from the introduction to their policy document as it states it is "*committed to working with partners on plans to embed e-learning in higher education in a full and sustainable way within the next 10 years, as announced in the Government's White Paper 'The future of higher education'* (HEFCE, 2005, p. 3). In a study on "*E-Learning in European Higher Education Institutions*" 2014, the UK was amongst the countries whose responding universities most frequently claimed to involve over half of their students in e-learning. Other countries in this group included Germany, Spain, and Switzerland (Gaebel, Kupriyanova, Morais, & Colucci, 2014, p. 31). The Open University in the UK has for many years been a leader in distance education. In its strategy "*Learn and Live*" 2022 – 2027 it includes a section on employing the best technologies and it is committed to the enhancement of its technology to provide an enhanced learning experience in many areas including digital assistants and online collaborative spaces (OU, 2021). As the 2014 report shows the Open university is not alone in its commitment to online learning and others also show a strategic commitment to online education and technology.

Lastly, from a national, i.e., Irish, perspective Ireland's third level institutions provide blended and fully online programmes at both undergraduate and postgraduate level. Currently these programmes are required to comply with the QQI (Quality and Qualifications Ireland) QA guideline for providers of blended learning programmes (QQI, 2018). This guideline, which defines blended learning as the combination of online learning via a VLE with a face-to-face learning experience, provides information regarding: - learning materials and delivery mechanisms, student experience, support for learners and equality of opportunity (QQI, 2018). This guideline was not intended to include fully online programmes and as such QQI have recently acknowledged this and advised providers that fully online programmes are now an option which can be considered by providers. They go on to state that "*QQI is working to enhance the current blended learning guidelines to incorporate fully online programmes also*" (QQI, 2021). They hope to publish a paper for consultation in the first half of 2022. This indicates the importance nationally of online education and the changes which have come about in recent years. From the OECD to the EU (European Union) and onto the Irish context the importance of online learning and its place in allowing strategic goals to be realised is evident.

Outside of Europe and in the wider international context there are similar drivers to the adoption of online learning: - 1) the need to upskill and reskill to meet the challenges of a modern work environment and society and 2) the requirement for flexibility and accessibility (Anderson, Brown, Murray, Simpson, & Mentis, 2006). In the US between 2002 and 2012 the number of higher education institutions including online learning as part of their strategic plan had increased from 40% to 70% (Allen & Seaman, 2013, p. 16). Additionally in the same time period the number of students enrolled in an online programme as a percentage of total enrolment had increased three-fold from 10% to 30% equating to approx. 6.7million students (Allen & Seaman, 2013, p. 17; Lederman, 2018). Allen & Seaman's work was part of a series of annual reviews and surveys which concluded in 2016. In their final report in 2016 there was no significant increase in the number of enrolled online learners which appeared to have levelled (Allen & Seaman, 2016). In 2018, of the students taking an online course in the US approx., 50% were also taking an in-person course implying that they lived close to campus and that only 1% of those enrolled in online courses were from outside the US (Palvia et al., 2018, p. 235). The significance of this from a strategy perspective is the potential for growth in enrolments and revenue. While opportunities are present there is a requirement for institutions to support online pedagogy, training in online teaching and assessment practices and improve administrative support (Kentnor, 2015). In Canada, the demand for online education has also increased with the majority of higher education institutions offering online courses (Veletsianos, VanLeeuwen, Belikov, & Johnson, 2021). From an institutional strategy perspective, it is reported that Canadian higher education providers find that online learning fits with their flexible learning and sustainability objectives. These findings are based on the output of the Canadian Digital Learning Research Association pan-Canadian surveys of higher education institutions (2017-2019), which had an average 75% response rate across these three years. The institutions represented described strategic priorities in online learning provision including the areas of design, pedagogy, and collaboration (Veletsianos et al., 2021).

Mirroring trends seen in other countries, higher education institutions in Australia, New Zealand and the Asia Pacific Region have shown growth in online learning provision and include it in their strategies (Greenland & Moore, 2014). Indeed, the New Zealand Government has stated that third level institutions need to focus on technology within learning and teaching, and online learning in order to remain relevant (Ministry of Education NZ, 2014). The New Zealand government's need to meet demands for quality flexible learning solutions can be drivers for increased adoption of online learning (Wilson, 2010). The potential for online learning to support collaborative learning in New Zealand was the subject of a report commissioned by its Ministry of Education in 2010 which concluded that there was potential for better learning outcomes and student-lecturer engagement (Wright,

2010). In neighbouring Australia, the strategic emphasis is similarly led by such organisations as the Open University of Australia which is a collaborative venture of several Australian Universities who provide online higher education such as Flinders University, Charles Sturt University, Swinburne University of Technology, University of South Australia, and University of Tasmania. However, Hillier (2018) points out that the lack of broadband connectivity or the quality of the connection present challenges to the online learner's experience .

Governments' strategies, ministries of education's flexible learning aspirations and institutes of higher education's policies and strategies continue to be evident across Asia, the Middle East and Africa. In many countries in these regions while the strategies are in place, the infrastructure has not kept pace. In addition, low public esteem for online learning and lack of online resources in some countries have posed issues (Mirza & Al-Abdulkareem, 2011). Weber (2019) reported that, while there had been a significant increase in e-learning provision in the MENA (Middle East and North Africa) region in the preceding ten years many barriers remain. These included: - cultural issues, cost and reach of infrastructure, e-learning objects in appropriate language and dialects and teacher training . Partnerships with the US and the UK in these areas are assisting in the development and advancement of online learning. Aljaber (2018) for example describes how such partnerships have assisted online education in the Kingdom of Saudi Arabia.

In summary this section explored the long-term strategies from regions around the world regarding online learning. What is apparent is the similarity in embracing online learning in higher education as part of the commitment to being more flexible and sustainable both at government and institution level. There is agreement that online learning strategy development is needed to meet the increasing demands for change and modernisation in higher education and to meet the needs of a global economy. Apparent also is the need for flexibility which is required by the learners as they move to being lifelong learners. Online learning provides opportunities for the HEIs in revisiting their pedagogical approach and improving the quality of the learner's experience. As technology, connectivity, and attitude to online learning changes there is a constant need to look again at what is done and how it is done in the never-ending cycle of continuous improvement.

2.3 Online Learning Landscape

The previous section described the drivers for regional, national, and local policy and strategy to include online education and online learning. It provided a definition of online learning which included characteristics such as web-based, collaborative, and web-communication. The interconnectivity between the web and online learning is obvious in that

online learning would not exist without the internet and the use of technology. This section begins with the relationship between online learning and the web and goes on to review how it supports learning.

2.3.1 Web 2.0

Technology and the development of the web has advanced distance education to include online and blended education models. Web 2.0 describes the internet with inclusion of more tools for users to collaborate, share information and create networks (Schneckenberg, Ehlers, & Adelsberger, 2011). For the purposes of this study the definition of online learning as "*web-based learning which utilises web-based communication, collaboration, multimedia, knowledge transfer, and training to support learners' active learning without the time and space barriers*" will be used (Lee et al., 2009). The changes brought about by Web 2.0 in education have facilitated the interaction between peers, accessibility of content and the ability to use a host of tools to share, construct and reflect on learning materials. It has brought about the change from a distributive mode where learning materials were simply made available to students to a constructivist mode, where students can co-construct and debate the knowledge with peers and lecturers (Schneckenberg et al., 2011). Web 2.0 technology affords educators and the learning designers a wide variety of tools to choose from to suit their pedagogical approaches and discipline areas, the challenge being to choose which best suits the student needs and level of digital literacy (Bower, 2016).

Web 2.0 enables an enhanced opportunity for collaboration among the student population regardless of where they are situated geographically. It supports through its tools a social constructivist approach to education which can include collaboration from within the university and beyond to industry or the business community (Feyzi Behnagh & Yasrebi, 2020). Building on the constructivist principles of Dewey and Vygotsky and enabled by Web 2.0 a group of educational technology tools can be brought together collectively and termed Computer-Supported Collaborative Learning (CSCL) (Dewey, 1938; Vygotsky, 1978; Wilson, 1996). CSCL is a constituent part of what can be termed constructivist learning technology and is defined as follows "a *place where learners may work together and support each other as they use a variety of tools and information resources in their guided pursuit of learning goals and problem-solving activities*" (Wilson, 1996, p. 5). Loh, Wong, Quazi, and Kingshott (2016) concur with this from their study of over two-hundred domestic and international students albeit from one university in Australia that the application of e-learning is constructivist in nature, and they go on to suggest that a constant review of the CSCL tools is required to match both student and University expectations. With the development of the web came the ability to share multimedia around the world and in addition to be able to

discuss and interact with that material, on multiple device types. In addition, it allowed the widening of access and participation in education and the creation of interactive approaches to self-directed learning (Bach, Haynes, & Smith, 2006, p. 33).

2.3.2 Types of Online Learning

Although the focus of this study is online learning on postgraduate programmes of study offered by universities, it is useful to mention other popular types of online learning. These may be accessed independently of any university programme, or they are used as an online resource by the learners themselves. There is a spectrum of interaction with online learning that goes from the virtual university where everything is online to the more traditional university which uses online learning to support its face-to-face campus activities. Alternatively, students may use the resources of the internet in their studies. For the purposes of this section these will be divided in two: - 1) learning materials that are freely available on the web and 2) what is within the University systems for example in their Virtual Learning Environment (VLE). Learning materials could refer to any materials, articles, videos on a chosen topic. In reference to freely available courses the most commonly referred to are MOOCs.

2.3.2.1 Massive Open Online Courses (MOOCs)

A MOOC is a course which a learner can access free or at low cost. The difference between MOOCs and other online courses is that there is no registration fee with MOOCs. They then divide into two types: - 1) there is no certification of achieving the learning outcomes and 2) for a fee certification can be provided (Zhu, Sari, & Lee, 2020). The MOOC model has evolved over time from its early years where there were extremely high enrolments to a slowdown in 2016 (Schroeder, 2019). Many universities of note became involved in developing MOOCs for example Harvard and MIT in the US. In 2016 they produced a report which analysed their collective student experiences in the previous four years and concluded that their enrolment numbers had begun to slow, and that certification was important to 50% of those enrolled (Chuang & Ho, 2016). Hence the new era of MOOC evolved where for example Coursera now partners with universities to provide for credit and degree programmes. The difference between this model and a collaborative or linked provider model in a traditional setting is that the student only pays if they wish to be assessed for credit (Zhu et al., 2020). In contrast to online higher education models, the classic MOOC model focuses on built content which the learner can work through. They can ask questions / receive feedback from other classmates or AI generated but there are no synchronous sessions (Bach et al., 2006). Another MOOC example of note is Duolingo, the language app

and website. It provides language instruction, which is free, but the assessment is charged for. The company's mission statement states that it gives "*everyone access to a private tutor experience through AI technology*" (Duolingo, 2022). Another example is the Code Academy which again provides free content on 15 different programming languages but also has a premium version which has a fee. Many studies show however that the retention and completion rates of MOOC learners is low (Bach et al., 2006; Chuang & Ho, 2016; Zhu et al., 2020).

2.3.3.2 Virtual Learning Environments of the Higher Education Institutions

Web 2.0 enables the use of technology in education which can be collectively termed Computer Supported Collaborative Learning which is used extensively in the higher education sector. The coming together of the University's designed programme curriculum, pedagogy and technology can be through the online or virtual learning environment. Virtual Learning Environments (VLE) such as Blackboard, Moodle, Brightspace or Canvas have been adopted by the universities to provide a variety of functions and services for online learning. VLE is defined as follows:

> *"A VLE is a flexible e-learning and online community system for delivering online courses and establishing online communities. Generic features of VLE are that the instructor can use discussion boards to; continue class discussions outside of class; promote an online community; develop group or individual student facilitated discussions; post and discuss case studies; post student papers for peer evaluation and critique; post homework questions; provide a public forum for students to post questions; provide a forum for a guest speaker Q & A; and create an online social forum for a course*" (Park, 2011, pp. 179-180).

This definition of a VLE as provided by Park (2011) shows its place in the realm of online communications for students of online programmes. It also establishes the VLE as a place where a community can be formed. The VLE can reside within the higher education institutes larger IT system and if required be connected to student record systems and other storage systems. The VLE can be seen in many ways from a "*Digital Carpark*" to a "*Smorgasbord*" or a "*Path finder*" and even though Weller (2007) claimed that the "*VLE was dead*" it is still very much alive and in its function as a repository for information sits well within the community space as an example of the shared repository (Farrelly, Costello, & Donlon, 2020; Weller, 2007; Wenger, 1998). Students from an Irish study of 21,000 participants were satisfied with a VLE, liked its design and they see it as a means of communication and a repository for lecture materials improving their accessibility (Risquez,

Raftery, & Costello, 2015). This was similar to the findings of the 2020 study with 278 nursing students who found value in all forms of VLE (MacRae, Jara, Tyerman, & Luctkar-Flude, 2021).

Online higher education provision builds opportunities for students, lecturers, designers and managers of educational institutions by making learning more accessible through the use of technology and in particular virtual learning environments. Whether it be an asynchronous course design or a synchronous one, the VLE is an integral part of the module and programme for the student to access all aspects of the course materials and assignments irrespective of time, place or device (Conde et al., 2014). Students in the course of their day-to-day lives use technology to communicate, interact socially and to gain access to information (Henderson, Selwyn, & Aston, 2017). Of the many different technologies available to students in higher education of most interest in this study is their use of the VLE and other communication and collaboration tools. The VLE and the effect of its use appear in many research studies. For example, Lee and Tsai (2011) report the positive impact of the VLE towards students' ability to learn and Mills, Knezek, and Khaddage (2014), describe the advantage of the VLE in bringing together both formal and informal learning. While there are many positives to the VLE, there are also limitations, one of which is the perceived lack of two-way information flow (Lacka & Wong, 2021; Ravenscroft, 2009; Sobaih, Moustafa, Ghandforoush, & Khan, 2016).

2.3.2.3 Social Media Spaces and Higher Education

Social Media residing either within the university systems or external to it could address this limitation providing the VLE with tools for the exchange of information (Sobaih et al., 2016). Social Media in this context can be described as a way for students to communicate, collaborate and share information online in a social dialogue as members of a virtual community (Grosseck, 2009). A variety of social media platforms exist which can be useful in teaching and learning either within the VLE or adjacent to it, for example instant messaging, wikis, blogging, social bookmarking and social networking (Grosseck, 2009). A number of researchers discuss the advantages and limitations of social media in higher education including its use to support connectedness, community, trust and student participation (Hamid, Waycott, Kurnia, & Chang, 2015; Romero, 2015; Sobaih et al., 2016; Valenzuela, Park, & Kee, 2009). Social media has been found to enhance students' sense of community and to promote communities of practice among the students in higher education settings (Hung & Yuen, 2010). In the study carried out by Hung and Yuen (2010) it was found that participants of the social networking sites developed feelings of social connectedness.

The use of social networking sites has mixed appeal in postgraduate higher education. Facebook, Twitter, LinkedIn, and WhatsApp are four of the most commonly mentioned. Research suggests that these social media spaces can enhance the learning experience and student engagement with communities (De Villiers, 2010). Students look favourably on the use of Facebook and see Facebook Groups as supplementing the universities VLE (Giannikas, 2020). WhatsApp groups are also a common means of connecting and communicating between students (Jackson, 2020). Similarly, the use of twitter among postgraduate students is accepted as a means of sharing information and links to resources. However, the issue which is also raised is that of privacy and some students are reluctant to share their opinions on Twitter and enter into discussions (Htay, McMonnies, Kalua, Ferley, & Hassanein, 2020). Additionally, there is often a desire among student groups to keep their college life and their personal life separate; just because they can connect in this way does not mean they all wish to do so (Galanek, Gierdowski, & Brooks, 2018). Regarding lecturers and professors, they are divided on the use of social media platforms as part of their online programmes with privacy and ethical issues being cited as those of greatest concern (Kara, Çubukçuoğlu, & Elçi, 2020). There is also concern in regard to the monitoring of the quality of learning and teaching in social media spaces and the ability to monitor such spaces (Au, Lam, & Chan, 2015; Davis, Deil-Amen, Rios-Aguilar, & Gonzalez Canche, 2012). Those spaces that reside outside of the university network are more difficult to monitor to ensure their appropriate use. In particular, according to Au et al. (2015), there can be an absence from the student perspective of the connection between the use of social media and their programme of study. What may be appropriate in the personal use of social media may not be appropriate when it is being used as part of an online module or programme. There is value in the use of social media spaces and they have been seen to benefit student-student connections but they require consideration from a positioning, quality and policy perspective (Sobaih et al., 2016).

2.3.2.4 The VLE, Social Space and Sociability

The two previous sections set out the attributes of both VLEs and Social Media spaces as they pertain to online Higher Education. There are a number of publications that address the topic of VLEs being designed for social space and sociability. Dillenbourg, Schneider, and Synteta (2002) argue that a VLE becomes a social space as soon as it is populated by students and lecturers. They go on to qualify this by suggesting that a VLE should include activities for sharing and discussing information and from these types of engagement social interaction will arise. The challenge then is to move the VLE from the one-way information flow model described above to a social space where there can be

interactions student-student and lecturer-student. Tick (2013) referring to the work of Dillenbourg et al. (2002) suggests that this can be achieved through design and the pedagogical approach adopted. When students come together to work collaboratively there is social interaction which leads to the formation of interpersonal relationships and connections can be formed. These connections span a space, a network, which is described as a social space (Kreijns, Kirschner, Jochems, & Van Buuren, 2004). Within such spaces students can experience a collaborative learning environment (Bakhtiar, Webster, & Hadwin, 2018), a sense of community (Rovai, 2002a) and mutual trust (Tseng, Yeh, & Tang, 2019). The social activities which arise through exploration of content, discussing topics and sharing views via discussion fora, blogs and chat messaging, can be both formal and informal, synchronous and asynchronous within the social space on the VLE (Tick, 2013). According Munro, Höök, and Benyon (1999) turning an information space into a social space is achieved through social interaction and social presence. Social presence may not come about instantly with the use of discussion boards for example and may take time to develop (Kreijns, Van Acker, Vermeulen, & Van Buuren, 2014).

Sociability can be described as a characteristic of an online learning environment and as "the extent to which the environment is perceived to be able to facilitate the emergence of social interaction" (Kreijns, Kirschner, Jochems, & Van Buuren, 2007, p. 176). Technology used can be a determining factor in the types of social interaction which can occur. Design and implementation of the technology can assist and sustain these interactions for the learner (Laffey, Lin, & Lin, 2006). Online discussion forums for example are such a feature which facilitate interactions among students and have the potential to assist with building relationships (Yen & Tu, 2011). How they are designed and implemented is an important decision between the lecturer and the instructional designer. Practical consideration should also be given to aspects such as group size. Kreijns, Kirschner, and Vermeulen (2013) contends that VLE characteristics and instructional techniques facilitate students' social interactions online. This is supported by the later work of Akcaoglu and Lee (2016), who determined through their quantitative study involving thirty-three graduate students on an online postgraduate programme, that group size is a contributing factor to sociability and social space. Indeed the social interaction found in group learning facilitated though the VLE aids group development which is characterised by social relationships, cohesiveness and a sense of community (Kreijns et al., 2007).

2.3.3 Summary

The University VLE offers a sustainable and relatively safe platform with which the learners and academics can connect and form communities online. Protected as it is inside

the universities firewall it also provides a space for sharing content, discussing material, and working on projects together. Social Media sites are favoured by some students and lecturers but not by all due to their public facing nature and they reside outside the universities systems reducing the level of control which they have regarding safety and security of the pages for discussion and sharing of materials. In this study the participants are involved in postgraduate online programmes and therefore the VLE is the platform from which the activities and interactions are supported.

2.4 Designing Online Learning Environments in Higher Education Settings

To better support learners and improve the learner experience it is important to understand the current situation and issues that arise with online learning in higher education settings. This section will explore the online learning environments as they exist in higher education settings. It does not include however experiences of students or higher education institutions during the Covid 19 Pandemic in the academic years 19/20, 20/21 and 21/22. It is acknowledged that many institutions were online for some or all of these years, but it was through need rather than choice. The emergency nature of the move to online learning perhaps prevented as much planning and design as would have been desired by the institutions. Hence for the purposes of this study the focus is on design, pre-pandemic.

It has been argued that online learning reduces many of the barriers of time and location associated with on campus learning (O'Shea, Stone, & Delahunty, 2015). However effectively engaging students early in their online programme is key to student persistence (Angelino & Natvig, 2009). In any of the teaching and learning models adopted by the university for its online modules and programmes then it needs to consider this as part of the design. Engagement is always a key component of teaching and learning (Pittaway, 2012), but when related to the online learning context it becomes different in that it is now mediated through technology (O'Shea et al., 2015). Engagement and collaboration which has been mentioned previously as part of the strategy require additional attention over that which is evident in a traditional face to face setting. It needs to be designed into modules as opportunities for engagement and collaboration are unlikely to occur randomly. In two studies, O'Shea et al. (2015) and Stone, O'Shea, May, Delahunty, and Partington (2016) interviewed 144 students participating in online higher education programmes and they found that from a student perspective their key issues were 1) inclusion wanting to be treated the same as on-campus students, 2) the importance of communication and connection 3) feeling isolated. This is indicative of other study findings (Ali & Smith, 2015; Bolliger & Inan, 2012;

Erichsen & Bolliger, 2011; Gillett-Swan, 2017) and challenges universities to design inclusive and engaging online environments (Dumford & Miller, 2018).

The elements of a learning process can be described as relationship, personal development, and system dimensions (Bach et al., 2006). These coupled with the framework of instruction need to be incorporated into the online learning design. A design which promotes belonging and connectedness will also be a design which includes ease of navigation. Juwah (2002) describes the combining of a number of models of instruction and motivation for use in design of online learning as the learner's interest needs to be captured and held. In particular the Attention, Relevance, Confidence, and Satisfaction (ARCS) model which describes how motivational strategies in instructional design can be created and maintained is important in the context of online learning design (Gagné, 1985; Juwah, 2002; Keller, 2010; Muirhead & Juwah, 2004). Design elements of a University's VLE therefore need to incorporate not just the presentational aspects of content and navigation but also the human and social side of connection. Examples of such online places include chat or blog areas, discussion forums or a student support area, areas of the VLE that have a social context in much the same way as on campus there are meeting places.

While there are differences in the design models used in online learning environments, such as ADDIE Model (Hess & Greer, 2016) or 5E Model (Tanner, 2010) , there is much that is the same as the traditional face to face environment. One could propose that there are learning outcomes which need to be met and assessed and content that should be available to the learner. One could also suggest these should be presented in a logical way for the student to follow. In-class activities need to be designed, similarly to the way in which the online space needs to be guided by a specific design model. While there are several similarities it would be incorrect to assume that what has been designed for the classroom can merely be uploaded to the VLE and it will work the same way (Bach et al., 2006). Important in the design of any environment are the people who will be involved with it. Lecturers and Designers work together to design appropriately for the learners who will engage with the course and its content. This involves a mutual understanding of each other's role and training in the concepts and models of technology and the learning theory (McKnight et al., 2016; Means et al., 2014). Lecturers play a crucial role in the learning environment. In a learner-centred model, they help to build social interactions and promote learning together. Moore suggests that these interactions can be student-student and/or student-lecturer (McCombs & Vakili, 2005; Moore, 1989). The lecturer also acts as a facilitator for online discussion and ensures opportunities are available for student interaction (McCombs & Vakili, 2005). Learning communities play an important role in providing opportunities and an integrated learning experience for students. They can provide a space where the students

can meet and share knowledge, to better understand and to co-construct knowledge with the lecturer and their fellow students. The next chapter will discuss learning communities' support of connectedness and belonging as well as the differing types of learning communities.

2.5 Conclusions

In this chapter, the phenomenon of online learning has been explored from a national and international strategy perspective and how it is integrated into higher education institutions. Differing models are considered from MOOCs to University specific VLEs where content is created, curated, and aligned with the interactive tools available with the assistance of design models, designers, and lecturers. The learner-centred approach adopted by universities requires a VLE to facilitate collaboration, interaction, and a social aspect to learning. In-class and online may reach the same goal of attaining knowledge in a discipline area but the journey to that goal is different. It is not in any sense a question of online learning replacing the classroom experience but rather it's an alternative which is suitable for various groups of learners who find themselves constrained by time or location. Online learning has a part to play in developing new constructivist approaches to learning. Learning communities support this constructivist approach, collaboration and social interaction and may assist in fostering a sense of belonging between the students.

Chapter 3 Learning Communities

3.1 Introduction

In the previous chapter the landscape and context of online learning in higher education was presented. Following on, this chapter presents a review of the literature relating to the specific elements of online learning that relate to this study, in particular communities of learning in the online education environment including student engagement and persistence. It will be divided into five parts 1) Communities and Connecting students in the online learning environment, 2) Communities of Practice, 3) Communities of Inquiry, 4) the Cultural dimensions which influence connectedness and 5) the learning and design theories which underpin the concept of communities in the online higher education setting. It explores the theoretical framework and constituent parts of the community models mentioned and how they are utilised in an online education setting to support student engagement and persistence. Moving on to look at communities that support connectedness and emotional connection of students and how their sense of belonging to the community supports them in building collaboration and collegiality. Online learning is a global phenomenon and as such the fourth section will look at the cultural background influences while also recognising the new and emergent cybercultures which exist in the online environment. Finally, the theoretical learning and design frameworks in which communities may sit will be considered.

In a higher education setting, there are characteristics of an effective learning / education experience for the student. These range from encouraging curiosity, questioning the knowledge to better understand it, using differing styles, forming a community to promote learning, personalising the learning for the student, use of assessment and feedback, promoting good learning practices and anchoring the knowledge in the real world. The advent of technology and the internet allows for different models of education to be developed and advanced such as blended and online learning which are challenged to emulate a traditional classroom experience and include the characteristics that have come to be expected of a quality education system. It is not just the classroom experience and education characteristics that forms the challenge but the entire collegial nature of attending a higher education institution or university and the student connectedness and sense of belonging. Online higher education programmes are often reported as lacking the social dimension to learning and a community of learning (McInnerney & Roberts, 2004; Vlachopoulos & Makri, 2019). Students have been quoted as saying that they feel isolated in these education settings (Cross, 1998; Erichsen & Bolliger, 2011; Peacock, Cowan, Irvine, & Williams, 2020; Shaw & Polovina, 1999). Communities of learning be they communities of inquiry or communities of practice, may have potential to overcome this challenge. In so doing they

could increase the level of student engagement and persistence which ultimately ensures students are enabled to reach their education goals.

3.2 Communities and Connecting students in an online learning environment.

This section presents descriptions of communities in the education setting, in particular learning communities. It will examine the key elements which makeup a community in such settings. Membership is an integral part of the community and connects members to the community. Regarding this study, those members are the student population on a module, programme, alumni, and lecturers. It will also explore the essence of learners' belonging, connectedness, collegiality, persistence and their sense of community.

Central to this study is the concept of connection and the value of communities in supporting connectedness among the students and lecturers in an online higher education setting. Educators who embrace a social constructivist philosophy believe that learning is both social and interactive (Laufgraben & Shapiro, 2004). Connection and social interaction are supported by communication and collaboration through the medium of the Web 2.0 and the university's VLE and overcome the limitations of distance in accessing education (Palloff & Pratt, 2007; Rovai, 2002a). Learning communities are formed by the coming together and connecting of learners, for the purposes of learning, building, and acquiring knowledge (Dawson, 2006). Indeed, the terms "*learning community*" and "*community of practice*" can be considered as interchangeable in the context of learning as Dawson (2006) suggests that "*both concepts relate to the process of learning and the socialisation that serves to facilitate learning*." The benefits which result from such communities and the connection they provide include increased persistence (Tinto, 1997), less student isolation (Erichsen & Bolliger, 2011) and a sense of belonging (Peacock et al., 2020).

3.2.1 Sense of Belonging, Connection and Collegiality

Developing a sense of belonging as described by Maslow (1954) is a fundamental and basic human need. It can be achieved through connecting with others and influences behaviours and perceptions (Baumeister & Leary, 1995). Belonging can affect emotional patterns and the cognitive process; equally, lack of connection to others is linked with a variety of adverse effects such as inability to adjust to new situations, feelings of isolation and overall can have a negative impact on well-being. According to Baumeister and Leary (1995) the need to belong is a powerful and pervasive motivation which involves the necessity to feel trust, respect in the connection and a sense of belonging or a sense of

community (Osterman, 2000). Within an education setting, Goodenow (1993) describes a sense of belonging as the students' sense of being accepted, valued and included in the class cohort (p. 25). Belonging, according to Peacock et al. (2020), is essential for successful student participation, engagement, learning and emotional well-being (Greenwood & Kelly, 2019). Students who experience a sense of belonging appear more motivated and more persistence with their studies (Osterman, 2000). In contrast isolation arises from a sense of difference between the desired and perceived connectedness with others and their expectations of relationships. A sense of belonging is about being involved and valued, along with the sense of fitting into the university environment (Dopmeijer et al., 2022). Strayhorn (2018) notes that if a sense of belonging is not developed, then the students' ability to fulfil their goals in the higher education setting will be impeded. He suggests one way that this sense of belonging can be achieved is through learning communities (Strayhorn, 2018, p. 3). While Strayhorn's (2018) work was largely associated with campus-based learning Peacock et al. (2020) suggest that it is also relevant in online learning.

Belongingness, as it is proposed by Lee and Robbins (1995), is composed of three components – companionship, affiliation and connectedness (p. 232). One definition of connectedness suggests that it is a feeling of belonging or partnering with a particular person or integrating with a group (Kuwabara, Watanabe, Ohguro, Itoh, & Maeda, 2002). Feeling connected increases a student's possibility of academic success and is an essential component of the student experience (Hehir, Zeller, Luckhurst, & Chandler, 2021). It has been suggested that a learners' sense of community is significantly influenced by connectedness (Sollitto, Johnson, & Myers, 2013). Indeed a person struggling to feel connected may become distant from others leading to a sense of isolation (Lee & Robbins, 1995) and connectedness can act as a protective factor against such feelings (Arslan, 2021). Bolliger and Inan (2012) describe student isolation as feelings of being alone and disconnected from their peers. In a qualitative study by Zembylas, Theodorou, and Pavlakis (2008), which specifically investigated the emotions of online learners, they describe the negative emotions as including loneliness and isolation. Tinto (1975, 2012) in his Theory of Student Departure suggests that student connectedness and academic experiences have an impact on student persistence. Furthermore, Laux, Luse, and Mennecke (2016) also concluded that sense of community and a learners' feelings of connectedness with their university could improve overall retention and persistence.

Collegiality – the cooperative relationship between those that are connected through profession, community or collaborative learning environment, gives a sense of bringing together of the collective talents and perspectives of the group towards a common goal. Collegiality includes collaborating, supporting, challenging and learning for a shared purpose

(Lam, Yim, & Lam, 2002). Social Constructivists such as Vygotsky and Dewey emphasise learning through collaboration: cooperative actions, collegiality: the relationship between those that cooperate and ongoing reflection which allows students to share expertise and knowledge as well as drawing on the experiential background of the group (Knuth & Jones, 1991; Palincsar, 1998). The action of working together building the quality of the relationships. When students engage in communication and conversations to fulfil the goal of learning together, which according to Knuth and Jones (1991) is to "*establish a community of learners in which students are able to generate questions and discuss ideas freely with the teacher and each other*" (p.3), it can be described as being collegial. Important components of collegiality have been described as communication, reflection and collaboration (Hertzog, Pensavalle, & Lemlech, 2000). Trusted collaborative behaviours are seen as a critical component of collegiality which can also be associated with peer learning (Brown, 2021). There are two types of collegialities described in the literature: contrived collegiality and genuine collegiality. Contrived Collegiality is highly regulated, compulsory, fixed in time and location and predictable (Datnow, 2011; Hargreaves, 1994, 2013). Genuine collegiality is focused on building collaborative opportunities that have focus and depth (Hargreaves, 2013). Caution is advised as collaboration based on contrived collegiality may in fact impede learning and the learning community (Owen, 2014). Collegiality and collaboration are important to the community of learning. However, they rely on norms and values agreed by those who are committed to the shared goal of working together. Differing cultural dimensions can influence what constitutes a common goal and hence agreement and engagement is not easily achieved (Jung & Gunawardena, 2015, p. 118). In their discussion on communities of practice in digital habitats, Wenger, White, and Smith (2009) make direct reference to a community's sense of collegiality and its connection to learning potential (p. 187).

Student collegiality has been described as a way to conceptualise student engagement in higher education where the students are involved in a peer-to-peer discovery process (Mitric & Custovic, 2018). Ivankova and Stick (2005) concluded from their qualitative study with twenty-four participants that collegiality and the community of learning created in the virtual learning environment favourably impacted student persistence (p. 13). They suggest that students engage in communications with each other on a variety of issues providing positive reactions and attitudes. These interactions raise the comfort level and self-confidence of the participants and help to sustain student persistence (Ivankova & Stick, 2005).

3.2.2 Sense of Community

Community has many definitions and descriptions in the literature dependent upon its context, but all would appear to have two aspects in common and they are, gathering and common connection or common interest among its members. The concept of communities in education can be found in the work of Dewey (1929) and more recently in the work of Furman (1998). In each case it identifies the presence of community as having a positive influence on student outcomes. McMillan and Chavis (1986) define a community as follows: -

> *"Feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together"* (p. 9).

They go on to define four key elements to community membership, trust, place, emotional connection, and shared history (McMillan & Chavis, 1986). Furman (1998) adds to this by including that a community comes into existence when members feel safe, trust each other, and have a sense of belonging. Dawson's (2006) quantitative work in this area further adds to the literature which supports the formation of a sense of community in the online education setting. His study findings, which support the earlier work of McInnerney, and Roberts (2004), conclude that online communications positively impact the development of a social community experience among the student cohort giving them a sense of identity. This social presence further supports the learning community bringing as it does the shared history, membership and building of trust spoken about by McMillan and Chavis (1986). In the Garrison (2009) Community of Inquiry (CoI) model he directly references the sense of community and sense of belonging and asserts that they must be present both cognitively and socially if the goal of achieving higher levels of learning is to be sustained. This sense of community is important to the online learner, but they alone do not have the tools and the facilities at hand to build it. It needs to be supported and facilitated from within the university setting with administrators, designers, and lecturers. Covelli (2017) suggests that as the online higher education environment grows, practitioners are moving to support a constructivist approach to building within their programme's spaces in which social presence and a sense of community can occur. Through such work the overall experience of the learner is improved, engagement is increased and learning outcomes are also improved. While Covelli's (2017) work seems to concentrate on the Garrison (2009) CoI model similar findings are put forward by Nistor, Daxecker, Stanciu, and Diekamp (2015) regarding the Wenger (1998) Community of Practice model. Their study emphasises the importance of emotional connection, trust, and the motivation for sharing knowledge as integral parts of building a sense of community (Nistor et al., 2015). Participation and identity are linked to the experience of learning as a member of a community. With the community they both add

to and take from its shared pool of knowledge and in so doing form an identity among its members.

3.2.3 Learning Communities

Learning within community structures has increasingly been seen as an effective way to learn (Jan & Vlachopoulos, 2018). Engagement in education through a community is aligned to the social learning models of Vygotsky (1978) and Bandura (1989), Community of Inquiry model Garrison et al. (2001) and the communities of practice of Wenger (1998) . Within the literature there are numerus descriptions of a learning community from a subject specific community of practice which forms a shared value of knowledge (Riel & Fulton, 2001), to a learning atmosphere which supports dialogue and collaborative knowledge construction (Carlen & Jobring, 2005) and the commencement of learning is the connection of the individual with their learning community (Kop & Hill, 2008). Three main factors comprise a learning community (a) membership, (b) duration and (c) format (Lenning, Hill, Saunders, Solan, & Stokes, 2013). Membership describes who is involved in the learning community for example students, instructors, and lecturers. Duration refers to the length of time that the relationship between the members exists either officially or unofficially. Format refers to whether it is synchronous or asynchronous. There are also different subtypes within each of these factors giving rise to a large variety of learning communities which can be designed and adjusted to promote the shared learning experience of their members. As the online higher education environments continue to evolve so too will the embedded learning communities and their associated membership of learners, lecturers, and administrators, acknowledging the complexity of issues relating to structure and student needs that affect them (Jessup-Anger, 2015). Additionally learning communities need a common meeting place for social and knowledge-based discussion both of which are key factors in fostering a community (Rovai, 2002a). However, the much later work of West and Williams (2017), while acknowledging Rovai's (2002a) description of meeting place for the community suggest that the social interaction may occur in a separate location such as Twitter or Facebook. There is agreement on the need for a space to meet or to be present and to connect with one another in the community. This links to the Garrison et al. (2001) community of inquiry model description of presence, being social, cognitive, and teaching presence. As a learning community model, it has been seen to improve education experiences in the online higher education setting (Yuan & Kim, 2014). In their 1991 work Wenger and Lave speak of a community of practice being a place for situated learning thus a learning community is in of itself a community of practice. There are two models then that encompass the nature and essence of a community of learning: - the community of inquiry model and the community of practice model.

3.2.4 Sense of Belonging for Online Learners

The need to belong and to be present is apparent in McMillan and Chavis' (1986) community theory, through the learning communities. According to Rovai (2002a, 2002b), this sense of belonging is necessary to support the development of a learning community, connectedness, and common learning goals among the membership. With this sense of belonging comes a stronger engagement with the community, the programme, and a more positive learning experience (Johansen & Ornelas, 2012). While the benefits of a sense of belonging and a sense of community are well documented it is still often overlooked by higher education institutions. In the mixed method study in 2016, seven student-student interaction difficulties were identified as leading to isolation. These included domination by others in the group, lack of meaningful dialogue, the notion of "*fake*" versus "*real*" in the online environment, lack of validation of a post or comment, tangential discussion, editing comments by others and cultural exclusion. The concluding comments in this study went on to suggest that a student's sense of belonging was fostered when the lecturer took a very active part in the communication and community discussion forums (Phirangee, Epp, & Hewitt, 2016). The lecturers' attitudes and approaches set the tone for learning and impacts directly on the learners' sense of belonging (Peacock et al., 2020). The ways in which the lecturer can foster such a sense of belonging was investigated by Berry (2019), whose study suggests that reaching out early and often can improve a student connection to the community and subsequent sense of belonging. In addition, the study found that personalisation through the use of chat and video as modes to engage students was effective, emphasising the need to connect with a "*real*" person. In both studies the importance of understanding the essence of belonging to the community, what its value is to the students and how it can be facilitated by the university is expressed. A deep understanding of the community model, the membership of the community and the interactions between the members is vital to the fostering of the sense of belonging. The facets of learning community identified earlier, membership, duration, and format, also play a key role in the student's sense of belonging. Membership needs to include facility to support the sense of belonging as it is favoured over peer-peer learning alone. The format needs to have a personalised nature to it, the idea of being "*real*" and finally the duration it is suggested that the longer the course the greater the sense of belonging. While connectedness can develop relatively quickly the longer the course the greater the sense of belonging and sense of community (Epp, Phirangee, & Hewitt, 2017; Richardson, Maeda, Lv, & Caskurlu, 2017).

3.2.5 Sustaining Student Persistence

Student isolation, which is one of the challenges of online learning programmes, can result in an issue with retention and persistence resulting in students dropping out of their programmes (Bolliger & Inan, 2012; Hart, 2012; Muljana & Luo, 2019; Xu & Jaggars, 2013). Completion rates of online programmes are reported as being up to 15% lower than their face to face counterparts (Xu & Jaggars, 2013). From the university perspective programmes with higher incompletion rates are seen as unstainable (Liu, Gomez, & Yen, 2009; Muljana & Luo, 2019).

Tinto's (1975, 1993) theory of departure and models of retention, remain central to the discussions on sustaining student persistence in higher education environments. He argues that a student's decision to leave their course must be grounded in one of two issues: academic or social. A student must have a commitment to their own goals regarding grades and graduation but equally must develop new relationships and become part of a community in order to be successful. Predating Tinto's (1975, 1993) Institutional Departure model is that of the Spady (1970, 1971) Undergraduate Dropout Process Model. This model suggests that student attrition is due to four main factors: intellectual development, social integration, satisfaction and institutional commitment. The similarity in the two models are the two systems which are of greatest importance to the students: the academic system and the social system. A third model is referenced in the literature that of Bean's (1980, 1982) Student Attrition Model which includes variables that impact a student's decision to persist related to the institutional structure and organisation. This study which is considering communities in online learning environments focuses on the social system.

Tinto (2005) suggests that factors that influence student retention include social involvement and the development of a setting that encourages learning. These conditions are attainable within a learning community which includes promotion of social and academic involvement and support for the student's persistence (Laux et al., 2016; Tinto, 2003). Learning communities encourage collaborative learning which is a means of improving student engagement (Freeman et al., 2014). When students' sense of belonging increases their likelihood of remaining with their course also increases (Burke, 2019). A 2016 review of international literature regarding student retention in higher education similarly suggests that factors associated with student persistence include social systems and connection within their universities (Aljohani, 2016).

There are a number of factors which influence student retention in an online environment. Facilitation of student engagement, a sense of belonging, teaching presence and social presence are among some of those noted among others by Muljana and Luo (2019) as influencing student retention. Strategies to improve student retention include

building community, sense of belonging, connections and collegiality. It is important that teachers are active within these collaborative learning settings to assist the promotion of student engagement, collegiality and sense of community (Eliasquevici, da Rocha Seruffo, & Resque, 2017; Fredrickson, 2015). Negative feelings on behalf of the students such as low sense of community and poor integration influenced their decision to continue (Aversa & MacCall, 2013; Nistor & Neubauer, 2010; Shah & Cheng, 2019). Looking at student engagement from the perspective of social presence, a component of Community of Inquiry, it has been proposed that a low degree of student engagement is associated with a lack of social presence which can lead to a poor sense of community (Alman, Frey, & Tomer, 2012). Indeed, the Alman et al. (2012) quantitative study of fifty-four participants across two cohorts, one within a community and the other not, suggested that those within the community had a stronger sense of belonging and interacted more with their classmates. According to Ivankova and Stick (2005) a sense of collegiality and being part of a community sustained students' persistence in their online course (p. 8).

In summary, comfort with social interactions in the online environment is a factor which may increase persistence. Those that can form connections and have a presence within their programme increase the positive nature of their experience. Active and encouraging teacher presence also contributes to student persistence (Hart, 2012; Ivankova & Stick, 2005; Liu et al., 2009; Müller, 2008).

3.2.6 Summary

Within the learning communities established in an online higher education environment a sense of community and a sense of belonging is important to the learners. Lecturers have an important role to play in the formation and sustaining of these communities. Learners in the community require a real presence to be valid in the setting, a culture of learning and knowledge sharing, a sense of belonging, connection and collegiality to support persistence with their programme. Two types of community are specifically identified in the literature with learning communities: - communities of practice and communities of inquiry. In the following sections each of these will be looked at in more detail.

3.3 Community of Practice (CoP) and their place in online higher education

This section presents the origins of the concept of communities of practice, and how they work theoretically and within an online higher education setting. It will examine in

particular learning communities and the connection between professional and education learning communities as communities of practice through mutual engagement, shared repertoire, and joint enterprise.

3.3.1 Communities of Practice (CoP)

Communities of Practice (CoP) are fundamentally groups of individuals with a common practice such as teaching, nursing, or learning, sharing their knowledge in relation to that practice. It is a knowledge based social construct drawing on the social learning theory of Dewey (1929), Vygotsky (1978), Bandura (1989) and Lave and Wenger's (1991) work which first described the CoP, formally named it, and put it in the context of apprenticeships. The work also defined what they referred to as situated learning as a component of CoP (Lave & Wenger, 1991). Communities according to McMillan and Chavis (1986) include membership, connection, and shared histories. Indeed, a learning community can be in and of itself a community of practice where the learning that occurs is in sharing experiences in the social setting which identifies the participants as members of that community.

3.3.2 Descriptions of Communities of Practice

Various descriptions for CoPs exist starting with that of Lave and Wenger (1991) which speaks to the sharing of information, developing knowledge and developing oneself. Indeed, Wenger states quite clearly in a 2016 interview that communities of practice cannot be applied to just any group and are only useful in certain cases. He goes on to make the distinction between a team and a CoP, the team being driven to complete a specific task, so it is a "*task-driven partnership*" whereas a CoP is a "*learning partnership*" (Farnsworth, Kleanthous, & Wenger-Trayner, 2016). Wenger (1998) includes within the description of community of practice that members are those having passion for their subject. In later works, the theme of problem solving, and passion are again highlighted (Wenger, McDermott, & Snyder, 2002; Wenger & Snyder, 2000). Throughout the many descriptions of CoP, the idea of them being "*practice*" based is identified and that the importance of the learner being at the periphery of the practice (Brown & Duguid, 1991; Lave & Wenger, 1991) but on a trajectory towards its centre. The following table sets out some additional descriptions of CoP.

Table 3-1 Descriptions of Community of Practice

Descriptions	Reference
Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.	(Wenger-Trayner & Wenger-Trayner, 2015)
Learning is a process of participation in communities of practice, participation that is at first legitimately peripheral but that increases gradually in engagement and complexity.	(Lave & Wenger, 1991)
Members of a community are informally bound by what they do together and by what they have learned through their mutual engagement in these activities. A community of practice is thus different from a community of interest or a geographical community, neither of which implies a shared practice. A community of practice defines itself along three dimensions: joint enterprise, mutual engagement that bind members together into a social entity and the shared repertoire of communal resources.	(Wenger, 1998)
Groups of people who share a concern, a set of problems, and a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis.	(Wenger et al., 2002)
CoPs should be actively managed with 'specific goals, explicit accountability, and clear oversight' to act as 'high-value vehicles' for learning and knowledge sharing.	(McDermott & Archibald, 2010; Meyer & Marion, 2010)
CoPs act as learning mechanisms for constructing new knowledge from established practices, as well as disseminating existing practices from the master to the newcomers.	(Aubry, Müller, & Glückler, 2011)
CoPs are a useful mechanism whereby learning in one domain impacts on another: "*learning is a process that involves becoming part of a community in which effective learning involves participation and collaboration across boundaries*."	(Pattinson, Preece, & Dawson, 2016)

Descriptions	Reference
CoPs develop shared practices, meaning, and identities through a trajectory of participation. Some members do remain on the periphery, a form of parsimonious engagement. Most evident though is a distribution of commitment. The greater the degree of commitment and participation, the more abundant and multifarious are the social-learning engagements and a commensurate sense of becoming an active and full member of the CoP.	(Smith, Kempster, & Wenger-Trayner, 2019)

Practice is at the centre of these descriptions and the shared goal around which the community forms with the aim of learning from and with each other. Wenger et al. (2002a) speaks about the cultivating of such a community whereas McDermott and Archibald (2010) describe the management of the community, the former speaking to the support and development of the community while the latter is specifically activity driven.

As a learner each of these descriptions could be applied to how a CoP supports that learning. As previously mentioned, participation is key, and the CoP theory expands specifically on what it means to take part, and this is different for different learners. Lave and Wenger (1991) suggest that this participation can have two elements to it, legitimacy and peripherality which gives rise to the term Legitimate Peripheral Participation. A member of a CoP will take part in the elements of the community, mutual engagement, joint enterprise, and shared repertoire at various levels depending upon their knowledge moving towards full participation as that knowledge level grows. Legitimacy is granted to new members through their shared practice with existing members to allow them to participate in the activities of the community (Wenger, 1998). As a model that supports learning, the CoP's practice is education both close up and at a distance and the identity of the student as a learner depends on this clarity in the practice (O'Donnell & Tobbell, 2007).

3.3.3 Dimensions of a Community of Practice

Wenger identifies three dimensions of the community of practice: - mutual engagement, joint enterprise, and shared repertoire. These can be further defined through fourteen indicators. Table 3.2 sets out these fourteen indicators of the three dimensions. The following subsections will look at each of the three considering their specific indicators.

Table 3-2 Wenger's 14 Indicators (Wenger, 1998)

Indicator	Domain
1. Sustained mutual relationships – harmonious or conflictual.	Mutual engagement
2. Shared ways of engaging in doing things together.	Mutual engagement Joint enterprise
3. The rapid flow of information and propagation of innovation.	Mutual engagement
4. Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process.	Mutual engagement Shared repertoire
5. Very quick setup of a problem to be discussed.	Mutual engagement Shared repertoire
6. Substantial overlap in participants' descriptions of who belongs.	Mutual engagement
7. Knowing what others know, what they can do, and how they can contribute to an enterprise.	Mutual engagement Joint enterprise Shared repertoire
8. Mutually defining identities.	Mutual engagement
9. The ability to assess the appropriateness of actions and products.	Shared repertoire
10. Specific tools, representations, and other artefacts.	Shared repertoire
11. Local lore, shared stories, inside jokes, knowing laughter.	Shared repertoire
12. Jargon and shortcuts to communication as well as the ease of producing new ones.	Shared repertoire Mutual engagement
13. Certain styles recognized as displaying membership.	Mutual engagement

Indicator	Domain
14. A shared discourse reflecting a certain perspective on the world.	Mutual engagement

3.3.3.1 Mutual Engagement

Mutual engagement, members joining in the discussion, is now open to community members from across the globe and is not limited to a time zone or a physical presence in one place through the use of online tools. In addition, the shared repertoire of material, narrative, artefacts, and discourse can be held within the virtual community (Mills, 2011). To participate in the shared domain, students in a CoP develop their profiles to give them identity in the community setting and join the community platform, be it a discussion forum, WhatsApp group or Facebook page (Mills, 2011). Some of the Virtual Learning Environments (VLEs) allow a student to see who else is online in the VLE at the same time hence facilitating the more impromptu discussion sessions which can be through posts or face to face video chat. Subsequent tagging and commenting on posts can form mini threads and allow others not present at the time of the discussion to be included asynchronously (Pempek, Yermolayeva, & Calvert, 2009). Mutual engagement is necessary for sustaining the community. Engagement is developed through the discussion of the practice. Participants must see benefits to them and become invested in the community for their engagement to be sustained. The development of relationships with the community at large and individuals within the community is key to its sustainability. The relationships can be of a varied nature for example suspicion to trust, expertise to novice and struggle to ease. Wenger (1998) suggests it is those who rebel that are more vested in the community than the passive participant. Where a CoP is formed in an online learning environment it will differ from that of a face-to-face context in that the engagement will not be spontaneous but will need to be designed into the programme. In the study conducted by Mills (2011) it was found that directed engagement was needed at least three times per week and it was also incentivised as the students were awarded a percentage of their grade for being involved in the discussion group.

Mutual engagement from Wenger's perspective is the "*ability to engage with other members and respond in kind to their actions*" (Wenger, 1998). Mutual engagement is the collaboration between community members in the effort of learning and advancing their individual and collective knowledge regarding their practice (Bryan-Kinns & Hamilton, 2012). Mutual engagement appears more times than any other domain among the fourteen

indicators described in Table 3.2. This indicates the importance of mutual engagement in sustaining the community with membership being developed through contact with others, in discussion groups, breakout rooms and online chat. Engagement builds relationships between members (Mills, 2011). Indicators #1, #2, #6, #8 and #13 specifically speaks to the relationship and identity of those who are members of the community. Engagement and relationships come through trust in the members and are built through the sharing of a goal or purpose (Bryan-Kinns & Hamilton, 2012). Engagement and relationships require communication and communication methods and channels to support them. Hence indicators #3, #4, #5, #12 and #14 have communication at their centre. Mutual engagement with a CoP is a means to engage with the knowledge through mutual communication with a familiar terminology and shared identity (Hara, 2006; Hara & Hew, 2007). It helps members to focus and to become more effective learners (Neufeld, Fang, & Wan, 2013).

Learners are engaged with the context of their learning but also with the wider world within which the context resides and indicators #7 and #14 link this internal group learning with the wider community, giving both an inward and an outward perspective. Without engagement, communication, and collaboration the community will not be formed or sustained and learning within it will not occur (Lave & Wenger, 1991). Participation in a CoP implies that learning is an integral part of the mutual engagement and social participation, participants learn in the social interaction of the community (Jan, Vlachopoulos, & Parsell, 2019; Neufeld et al., 2013)

3.3.3.2 Joint Enterprise

Joint enterprise of a CoP is the area of knowledge that the learners are engaging with and thus seek to share with the community. It is that which brings the community together and gives them their commonality. However, it is not sufficient just to share information - it must be discussed, examined, and challenged (Barcellini, Delgoulet, & Nelson, 2016). Joint enterprise arises when a topic or issue to be discussed is identified by the community and forms collective learning through experiential learning from practice, other experiences, or other sources of knowledge (Akrich, 2010). For example, a case study in 2001 on the use of CoP in an IT Management company identified an area of IT and a common goal or purpose to use their knowledge to create a document. The study found that the human factor and the vested interest in the artefact that they created was extremely important in the relationship building of the community (Kimble, Hildreth, & Wright, 2001) The artefact in this case being the legitimising factor as described by Legitimate Peripheral Participation (LPP) (Lave & Wenger, 1991). Members of the community need some knowledge of the enterprise to be able to participate, as shared knowledge distinguishes members of the community from

others (Hara & Hew, 2007). The level of knowledge will grow as the topics are discussed and anchored in the day-to-day practice. The conversation had by participants is important to the community (Sharratt & Usoro, 2003).

This conversation is often initiated in an online forum or discussion forum. A community member posts a query, and the other members respond to the thread with their theoretical knowledge and their practice-based experience (Hara & Hew, 2007). Alternatively, this can also take place through videoconferencing. Two mechanisms of holding the conversation therefore exist, both of which can be facilitated through online or technology mechanisms. It could be argued that conversation in a face-to-face setting has a greater richness as a sharing mechanism. It is easier to discuss with the group and share experiences when conversation of speech is involved. From an online perspective if video is used where you can see the group that you are discussing the topic with then this will add an additional level of richness. Discussion forums on the other hand are not limited by time and availability of individuals. They are more succinct and can include referenced and picture material as their layer of richness (Sharratt & Usoro, 2003). The research questions explored by Hara and Hew in their study in 2007 in relation to nurses' community of practice online included what knowledge was shared and how it was shared. Although the study had a limited number of participants, (twenty-five in total, one male and twenty-four female) there were over 1,000 messages posted on their discussion forum. The majority of these were knowledge sharing (56%), with asking questions or having queries being the second highest at 33%. When these were further analysed it was practice knowledge that was exchanged most frequently, with theoretical or "book" knowledge being the least frequent (Hara & Hew, 2007).

From the 14 Indicators in Table 3.2 there are two which directly relate to Joint Enterprise #2 and #7. They describe the ways that a community does things together to contribute to the enterprise. In essence it is having a shared understanding related to what the community is about, its practice and it promotes members' learning around that practice through discussion and mutual engagement.

3.3.3.3 Shared Repertoire

Shared repertoire is the collection of artefacts, discussions, references, stories, that is held in common by the CoP members (Wenger, 1998). It is combined through a shared language and way of working which with mutual engagement is the unifying foundation on which the joint enterprise exists in support of knowledge sharing as it allows the members to understand and interpret the knowledge shared (Nahapiet & Ghoshal, 1998). As students

work through a module or programme their shared repertoire grows over time and provides a basis for further interaction and discussion on their new and emerging knowledge (Neufeld et al., 2013). In communities with a shared repertoire the primary objective in sharing is the co-creation of knowledge which involves taking new and existing knowledge together in the process of facilitating both the individual and communities' efforts to achieve the shared objective (Faraj, Kudaravalli, & Wasko, 2015). The willingness to share histories, language and knowledge is motivated to some degree by the perceived enhancement of the members reputation and professional standing (Wasko & Faraj, 2005). Wasko and Faraj's (2005) research findings were consistent with earlier work of Brown and Duguid (1991) that an individual's practice experience is indicative of how they will share their knowledge with the community. The sharing and contribution to the repertoire also adds to the sense of belonging within the community and the moderation of shared content may even be done as a peer-to-peer review. The ability to accept peer to peer review being a mark of maturity and engagement within the community. Students emphasise how the narrative of collected materials of a module or programme helps them plan, reflect, learn, and cope with the stresses of the learning environment (Cortazzi, Jin, Wall, & Cavendish, 2001; Mills, 2011). Looking at the community of practice across several modules of a programme, shared repertoire can be subdivided into permanent repertoire and temporary repertoire. Permanent repertoire refers to the shared artefacts used by both lecturers and students in the CoP on an ongoing basis regardless of the lecturer involved in the module, for example discussion forums. Temporary repertoire refers to artefacts which are only used or included by one lecturer for their module such as a tool, Padlet[1] or Kahoot[2] (Wennergren & Blossing, 2017). Both tools allow the discussion and contribution to knowledge sharing of the group and they may be the personal preference of a lecturer.

From the 14 Indicators in Table 3.2 there are seven which directly relate to Shared Repertoire. They describe the ways that a community processes language, experience, and knowledge. The shared repertoire becomes part of the practice of the community, the language, and the tools it uses to allow for a sense of belonging and a more in-depth knowledge of what and how work is accomplished in the community. The sustaining of the common ground and shared activity provide an environment which supports collaboration (Faraj et al., 2015).

3.3.3.4 Limitations of Communities of Practice

[1] Padlet is a digital notice board tool where items can be posts such as notes, documents, images and video which can be viewed as part of a wall either privately or publicly.
[2] Kahoot is an online quiz tool which can be used to support learning.

Within Wenger's (1998) community of practice model there are three dimensions: Joint enterprise, shared repertoire and mutual engagement. Participation is key to the community of practice and the dimensions, (further examined through the 14 indicators) are the components which describe how the community works, what it is about, its shared language and history and how it functions and communicates with its members. Furthermore, within a learning community context all three dimensions are necessary to support the practice of learning. If it were just joint enterprise alone without the shared repertoire for common language, the way of working would be a distinct disadvantage and cause confusion and delay. For example, putting students into groups may not support mutual engagement if the repertoire and enterprise are not clear and consistent. Focusing on repertoire alone may not support mutual engagement (Wennergren & Blossing, 2017). A student's learning within a CoP is associated with how they identify and feel they belong to the community.

The Community of Practice model is used in many situations in education (Abedini, Abedin, & Zowghi, 2021; Kimble & Hildreth, 2008), healthcare (Ranmuthugala et al., 2011; Shaw, Jazayeri, Kiegaldie, & Morris, 2022), business, and other sectors (Nicolini, Pyrko, Omidvar, & Spanellis, 2022; Pyrko, Dörfler, & Eden, 2019). However, it would be incorrect to assume that it does not have limitations. The cultural power distance dynamics can affect the Wenger (1998) description of natural sharing of information and a shared repertoire within the community (Roberts, 2006). In addition, any sharing and mutual engagement is based on trust which is a key component of a community. Building trust is influenced by power as it shapes the social interaction necessary for engaging in knowledge transfer (Roberts, 2000). Whether a community of practice is cultivated, which is favoured by Wenger et al. (2002) or managed, suggested by McDermott and Archibald (2010) and Meyer and Marion (2010) can have a direct impact on how a trusted relationship between community members is fostered. While Wenger et al. (2002) describe the value of cultivated communities of practice they also identify limitations such as hoarding of knowledge, sub-group formation and limitations to innovation (Blankenship & Ruona, 2007). Indeed Wenger et al. (2002) agrees that new members are not welcomed if existing members are too possessive of their domain or there is difficulty in understanding the language of the community. The notion of legitimate peripheral participants moving towards full members of the community can be influenced by the composition of the community and its power struggles. Indeed this can be the power of prior knowledge or longevity of membership of the community as described by Levina and Orlikowski (2009). Equally there can be struggles between different approaches to practices from different locations, which can generate competing conceptions of consensus (Contu & Willmott, 2003). Such conflicts need to be negotiated and reconciled for the individuals to remain as active members of the community but also for the community as a whole to grow and strengthen (Masika & Jones, 2016). There is a need to acknowledge

then the notion of power within the situated learning of a CoP (Contu & Willmott, 2000). Other limitations, though not specific to CoPs, include lack of persistence, in participation due to challenges with differing levels of technology skill and confidence (Golden, 2016). Mitchell (2002) reports that CoPs are difficult to establish and to maintain and they can be flawed due to the level and nature of the experiences and knowledge of their members. Communities being too large can lead to disconnection of the members but also communities that are too small have a limited knowledge and experience to draw on (p. 93). Limitations also include the focus on how the CoP builds new member identity where it is assumed that they bring a level of knowledge and skill (Fuller, Hodkinson, Hodkinson, & Unwin, 2005; McGrath, Liljedahl, & Palmgren, 2020). Undoubtedly the CoP model has its limitations such as those presented here. However, it is still a widely used model in the context of communities of learning in education settings. The community formed is a social construct that encourages learning through interactions and scaffolding relationships. The practice is the subject knowledge that the community shares, cultivates and sustains (McGrath et al., 2020).

3.3.4 Online Communities of Practice

Communities of practice within education settings (specifically the online education setting) are being discussed as both online communities and as virtual communities of practice. The use of ICT and the internet has changed how individuals communicate with one another thus giving rise to the online CoP. Differing slightly from the Wenger and Snyder (2000) construct of CoP these communities are not specifically spontaneously formed due to the nature of the online environment and the geographical distance of those involved (Bourhis, Dubé, & Jacob, 2005). These online communities do not necessarily happen organically. The initial engagement and invitation to participate needs to be orchestrated and accommodated by the learning management system from a technology perspective but set-up by the group lecturer, tutor, or instructor. The idea of "*build it and they will come*" cannot be relied upon (Barab, MaKinster, Moore, & Cunningham, 2001). Instead, an online CoP needs to be set-up and maintained to support a knowledge sharing environment requiring its members to take an active role and contribute to all the phases of its development (Sadik, 2021). In CoP, members move from becoming individual thinkers to collaborative thinkers and evaluate the roles of the social and physical context in their practice. In all other aspects the online community of practice and face to face or traditional CoP are similar in definition. However, the virtual community tends to be slower to develop and regular participation is a drawback in their early life (Andrade & Carvalho, 2015).

The biggest challenge for online communities of practice is whether they can support Wenger's three dimensions of a CoP - that is mutual engagement, shared repertoire, and

joint enterprise (Barcellini et al., 2016; Wenger, 1998). The communication mechanisms aided through the use of the internet, while bringing new challenges to education also bring new possibilities and a greater reach. Lave and Wenger (1991) recognised the influence and change that would be brought about with the use of technology in an education setting. In the forward to their 1991 text this is acknowledged, "*these technologies are dramatically transforming the basic patterns of communication and knowledge interchange in society"* and are redefining *"what it means to know, understand, and … become a 'literate' or 'educated citizen'"* (Lave & Wenger, 1991, p. 12).

Online CoPs are used in many different settings as was originally suggested (Wenger, 1998; Wenger & Snyder, 2000) and are employed as part of situated learning settings in companies and within education (Kumi & Sabherwal, 2018). With the rapid growth of the web and social media along with tools that are facilitated by it, such as video conferencing, blogs, chat rooms, discussion forums, virtual worlds, instant messaging, computer moderated communication is well setup to support these online communities (Cordery et al., 2015; Wasko & Faraj, 2005). Within the educational settings they are for the most part closed groups; only students in the class group or previous class groups can engage. They are not open to the wider university population or general population. The sharing of knowledge from a corporate or business perspective may be perceived differently than within an education setting (Wasko & Faraj, 2005). Although the Wasko and Faraj (2005) quantitative study of 7,000 subjects was conducted in a business, open groups context, its findings resonate in an education setting. Their study found that a significant indicator of knowledge contribution was the potential for enhancement of the contributor's reputation. The numbers of participants and maintaining these numbers was also an important factor in sustaining the community. Individuals contributing even though they know this may not be reciprocated, was one of the most unusual findings and may be due to the interactions being general rather than didactic.

The Ardichvili, Page, and Wentling (2003) study of 30 interviews with online CoP participants, while again based in a business organisation context, looked at barriers to participation. It found that fear of letting the community down by including incorrect information was a barrier to participation. They identified trust as a significant factor in its development, trust in the community and trust in the overseeing organisation (Ardichvili et al., 2003). In Ardichvili's later work in 2008, which was an extensive review of online learning literature, many other factors associated with successful online CoPs are collated and explored. The key determinants to knowledge sharing according to this work include understanding why knowledge sharing is important, being able to share the knowledge i.e., the use of the technology in the information sharing, and having effective sharing techniques.

Reasons given for poor engagement included participants lacking the motivation to participate in the community or not being able to see the personal benefits of sharing (Ardichvili, 2008; Garfield, 2006). In the online community of practice, the cross-cultural barriers are an important factor to consider since many different nationalities will have the potential to contribute to the community. In Asian culture saving face is extremely important and therefore presents itself as a barrier to asking questions and posting replies (Hutchings & Michailova, 2006). In summary, Ardichvili (2008) found that motivation for the participation included personal benefits, community considerations and normative considerations. Barriers named were technological, cultural, interpersonal, and procedural. Enablers were trust, technology tools and a supportive culture.

3.3.5 Communities of Practice in general use

Online communities of practice are used for knowledge sharing around the globe. The Healthcare sector is an example of where they are prominent. A 2015 study of 130 contributors, Spanish healthcare workers, demonstrated the usefulness of the online CoP (Jiménez-Zarco, González-González, Saigí-Rubió, & Torrent-Sellens, 2015). Most of the contributors in this study were woman (>77%), Doctors contributed more than nurses (2:1 ratio) and the majority worked in a primary care setting rather than in a hospital. A comparison can be drawn between the work done with the healthcare sector and education as one of the challenges to both is the sense of isolation. This is particularly true in relation to the primary care setting (Jiménez-Zarco et al., 2015; McLoughlin, Patel, O'Callaghan, & Reeves, 2018). Individuals' satisfaction with using the online CoPs stems from their degree of involvement or engagement which in turn has been shown to be related to their knowledge. Coyte et al. (2009a) reviewed the work of Wenger among others from 1991 to 2002 and how the principles put forward by Wenger were seen in the CoPs which involved healthcare workers. They concluded that interventions that facilitate relationship building and therefore knowledge sharing were useful in optimising the participant exchange in the communities (Coyte et al., 2009a). Additionally, the review found that the CoPs were still an evolving concept. The same group examined the use of CoPs in both business and healthcare settings and concluded that there was no one trend in establishing CoPs in either. It also pointed out that there was a lack of research into the effectiveness of CoPs in these sectors. One of the reasons put forward for this was the diversity in the set up and running of the communities (Coyte et al., 2009b). The Westbrook et al. (2011) study of thirty-one research papers and two reviews again from the healthcare sector came to similar conclusion that there needed to be a greater understanding of how-to set-up and support these communities to maximise their potential.

3.3.6 Communities of Practice in use in online Higher Education

The challenges presented to the use of online CoPs in Higher Education for the benefit of the student, in essence learning communities where the practice is learning itself, have been studied to a lesser degree than the sector specific communities. Understanding the needs of the community, individual, collective and technology, in the digital space where knowledge will be shared is important to the ultimate success of the online CoP. One of the key benefits of these communities in an education setting is the capture of tacit knowledge which when combined with theoretical or practice-based knowledge, can be key to the development of an artefact within the community. Challenges include the gaining of support for the community from the participants (Swift, 2014). Karunanayaka (2008) explores the use of learning communities in an online education setting. Findings from this case study show that in this education environment the presence of a community was important to students as it allowed the creation of a social presence. This study involved twenty-five students that were enrolled on the course and their tutors over a six-month period. The pedagogical design of the course was scenario-based learning where the online CoP was enabled using a discussion forum. This was led by the tutor who created discussion threads periodically. Strategies used by the students to aid in the building of community within the discussion forum included "*self-explanation, questioning and replying, requesting and providing help, agreement and disagreement, suggestions, appreciations, encouragements and social grounding*" (Karunanayaka, 2008, p. 77). As the course progressed it was found that the terms which the students used to address each other became more familiar, more requests for help were noticed and the use of informal annotations such as emojis increased. All are indications of the trust and building of relationships within the community. Student reflection revealed that the community provided them with support of their learning for the duration of the course (Karunanayaka, 2008). Caldwell and Heaton (2016) illustrates through five separate case studies the usefulness of blogging to create and maintain communities of practice in an online environment. Baran and Cagiltay (2010) compared the mandatory participation in an online CoP versus voluntary participation and found that the sense of community was more evident when the CoP was voluntary, motivation to continue the discussions was challenging in both settings.

3.3.6 Summary

Literature relating to communities of practice, descriptions, dimensions, online communities and how communities of practice work has been presented. The concept of communities of practice can be linked to the concept of community within learning environments online. There are challenges in the establishment of online CoPs as the theory led cultivation of a community is more difficult in an online setting where organic start up is

less favourable than a structured, designed, and managed community. Communities of practice have evolved. They are now evidenced in both face-to-face environments, as they were originally conceived, and in the online environments with the aid of technology.

3.4 Community of Inquiry (CoI) and their place in online Higher Education

This section presents the origins of the concept of communities of inquiry, and how they work theoretically and within an online higher education setting. It will examine in particular learning communities as communities of inquiry through Social Presence, Cognitive Presence and Teacher Presence.

3.4.1 Community of Inquiry (CoI)

The Community of Inquiry framework is a model for online learning which assumes that effective online learning requires the development of a community and pursuit of inquiry (Swan, Garrison, & Richardson, 2009). The value of a community of inquiry in an online higher education setting is described as follows:

"*Communities also provide the condition for free and open dialogue, critical debate, negotiation and agreement—the hallmark of higher education*" (Garrison & Kanuka, 2004, p. 99)

Communities of Inquiry were first spoken about in 1999 by Garrison, Anderson, and Archer within an online setting. They are constructivist in nature and draw philosophically from the principles of Dewey, in relation to communities and inquiry (Dewey, 1938). While earlier work makes a distinction between the oral versus written communication in an asynchronous environment, the advance in technology for video conferencing and other tools suggest that they are important to consider as an integral part of the communities' modes of engagement (Garrison, Anderson, & Archer, 2010). There are three elements to the CoI framework as proposed by Garrison et al., (1999) and they are cognitive presence, social presence, and teaching presence. These elements combine to support critical thinking and facilitate the learning through technology and VLEs. Presence is a central part of learning and in particular online learning and is defined as the ability of individuals to project their own characteristics into the community and thereby presenting themselves as "*real*" to the community members (Garrison et al., 1999). Akyol and Garrison (2008) a further definition is given of each of the presences and that is presented in Table 3.3.

Table 3-3 Operational definitions of presences in the CoI model (Akyol & Garrison, 2008)

Elements	Categories	Indicators (Examples)
Cognitive Presence	Triggering Event Exploration Interrogation Resolution	Sense of Puzzlement Information exchange Connecting ideas Application
Social Presence	Open communication Group Cohesion Personal expression	Trust / Risk free environment Collaboration/ Identity within the group Self-projection / expressing emotions
Teaching Presence	Design Facilitation Instruction	Setting curriculum /activities Shaping constructive exchange Guiding and resolving issues

The three presences are integral to the building of a community, they are interdependent, and they facilitate higher order learning (Swan et al., 2009). Each of these will be looked at in more detail in the following sections.

3.4.1 Cognitive Presence

Cognitive presence is defined as the extent to which learners, engaging with the community of inquiry, are able through critical thinking, to construct higher order knowledge and apply it. The critical thinking approach includes creativity, problem solving, intuition and insight (Garrison & Archer, 2000). While the practical application is reflective of the learner's acquired knowledge and experience and includes imagination and reflection (Dewey, 1929), cognitive presence is actioned through practical inquiry which has four phases: triggering event, exploration, integration, and resolution/application. In the design of the community to support higher order learning, it is important to ensure that the students move to the last two phases of the inquiry. The triggering events may be the tutor suggesting a question to the group on the discussion forum, blog, or chat room. The exploration of this thread is undertaken by the students in the subsequent posts and replies in both online and face to

face contexts (Vaughana & Garrison, 2005). Archer (2010) suggests that the integration phase is evidenced through the students' writing and assignments and the resolution/application phase through the learning journal or reflective journal. Interestingly it may be one of the overlapping areas between CoI and CoP as this corresponds with the practice of the knowledge and its integration into one's own work. It is within this cognitive phase that the learning outcomes of a module can be achieved. In a descriptive research study of sixty-five students, it was found that >70% of the cognitive presence is as a result of the teaching and social presence (Gutiérrez-Santiuste, Gallego-Arrufat, & Sabiote, 2015). Archibald (2010) had a similar finding in the mixed method study which was larger than the 2015 study having one hundred and ninety participants.

The theme of protocols within the community of inquiry as part of the cognitive presence is also explored. Protocols for discussion groups are suggested as a mechanism within large groups to keep students on track, goal focused and to sustain the community with less reliance on the tutor. The use of protocols, for example McDonald's Tuning Protocol (McDonald, Zydney, Dichter, & McDonald, 2012), have been used in studies of large groups (400+) of students online and have been shown to have a positive effect on student's cognitive presence (Chen, deNoyelles, Patton, & Zydney, 2017). Protocols are useful as they put structure and set goals into a discussion forum (Ehrlich & chandler, 2016). Self-regulation and self-regulated learning have been investigated for their effects on the CoI. Cho, Kim, and Choi (2017) studied this relationship with 180 undergraduate online students in the US and showed that promoting students self-regulated learning has a positive effect on the online learning community. The setting of the forum is equally important as a recent study looking at the uses of MIM, Mobile Instant Messaging, as a tool to promote cognitive presence showed that only one third of the posts were related to the four cognitive presence elements; triggering events, exploration, integration, and resolution/application (Qiao, Tang, & Hew, 2018). Students felt that tools for MIM such as WhatsApp, WeChat, and Google hangouts, were more associated with the interactions related to social activity rather than their academic pursuits and therefore did not feel compelled to respond to posts. The lack of teaching presence was also seen as a reason for low cognitive presence (Qiao et al., 2018).

Reflection brings the four elements of cognitive presence together and assists in increasing it which is suggested as "*reflecting on learning content and outcomes relates to knowledge acquisition where learners identify their increased knowledge and skills in the subject area*" (Redmond, 2014, p. 50). In essence, it is the reflection on the learning outcomes, content as well as the learning process itself and how it can be applied in differing contexts both currently and in the future (Redmond, 2014).

3.4.2 Social Presence

Social presence is the second of the elements of CoI and is used to describe and understand how people interact socially in an online learning environment (Swan, Whiteside, & Dikkers, 2017). The definition of social presence has varied in its extent and key emphasis. In a 2017 study into the definitions of social presence used by researchers it was found that a number of key words and phrases were associated with its definition, for example being there, being real, salience, projecting oneself, connecting and belonging, with projecting oneself being most commonly used (Lowenthal & Snelson, 2017). In addition, this study looked at how the Garrison, Archer and Anderson definition of social presence has changed since its first publication in 2000 concluding that the CoI framework examines social presence only in terms of its relationship to teaching presence and cognitive presence in collaborative online learning environments and does not consider social presence where there is no influence of the teacher (Dunlap & Lowenthal, 2014). Table 3.4 sets out the definitions of social presence from a CoI perspective since 2000 and also includes the social presence theory definition which predates this.

Table 3-4 Definitions of Social Presence

Definition	Reference
The degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships.	(Short, Williams, & Christie, 1976)
The degree to which a person is perceived as a 'real person' in mediated communication.	(Gunawardena, 1995; Gunawardena & Zittle, 1997)
The second element of the model, social presence, is defined as the ability of participants in the CoI to project their personal characteristics into the community, thereby presenting themselves to the other participants as 'real people.'	(Garrison et al., 1999)
We define social presence here as "*the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop interpersonal relationships by way of projecting their individual personalities*."	(Garrison et al., 2010)

It is worth noting that in Garrison (2015) "*Thinking Collaboratively: Learning in a Community of Inquiry*" it is the 2010 definition of social presence that is used. In this work he concludes that social presence is a complex construct, but its main function within the CoI framework is to support cognitive presence.

In the formation of the framework, it was clear that for it to be successful as a model it would require an element of social presence in the context of teaching and learning (Garrison et al., 2010). As part of their social presence, a student's first priority is often their social identity and this is particularly so with the Z-Generation[3], and not just their own personal social identity but the shared identity of the group. Social presence therefore in a CoI context can be defined in terms of engagement with the community as follows: purposeful communication in a trusting environment; identifying with the community and the development of interpersonal relations (Garrison, 2009). As with cognitive presence there are similarities here between CoI and CoP. Social presence is the conduit between the cognitive presence and the teaching presence (Shea & Bidjerano, 2009; Swan et al., 2009). What social presence also provides is a sense of belonging, camaraderie, and collegiality. Students feel supported by fellow classmates and their tutor (Saville, Lawrence, & Jakobsen, 2012). While technology does create a difference in the communication style, students present themselves through their individual social identities within this framework through discussion fora, wikis (Augar, Raitman, & Zhou, 2004) and their digital storytelling (Lowenthal & Dunlap, 2010). They come to trust their fellow students and trust that the online communication within the CoI is real (Thompson, Vogler, & Xiu, 2017).

Storytelling is an effective way of transferring and contextualising knowledge in an online learning context (Shelton, Warren, & Archambault, 2016). It is the students' shared repertoire - both collective and individual. Stories allow students to share their experiences (practice) through which they make sense of the experience and the under-pinning knowledge. Digital storytelling as a support to social presence begins at the meet and greet or introduction phase. Text only introductions do not provide the same depth as a face-to-face introduction of the students. In an online setting, the face-to-face introduction can be replicated through posting short video introductions or through online class video (Lowenthal & Dunlap, 2010). Digital stories can be used not only as part of introductions but throughout the programme as formative and summative assessments and in live group chat. They are about creating meaning, being collaborative and sharing experiences (Robin, 2016). Shelton et al. (2016) mixed method study approx. four hundred students shared their experiences in

[3] Z Generation individuals born between 1997 and 2012

relation to using digital storytelling within a higher education setting as part of a module on the programme they were undertaking. The study concluded that digital storytelling facilitated engagement among students, in particular millennial learners (Shelton et al., 2016). Such digital stories exemplify the personal expression component of social presence in the way that a student can project themselves.

3.4.3 Teaching Presence

Teaching presence is the third component of the CoI and is defined as "*the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes*" (Anderson, Rourke, Garrison, & Archer, 2001, p. 5). There are three specific dimensions to the teacher presence, design, facilitation, and direction. Teaching presence is embedded within the design of the programme and commences before students are enrolled through the instructional design and the creation of artefacts which support a meaningful learning experience (Garrison, 2015). Facilitating exchange requires the lecturer to give feedback to the students, moderate and prompt the discussion thread and engage with the learners as they build their knowledge, explaining and ensuring accurate understanding. Instruction involves the lecturer packaging and scaffolding the knowledge to allow for the learners to understand and construct their meaning of it. The teacher is present in many aspects of the online programme and is available to support the student on their learning journey. The design of the online course which is part of teaching presence has a pivotal role to play in enabling the aspects of CoI, teaching, cognitive and social presence to be made accessible to the learner. A guide to the design of CoI in an online programme is put forward by Fiock (2020), which expands on Sorensen and Baylen's (2009) seven principles of good practice in online education design. These principles are set out in Table 3.5.

Table 3-5 Seven Principles of good practice for online environment instructional activities (Fiock, 2020)

Principle	Example of Instructional Activity
Student -Teacher Contact	Ice breaker exercises at online orientation. Open office sessions with Lecturer for one-to-one conversation. Use of reflective diaries.
Cooperation among students	Peer to Peer Learning. Allow students to explore areas within groups.

Principle	Example of Instructional Activity
Active Learning	Give grades for discussion forum posts. Encourage experimentation and divergent thinking.
Prompt Feedback	Use recorded video or audio feedback. Provide feedback often.
Time on Task	Provide recorded orientation and course overview. Organise the course well with postings on assignments and reminders on due dates.
Communicate High Expectations	Create multiple areas where students can communicate. Share an introduction and expectations document prior to the start of the course.
Respect diverse ways of learning	Netiquette Cultural differences to be taken account of. Design in learner choice.

Adopting such design principles while being part of teaching presence also have a direct impact on social presence and cognitive presence and the overall formation of a community of inquiry.

Students believe that teacher presence is an important element of the CoI and a contributing factor to its success (Garrison et al., 2010). It is not sufficient for the teacher to put material and assessment on the VLE or do what they would have done in the traditional face to face classroom, they must look to engage the students with the material. Tutors need to engage students in critical thinking in relation to the concepts being studied (Costley, 2016). Costley (2016) examined the experiences of over two hundred students in an online environment with three different levels of critical thinking, low, medium, and high. The study found that the amount of social presence will decrease with the increase in instructor involvement but there is more critical thinking and discussion if there is more instructor control (Costley, 2016). The ideal situation would be to have both, but this study concluded that this was not possible. Higher levels of student engagement and interaction are better, overall, than lower levels. As this study illustrates it is about the balance of teacher presence with social presence. Not every group of students will be the same and not every subject area is the same either. As Arend (2009) suggests the difference is between the "*sage on the stage*"

and the "*guide on the side*". The relationship between critical thinking and tutor involvement was investigated in this mixed method study which involved thirty courses. In particular it focused on how online discussions influenced critical thinking. The conclusions drawn were that discussion forums become the place that shows that critical thinking occurs. There was also a need to have time and space to allow for reflection. Tutor interaction should be less rather than more and have the purpose of encouraging and prompting students with probing questions (Arend, 2009). Teaching presence is central to the Community of Inquiry model and from a student perspective they look to the lecturer often for guidance and support.

3.4.4 The possibility of other presences

There have been suggestions of additions to the CoI model since the initial 2000 model. Lam (2015) suggests an autonomy presence where learners replace the role of teacher in deciding the direction of the learning through content sharing and starting and directing discussion. A learning presence which differs from cognitive presence in that it included self-efficacy and regulation in active learning in the online environment (Shea et al., 2012). Emotional presence is also suggested as emotions impact the experience of a student in the online learning environment (Cleveland-Innes & Campbell, 2012). An instructor's social presence is described as the teacher "*being there*" for their students throughout the learning journey to support and nurture them (Oyarzun, Barreto, & Conklin, 2018; Pollard, Minor, & Swanson, 2014).

Anderson (2016) has suggested the term agency presence. This new presence is concerned with the areas of self-efficacy, motivation, and interpretation. It builds on the work of Bandura (1977) which puts self-efficacy as a key component of academic success. However, there is not full agreement that a fourth presence is in fact required as the Armellini and De Stafani (2016) action research study of 40 participants concluded that social presence is more prominent than the other two. The model can be constituted into six different areas with half overlapping, Interactions of Learning (TP & SP), Socialisation of Content (CP & SP), Community Development (SP), Course Design (TP), Self-study (CP) and Learning experience (CP, & SP & TP). So rather than there being a fourth presence as suggested by Shea et al. (2012) the elements that they determined as missing for the model are component parts of the original and have been seen as components of the three presences by the Armellini and De Stefani (2016) work, apart from self-regulation and motivation. The work of Kilis and Yıldırım (2018) looked specifically at self-regulation, motivation, and metacognition in a CoI framework. In their study of over fifteen hundred participants, they found that self-regulation is an important contributing factor to the three presences in CoI and they recommend that self-regulation rather than self-efficacy be

included in the model. The study found that motivation was a significant predictor of the CoI, and that metacognition also has a significant contribution to make except to the social presence. This study concluded that rather than the acceptance of any of the previously suggested fourth presences they put forward another construct entitled regulatory presence which includes such areas as self-control and extrinsic motivation (Kilis & Yıldırım, 2018). The debate therefore continues as to what, if any, fourth presence should be added to the construct of CoI.

3.4.5 Communities of Practice and Communities of Inquiry in a Joint Framework

There are some publications that discuss both models together in relation to the teaching and learning of a particular discipline (Fischer, 2001; Jan & Vlachopoulos, 2018). There are for example, a number of articles around mathematics education that discuss the use of both types of communities together in an online education setting (Biza, Jaworski, & Hemmi, 2014; Goodchild, 2014; Goos, 2014). A Community of Inquiry is a type of Community of practice where the inquiry is the way of being in practice. So, the CoI includes Wenger's elements of the CoP as follows: - joint enterprise being the goals of the inquiry, the mutual engagement being the inquiry-based process and finally the shared repertoire being the inquiry-based approaches and tasks used to explore a particular concept (Biza et al., 2014). It is in two specific aspects, that of critical alignment and identity that the CoI and CoP may differ. However, each discipline is different and inquiry-based practice has to take account of a variety of factors and work with them. It is in doing so that the overt process of critical alignment can be seen. Critical alignment is a key component of CoI falling as it does within cognitive presence. Critical thinking is a higher order activity according to Blooms taxonomy (Bloom, 1965). While Biza et al. (2014) put forward reasoning for the relationship between CoP and CoI they also highlight a number of differences, the first of which is critical alignment. Others include the absence of definition of agency, power and interest and the influence on the community of inbound trajectories in relation to legitimate peripheral participation (LPP) (Biza et al., 2014).

This topic is further explored by Goodchild (2014) which expands on some of the issues raised by Biza et al. (2014). He suggests that agency is included in the CoP model but is considered problematic. Community of Practice Theory (CPT) coming as it does from the works of Wenger (Wenger, 1998; Wenger et al., 2002) and Lave (Lave & Wenger, 1991), offers a theory which underpins the CoPs themselves. CoI, while not based on CPT, there are similarities between the two, with CoIs being an adaptation to include inquiry and development. Again, within the mathematics domain, Jaworski (2006), argues that where innovation is a requirement then CoP in itself, is not adequate as reflective practice and peer

learning are also required. These, in combination with the CoP, are what are referred to as Community of Inquiry. The community becomes critically aligned in addressing the problem through their inquiry (Jaworski, 2006).

3.4.6 Summary

The Community of Inquiry framework describes learning in an online environment as a collaborative process supported by social, teaching, and cognitive presences which work together to provide opportunities for critical thinking, problem solving and a rich learning experience for the student. While the current model is well utilised, there are suggestions that there are other presences which are present and are worthy of note. Community of Inquiry is a type of Community of Practice, and it is possible to have opportunities for students to engage with both should they be designed into the programme of study.

3.5 Cultural dimension of online higher education

While previous sections mention the cultural differences which exist among the student populations in online learning environments, this section presents a theoretical framework through which the cultural dimensions in online higher education will be explored. It will examine in particular how cultural background influences participation while also recognising the new and emergent cybercultures which exist in the online environment.

3.5.1 Cultural Influences

Understanding the influence of culture on the dynamic of a community of learning is to ensure that the cultural background of the participants does not hinder the operation of the community, that it is constructed to succeed and that it is inclusive. The framework in which the community operates should be culturally sensitive taking account of the culture of the tutors and the students. One example of the influence of culture on the learning community is presented by Zaidi, Verstegen, Naqvi, Morahan, and Dornan (2016) which looks specifically at the issues associated with teaching and learning in a cross-cultural group of healthcare professionals. Drawing on the Gramsci (1971) concept of cultural hegemony in education, the power of a leader or academic to present a view which is then accepted by the group to the loss of their own views, those who present different or alternative views may feel marginalised and thus the learning of the entire group may suffer (Zaidi et al., 2016). This is but one example of the effects of culture on the online learning community. It is an illustration of the power distance aspect of Hofstede's Cultural Dimensions Theory (Hofstede, 1980). Culture influences communication styles and when or if a learner will participate in an

open, live discussion. In the words of Edward Hall "*Communication is culture and culture is communication*" (Hall, 1959, p. 186). The constructivist and sociocultural approaches have many aspects in common with the sociocultural approach suggesting that the learning process needs a social environment throughout (Hall, 2007). The influences of cyberculture defined as "*sustained attempts by diverse groups of people to make sense of multifarious activities, linguistic codes, and practices in complicated and ever-changing settings*" are also important (Wheeler, 2009, p. xi). These theories and frameworks provide a basis for exploring the influence and culture in the online learning environment. However not every learner can be defined by their home country or an online persona. Design of online learning and the establishment of communities of learning needs to be aware of the diversity of the student population and provide alternatives where appropriate. The following sections look in more detail at three of these theories or concepts, Cultural Dimensions Theory, Cyberculture and Idioculture which is defined as the culture created in small group settings such as community settings (Fine, 1979; Jung & Gunawardena, 2015).

3.5.2 Hofstede's Cultural Dimension Theory

Hofstede's Cultural Dimension Theory has been used to explore the cultural differences which exist in the online learning environment. Hofstede through his work with IBM employees on cultural values, devised four cultural dimensions: power/distance, individual/collective, masculinity/femininity and uncertainty avoidance (Hofstede, 1980). There have been two other dimensions added in later years: long term orientation and indulgence/self-restraint (Hofstede, 1991; Hofstede, Hofstede, & Minkov, 2005). The first four are normally used in discussions regarding online education (Jung & Gunawardena, 2015). While the theory has been advanced since its first iteration in 1980 it does have its limitations, which have been put forward. These are namely the assumption that members of a national culture are all the same, possibility of subcultures within various countries, and potential to stereotype a particular culture (Ess, 2009; Fougère & Moulettes, 2007; McSweeney, 2002). The Cultural Dimensions of Learning framework model puts forward modifications to the Hofstede model which look to address these limitations in the education setting (Parrish & Linder-VanBerschot, 2010). They suggest eight dimensions which also provide a mechanism to self-assess the online learning environment for cultural bias. Table 3.6 illustrations these eight dimensions.

Table 3-6 Cultural Dimensions of Learning framework model (Parrish & Linder-VanBerschot, 2010)

Cultural Dimension	
Social Relationships	Equality and Authority
	Individual and collective
	Nurture and challenge
Epistemological beliefs	Stability seeking and uncertainty acceptance
	Logic argumentation and being reasonable
	Causality and complex systems (Analysis and holism)
Temporal Perceptions	Clock time and event time
	Linear time and cyclical time

While this model provides an advancement on the earlier Hofstede model it too has limitations such as the diversity within populations.

Cultural Dimensional Theory provides a framework by which to examine the phenomenon of online learning and culture. Three out of four of Hofstede's original dimensions have been identified in this study and they are: Power-Distance (PDI), Masculinity-Femininity (MF) and Individualism-Collectivism (IC). America, Australia, Japan, and European countries all have a similar moderate Power Distance Index (PDI) which suggests that they have no difficulty generally in asking questions or giving opinions on matters in an educational or community of practice setting. Regarding PDI Australia and Japan have a moderate PDI while Malaysia's is high, the significance of this is that they may share less.

3.5.3 Cyberculture and Idioculture

In the online education setting the concept of culture must also account for the ability of participants to conceal or modify their public facing online identity giving rise to hybrid identities (Jung & Gunawardena, 2015). The online learning environment is a type of cyberculture and in this context the definition put forward by Breslow and Mousoutzanis (2012) as a culture of flow is well suited. They further define Cyberculture as follows:

> *Cybercultures know neither boundaries, nor limitations, nor inhibitions. They are the ultra-expression of flow spreading as, when, and how they can. Cybercultures do not follow predetermined paths, nor do they exist in predetermined states. They do not articulate themselves according to a specific logic, fixed identity, or set of rules determined by one space or another. They flow from place to place, from node to node, from site to site. In so doing, they rewrite the logics, relationships, meanings, behaviours, and subjectivities, heretofore found within any locale, any node, and any site, on the Internet* (Breslow & Mousoutzanis, 2012, p. xii).

Cyberculture is a cultural form which is constantly changing and can flow and give rise to differing experiences in the online learning environment.

In conjunction with the overall cyberculture which can exist on a particular programme or course, the community membership in the community of learning which in and of itself is a small group can give rise to an idioculture. Within such a cultural setting, participants engage collaboratively with one another. An idioculture is "*a system of knowledge, beliefs, behaviours,*
and customs shared by members of an interacting group to which members can refer and employ as the basis of further interaction. Members recognize that they share experiences in common, and these experiences can be referred to with the expectation that they will be understood by other members" (Fine, 1979, p. 734). There are similarities here between this definition and that of the shared repertoire as defined within Wenger's Community of Practice and fits well with the fluid nature of the online learning environment and as defined by cyberculture (Jung & Gunawardena, 2015).

3.5.4. Summary

Institutions and practitioners working in the area of online learning must take into consideration the globalised nature of online higher education. It is to be expected that students will come from diverse cultural backgrounds and each culture has its own approach to learning as do the practitioners and institutions. In addition, there are the cultures that form as a result of participation online and within a community. These are fluid and subject to change as the context of groups changes so does the dynamic.

3.6 Learning Theories and Concepts

This section will present learning theories, models, and philosophies as part of a range that are prominent in development and design of online learning environments supportive of communities. Across the variety of stakeholders involved in online learning they refer to a wide range of theories and concepts which inform the framework for their online offering such as national education policy, university policy, learning theories, models, and design models. These models and theories are used in the formation and support of the community. They provide a framework around which the module or course can be built which encourages and sustains student engagement and connectedness. One of the main components of the research questions in this thesis is the connectedness and engagement of students and how that can be supported through community. In each of the models or theories listed the thread that connects them is the social aspect embedded within and the need to engage and connect the online students in a proactive way so that it is an integral part of their learning experience. It is important to focus on this in the online setting as it cannot occur unless it is designed or included in the module. In contrast to traditional on campus teaching and learning, the student can physically walk into their class and connect with their peers or lecturer. In the online environment that needs to be signposted, spaces provided, and opportunities given to allow for connection and engagement.

3.6.1 Design Models and Frameworks

While there are numerous examples of these in the literature and in practice there are a number which are referred to frequently when the design of an online programme is being described. These provide a set of standards or a design principle by which the designer is guided as they work with lecturers to design the online learning programme. In the US one such model is the "*Quality Matters (QM) Course Review and Quality Assurance Standard*" This allows institutions to develop online programmes in line with the QM standard and then submit them for review and certification. While originating in the US it is a global organisation and is also used in other countries. Table 3.7 summarises this and other models associated with the design of online learning programmes.

Table 3-7 Standards and Theoretical Frameworks used in Online Learning Design

Name	Description
Quality Matters Rubric	• QM has five Rubrics for Course Design and one set of Standards for Teaching Online. The Rubrics and Standards guide the continuous improvement process by supporting evidence-based inquiry and feedback (https://www.qualitymatters.org/reviews-certifications/course-design-reviews).

Name	Description
ADDIE Model	• The ADDIE model is an instructional design methodology used to help organise and streamline the production of course content. ADDIE is an acronym for the five stages of a design process: Analysis, Design, Development, Implementation, and Evaluation ("ADDIE Model," ; Hess & Greer, 2016; KoÇ, 2020; Snyder, 2009).
5E Model	• The 5E Model based on the work of Atkin and Karplus in the early 1960's where they determined that an effective learning had three key elements exploration, introduction, and concept application. The 5E model allows students to gain an understanding of a concept over time through a series of steps: engage, explore, explain, elaborate, and evaluate (Atkin & Karplus, 1962; Tanner, 2010).
Moore's Online Model	• Moore is credited with the description of the concept of transactional distance, which applies separation between the learner, the content, and the teacher. Dialogue, structure, and autonomy are considered to be key components of the transactional distance theory. He also identified three forms of transactional distance learner-content, learner-teacher, and learner-learner (Moore, 1993; Moore & Kearsley, 2011).
ABC Learning Design	• ABC Learning Design Model is based on the pedagogic theory of Professor Diana Laurillard's Conversational Framework. Using a number of learning types, it allows the Teachers to describe the students learning process (Laurillard, 2009).

3.6.2 Teaching and Learning Theories and frameworks.

This study is grounded in the conceptual frameworks of student connectedness and sense of community. While reviewing the literature in this area a number of theories and frameworks related to the construct of online learning programmes that specifically reference student connectedness were noted. Table 3.8 lists those that are related directly to teaching and learning.

Table 3-8 Teaching and Learning Theoretical Frameworks used in Online Learning Programmes

Name	Description
Social Learning Theory	• Bandura's Social learning theory emphasises the importance of observing, modelling, and imitating the behaviours, attitudes, and emotional reactions of others. Social learning theory considers how both environmental and cognitive factors interact to influence human learning (Bandura, 1977).
Paragogy	• Paragogy: Theory of peer-to-peer learning based on the work of Knowles in adult learning (Corneli & Danoff, 2011).
Liberating Structures	• Liberating Structures offers an approach and design as to how people work together. They structure activities that can be used to enable people, to work together in finding creative and innovative solutions (Kimball, 2012; "Liberating Structures,").
Connected Curriculum (Policy)	• The connected curriculum describes a framework of six dimensions in which students are connected to research and the institutes researchers, research activity is built into each programme, students make connections within the institution and to the outside world, students connect with academic and practical content, they produce assignments to a specified audience and students connect with their peers and alumni (Fung, 2017).
Adult Learning Theory (Andragogy)	• Andragogy: Adult pedagogy is distinct from child or teen pedagogies; adults bring maturity of thinking, life experiences, focus, and responsibility into the classroom, making the knowledge construction a choice and equal among all participants (Knowles, 1977; Merriam, 2001).
Gilly Salmon's Five Stage Model	• In the 1990s Salmon developed a model to scaffold collaborative student learning in an asynchronous environment. This model has informed teaching and learning practice in the online and blended learning spaces. The Five stages within the model are: Assess and Motivation, online socialisation, information exchange, knowledge construction and development (Salmon, Nie, & Edirisingha, 2010).

There are many other theoretical frameworks for teaching and learning in the online environment, but those listed have arisen more frequently than the others regarding this study.

3.6.3 Summary

This section serves to outline a number of theories, conceptual models and approaches that help to frame the design, development, and provision of online learning programmes. The various models deal with student connectedness and highlight a range of lecturer, instructional design and institutional factors which influence the online environment in which the programme of study and its associated community of learning is based. It further reflects the broad nature of the online learning environments which are possible within these frameworks with the common social constructivist thread running through them.

3.7 Conclusions

This chapter presents literature on Communities and Connecting students in the online learning environment, Communities of Practice, Communities of Inquiry, and the Cultural dimensions which influence connectedness. It has linked the concept of communities of learning to student connection and sense of belonging, communities of practice, communities of inquiry with the concept of community as a condition for social learning within online higher education. A sense of community has been described as part of social learning research and the community of inquiry model used in online learning. Communities in an education setting can be seen as collaborative spaces where social interactions recognise the value of learning communities. This sense of community is a key component of social learning which gives the students a sense of belonging and identity in the online learning space. As the participants', institutions', and practitioners' cultural backgrounds cannot be separated from their engagement they are important considerations in the support of the communities formed. These learning communities have an impact on how students perceive a sense of collegiality, their engagement, and persistence in an online education setting. The implementation of online learning environments which reduce student feelings of isolation through the promotion of sense of community and belonging contribute to the overall student success (Byrd, 2016). This study examines the phenomenon of communities of learning connecting and supporting students from the perspective of the four key stakeholder groups, students, lecturers, designers, and the management within the institutions themselves. It includes the views of stakeholders from many countries and puts forward a multi-participant perspective of communities of learning and their limitations.

This review has looked at the current policy and strategy as it exists on a national and international level in chapter 2 and then specifically at the literature regarding communities of learning, practice and inquiry, cultural dimensions, and the supporting learning/design

theories for online learning. By looking at the phenomenon from the differing perspectives as presented by the literature, it serves to broaden the overall understanding of it (Peoples, 2020). The preceding two chapters have presented a description of the theory/concepts of online learning communities, those of practice and inquiry as a theoretical framework for this study. These cannot be viewed in isolation of the cultural dimensions in which they exist and the learning/design theories which support their use. The theories along with a number of research studies which explore them as phenomena have been presented. In the ever-changing technology and online learning landscape the lived experience of those involved changes as the concepts evolve. New challenges are presented and there continues to be a need to examine the phenomenon from a variety of perspectives. This study explores the lived experience of these community types with four specific groups in a variety of countries and cultural settings.

Underpinned by social constructivism, the theories of CoP and CoI in the context of online learning within a global higher education setting are brought together to form a theoretical framework through which the experiences of the phenomenon can be explored. As the challenges of student isolation in online higher education persist (Ali & Smith, 2015; Després-Bedward, Avery, & Phirangee, 2018; Dumford & Miller, 2018; Erichsen & Bolliger, 2011; Peacock et al., 2020), with this study it is hoped to explore the essence of the experience to better understand and support it.

Chapter 4 Research Methodology

4.1 Introduction

This chapter outlines the methodology used in this study. It critically discusses the research paradigm, methodology and approach taken in investigating the phenomena of communities in an online setting as they support students through fostering collegiality, collaboration, and persistence. Four specific stakeholder groupings - students, lecturers, designers, and university managers, (n=36) were interviewed to generate data for this study. The participants provided personal lived experiences of working with communities of learning in an online environment. The research design was guided by the literature from the area of phenomenological research and relies also on certain methods from grounded theory.

Understanding the needs of and supporting the online student body, removed as they are from the traditional student campus, may have an important role to play in ensuring that their university experience is as rich and fulfilling as their on-campus counterparts. Believing as I do that education is a social construct, then, the social needs of the students in an online environment need to be understood. Communities of learning, practice and inquiry may play an important role in supporting student connectedness, collegiality, and persistence. There are many contributors to any learning community: the students, the designers, the lecturers, and the university management itself. The views and opinions of these four groups can give valuable insight into the online learning environment and how it is adapted, structured, and designed to achieve a sense of community and collegiality among the student body. Each of these groups had a perspective on the concept of an online community of learning and are of key importance in looking at the research questions. A phenomenological design is considered as a suitable approach for this study because it seeks to capture the essence of a shared experience among several individuals (Creswell, 2014). In this case, the phenomenon was the community of learning formed in the online environment of which students, lecturers, designers, and the university managers all have experiences of.

This qualitative research study which seeks to explore the phenomenon of the online learning communities is guided by a number of research questions which are set out in the next section.

4.2 Research Questions

This study sets out to explore the use of communities of learning, CoP and CoI, in online postgraduate higher education. Learners' sense of, participation in and concept of social presence underpins their contributions to building the online community and it is

difficult to separate their efforts to construct knowledge from their collaborative social behaviours (Conrad, 2002a). Designers and lecturers, supported by university policy makers, work to build community models into modules and programmes and support the natural development of relationships in the online environment, within the VLE and outside of it (Bin, Zhang, Zhan, & Ma, 2021; Schwier, 2001). Within the literature, there is a suggestion that communities of learning can evolve organically or spontaneously (Hiltz & Turoff, 2005; Steinkuehler, 2004), others are of the view that a community of learning is planned and intentionally designed (Palloff & Pratt, 2007). For the purposes of this study, it is the intended and planned communities of learning that are of interest. As previously described such communities have the potential to provide an insight into online students' collegiality, sense of belonging and persistence. The constructivist perspective, theoretical frameworks of both the community of practice and inquiry and my experience as a practitioner has guided and informed the following research questions.

R1: What constitutes, i.e., the characteristics of, an online community in the context of postgraduate higher education with specific reference to collegiality and persistence of a diverse student population?

R1.1 How, if at all, is the community affected by the cultural diversity of the students' backgrounds?

R2: Are the communities formed within the context of a programme in online higher education Communities of Practice, Communities of Inquiry, or a hybrid of the two?

R2.1 Does the community formed (if any) support student connectedness, collegiality, and engagement? If so, how is this manifested and sustained?

R2.2 What effect do these communities have on students' sense of belonging as learners?

A qualitative model of phenomenological design and methodology to guide human science research based on the works of Husserl and described by Moustakas (1994) was adopted to explore the phenomenon which was guided by these research questions. The following sections describe this design and its theoretical underpinning.

4.3 The Research Design

According to Kuhn (1962) a research paradigm is a set of "*common beliefs and arguments shared between the researcher and how the problems should be addressed and understood*" (p.43). As I believe in the social constructivist approach then this, as Kuhn points out, is incorporated into how the research questions have been framed and in the methodology which I have chosen to understand the phenomenon. Equally, the way I perceive the phenomenon or my framework for looking at this is influenced by my career as a lecturer using the online environment. My observations over the last twenty years in education are that individuals build their understanding through their interaction with others and their environment, a constructivist paradigm (Blaikie, 2007; Blaikie & Priest, 2019; Denzin & Lincoln, 2011).

Research paradigms are characterised through addressing three specific areas: ontology, epistemology, and methodology (Guba, Lincoln, Denzin, & Lincoln, 1994). The ontological prospective being the nature of the reality, the epistemological prospective being the knowledge (how do we know) and the methodological prospective being the methods involved in the process. This research study is designed with an ontological view that assumes the phenomenon is complex and there is more than one way of looking at it (Guba et al., 1994). My approach then is aligned with Crotty's (1998) assertions that

> "*All knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context*" (p.42)

The constructivist epistemological viewpoint suggests that knowledge is constructed through social interaction and meanings evolve through such interactions (Crotty, 1998). Within this constructivist paradigm emphasis is placed on understanding the individual and their experience of the phenomenon. In the case of this study that is community in the context of online learning. The essence of this paradigm is that reality is socially constructed (Bogdan & Biklen, 1998; Kivunja & Kuyini, 2017). This study sets out to look at communities of learning. A community is constructed by its members who have a common goal or interest and trust one another (McMillan & Chavis, 1986). This study is looking at the reality that is the lived experience of students, lecturers, designers, and university management as they construct their learning communities. This constructivist approach looks to describe and structure participants' meanings regarding the phenomenon (Broido & Manning, 2002; Creswell, 2014).

The qualitative approach used here sought to explore the complexity of the phenomenon through the findings that emerge from the four participant groups. Through the semi-structured interviews, experiences were discussed, reflected upon, and meaning constructed through the dialogue between the participant and the researcher. A qualitative approach was chosen as it allows for the intricate details of the phenomenon such as feelings, thoughts, and emotions to be explored which are more difficult to learn about by other methods (Strauss & Corbin, 1990). I wanted to understand if communities were present, how they affected the participants on a social and cultural level and what they thought about them. This standpoint acknowledges the importance of alternative, subjective positions, and different ways of making sense of the world (Blaikie, 2007; Blaikie & Priest, 2019). Thus, a qualitative approach which allows for these positions to be described is appropriate from both the realist and constructivist perspective. Different qualitative approaches were considered including narrative inquiry, grounded theory, ethnography, and phenomenology (Denzin & Lincoln, 2011).

Narrative inquiry explores the lived experiences of an individual (Connelly & Clandinin, 1990). As it is these experiences in the online learning environment that are important in answering the research questions, this approach was considered. The relational aspects of narrative inquiry provide the researcher and participants with a setting to explore experiences of the online learning environment and how these are impacted by physical, social, and cultural experiences. The narrative inquiry approach was not selected due to the need to capture an individual's experience as a continuum, as a series of events in a lived history (Clandinin & Huber, 2010). Narrative inquiry utilises several aspects of the experience, looking at past and present experience of the participants. The fluidity and longevity of this approach means that in describing the experiences of individuals or small groups over time their willingness to continue to participate may be an issue. The duration of postgraduate programmes in their current forms online normally run over twelve to eighteen-month periods, thus making narrative inquiry difficult in the time span of the programme.

Grounded theory is concerned with the generation of theory from systematic research through the analysis of data (Denzin & Lincoln, 2011) and having four main features: minimal preconceptions, simultaneous data collection and analysis, various interpretations of the data and constructing a theory as the outcome of the research (Flick, 2018). As I aimed to explore experience, understand these experiences to improve policy and practice and not develop theory, then I did not consider grounded theory as an appropriate choice. Ethnography involves the study of people and cultures and is an appropriate methodology to use when exploring such complexities of an environment (Denzin & Lincoln, 2011). Normally it is a single environment or community which is being studied. As this study set out to explore

individuals' experience and understand the meaning of their experience in their environment, it involved multiple differing environments in different countries, with diverse cultures. Therefore, this methodology would not be able to address the research questions.

4.3.1 Phenomonology

Following identifying a qualitative approach and more specifically phenomenology as the most appropriate methodology to answer the research questions of this study, it was important to gain a greater understanding of phenomenological philosophy. A phenomenological inquiry looks to "*grasp the very nature of the thing*" (Van Manen, 2016) and in so doing help identify meaning behind the human experience as it relates to a phenomenon. A phenomenological design is appropriate for this study as it seeks to capture the experiences from a number of groups of participants. As Creswell (2014) describes it "*A phenomenological study describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon*" (p.14). In this case the phenomenon is the communities in an online learning environment, how they are evolved and whether they can be identified as CoI or CoP, in other words what is the essence of that community.

The modern phenomenological method is derived from the work of Edmund Husserl (1859-1938). Husserl advocated through his research that objects exist independently and that observations and experiences involving these objects are reliable, suggesting an individual's perceptions are accurate representations of their consciousness (Van Manen, 2016). In relation to this study, learning with the aid of technology is in and of itself an experience (Parrish, 2009) which is more than a passive event but a transaction that takes place between the learner and the online environment. Dewey (1938) equally described education as an experience which involves growth, interaction, and continuity. Phenomenology has both a theoretical framework and a method which are specifically designed to look at the experiences of the phenomenon from the perspective of those who experience it (Giorgi, 1997; Moustakas, 1994; Sebnem, 2011; Van Manen, 2016). According to Moustakas (1994), a phenomenon is an object of a person's experience as it presents itself and the basis of knowledge.

Broadly speaking there are three different types of phenomenology: transcendental (descriptive), existential, and hermeneutic (interpretative) (Peoples, 2020). Husserl's original work describes transcendental phenomenology as the essence of things and ideas while acknowledging the existence of a natural world before our consciousness of it (Husserl, 1967). The purpose of a phenomenological study is to describe and understand the phenomenon in-depth and the essence or quality of the experience (Husserl, 1967; Moustakas, 1994). Therefore, in this study I am investigating individuals' experiences of a

given component of the online learning environment, communities of learning to arrive at the essence of the experience via the various individual experiences. What remains common across the participant groups after particulars are removed is the essence of communities in the online learning environment. Looking at the essence of the experience is the purpose of phenomenological research. When I interviewed the different participant groups it was to look for manifestations of the essence of their experience. The essence of the experience is never completely exhausted and does not represent a universal truth but rather that which is true for the participants at the time of the interview as they relate to this study (Moustakas, 1994), or as Giorgi (2009) puts it "*the descriptions provided by the experiencers are an opening into the world of the other that is sharable*" (p. 96). In contrast Martin Heidegger, a student of Husserl, is associated with existential phenomology which suggests that we look at experiences as being "*in the world*" and therefore they are not bracketed from the things around them but considered in relation to things in the world such as culture, social dimension, and relationship to others (Heidegger, 1927, 1973; Sebnem, 2011). Hermeneutic phenomenological approaches such as interpretative phenomenological analysis are focused on interpretation rather than description and researchers using this method analyse their data by going between the transcribed participants' experiences and their own interpretation of what these experiences mean (Smith, Flowers, & Larkin, 2009).

Phenomenology, as a research methodology therefore aims to employ methods which allow the researcher to hopefully gain rich descriptions of experiences. These methods are intended to open up the world of the participants who have, or may in the future have similar experiences. As human experiences are diverse so too are researchers; so much so that the three main methods of phenomenology have many variations with implications for how the ideas are built upon depending on the approach taken. The focus on experience is key to all as is intentionality and the way the world appears and our experience of it. Regarding intentionality, Husserl suggested that in phenomonological studies suppositions should be put to one side and proposed engageing in "E*poche*" (bracketing), putting aside one's own position on the phenomenon being investigated (Husserl, 1917; Moustakas, 1994). Giorgi and Kvale also refer to the need to ensure that previous knowledge does not influence the phenomenon being studied so that it can present itself fully or in other words the researcher should show a deliberate naivety (Giorgi, 1997; Kvale, 2006). Husserl (1917) suggests that *"Epoche*" is achievable however Sartre and Merleau-Ponty are of the view that a researcher should try to achieve "*Epoche*" but accept that total bracketing of one's own presuppositions is difficult to achieve (Merleau-Ponty, 1970; Sartre, 1972).

Phenomenology is used extensively in research emanating from sociology, psychology, health sciences and education (Creswell & Miller, 2000). The application of

phenomenology as a research method in education has been used to study experiences in education research (Stolz, 2020), higher education (Landreman, Rasmussen, King, & Jiang, 2007), education and technology (Sebnem, 2011) and group work in online higher education (Saghafian & O'Neill, 2018). Husserlian phenomenology is not without its issues, in particular the notion of there being an absolute truth. In relation to this I have adopted the approach of Moustakas (1994).

> *"My intentional experience is the combination of the outward appearance and that as contained in my consciousness based on memory, image, and meaning. Memory meanings can be verified by immediate perceptions of what is appearing. Thrusts toward future meanings cannot be validated and yet they exist as genuine possibilities appropriate to my experience. Thus, every experience can be extended in a chain of meanings and essences. Each experience contains openings for further experience. There is no absolute or final reality in experience"* (Moustakas, 1994, p. 55).

All experiences are valid, and they will change with time. Watson (1985) supports this in her reference to the concept of essence as she suggests that it does not need to be absolute or definitive but "*more pragmatically represents the deepest understanding available*" (p.82)

4.3.2 Transcendental Phenomenology

Husserl (1859 – 1938) is considered the father of phenomenology however it has probably been practised in different forms for many years before (Staiti, 2014). Husserl's work is seen to be influenced by that of Descartes the French Philosopher and Kant the German Philosopher through their previous characterisations of perception, thought and imagination. Husserl's work entitled *Logical Investigations (1901)* describes his phenomenological theory of intentionality and knowledge (Husserl, 2001). It is in his later work *Ideas (1913)* that he defines phenomenology as the "*science of the essence of consciousness*" (Husserl, 1969). In this work he presents phenomenology with a transcendental nature. It also sees him referring to "*Epoche*" or bracketing. Often referred to as descriptive phenomenology, transcendental phenomenology suggests that within a range of participant experiences there is a larger, transcending quality of a phenomenon to be discovered. The functions of transcendental phenomenology have been listed by Farber (1943) . These are summarised in Table 4.1 and related to this study.

Table 4-1 Functions of Transcendental Phenomenology which relate to this study.

Farber's (1943) functions of Transcendental Phenomenology	This Study
1. **First method of knowledge as it begins with things themselves and puts aside presuppositions.**	Communities of learning be they communities of practice or inquiry as experienced by the participant groups.
2. **Meaning of experience is more important than operational information.**	Experiences of communities are more important than the technology which supports them.
3. **Real and possible essences are included.**	The participants relate what has happened as their experience but also what could happen, or they would like to see happen in the future.
4. **It gives insight into the essence of things and reflective description.**	Participants describe their experience but also reflect on it through the interview questions.
5. **It obtains knowledge through subjectivity retaining values of subjectivity and reflection.**	The knowledge of communities is a combination of the participants' experience of them and their reflective thoughts about them.

Using transcendental phenomenology then the phenomenon of online learning communities was explored in this study by obtaining the participants knowledge of their experiences and their reflections on that knowledge. One of the first tasks of this phenomenological method according to Husserl (1917) is "*Epoche*" or the removal of all presuppositions so that current judgements or knowledge is set aside, and the phenomenon can be revisited with an open mind.

When I initially began my research into this area of online learning communities, I had thought to look at student participants' experiences only. The research questions were similar to what they are now but with students only involved across a number of disciplines and education institutions around the world. My original focus was on students as the users and those who will benefit from online communities as part of their student experience. However,

I was not able to recruit sufficient students to participate in the study. The invitation to participate was circulated to those participating in online programmes in my own university, other institutes of technology in Ireland and private and public education institutions both in Ireland and abroad. Over a twelve-month period, I continued to invite students via email which was sent to them by their programme leaders and lecturers, directly by speaking to them about the study at the beginning of one of their first online lectures and by attending face to face programme orientation sessions. While many students were interested in the study they were not sufficiently so, to participate. There are many reasons why this could have been the case, but it did cause me to reflect on the phenomenon as a whole and consider my own presuppositions. My original supposition was that students would be interested because this was useful to them. Employing the phenomenological approach as described by Husserl (1917) and Moustakas (1994), I put this aside and took a step back from the subject and considered the potential of widening the participant group to all of those who had a direct involvement. As the findings and discussion will illustrate, students are not as empowered when it comes to participation in communities as I had originally thought. So then when all presuppositions were set aside the study participant groups widened to include students (as was the original case) as the participants in the communities, lecturers as participants, managers, and instigators of the communities in their online modules, designers as those who work with lecturers to support such communities and managers/policy makers who set the environment in which these communities exist. In so doing I was bracketing my original thoughts and assumptions allowing for the phenomenon to be described in as open a way as possible. According to Moustakas (1994) this is also referred to as Transcendental Phenomenological reduction, where each experience is considered in and of itself singularly and in so doing to derive a textural description of the essences of the phenomenon and the constituents that comprise the experience from an open-minded space.

With the concept of phenomenology there exists a duality between the ideal and material components: each experience has an ideal and material component (Moustakas, 1994). While ideas and things are separate there is an interrelationship between them where meaning can be derived. In Moustakas' (1994) phenomenological model the imaginative variation is integrated with the textural essence of reduction to allow for meanings and essences of experiences to be investigated. Regarding this study, it allows for experiences of learning communities, practice, or inquiry, to be described in their ideal, actual, and potential states.

Additionally, Husserl (1917) describes how each experience has two dimensions: noesis and noema. Noesis refers to thinking, feeling, perceiving or the act of the experience. While noema is the object of the action, thought, felt, perceived. Combined the two make up

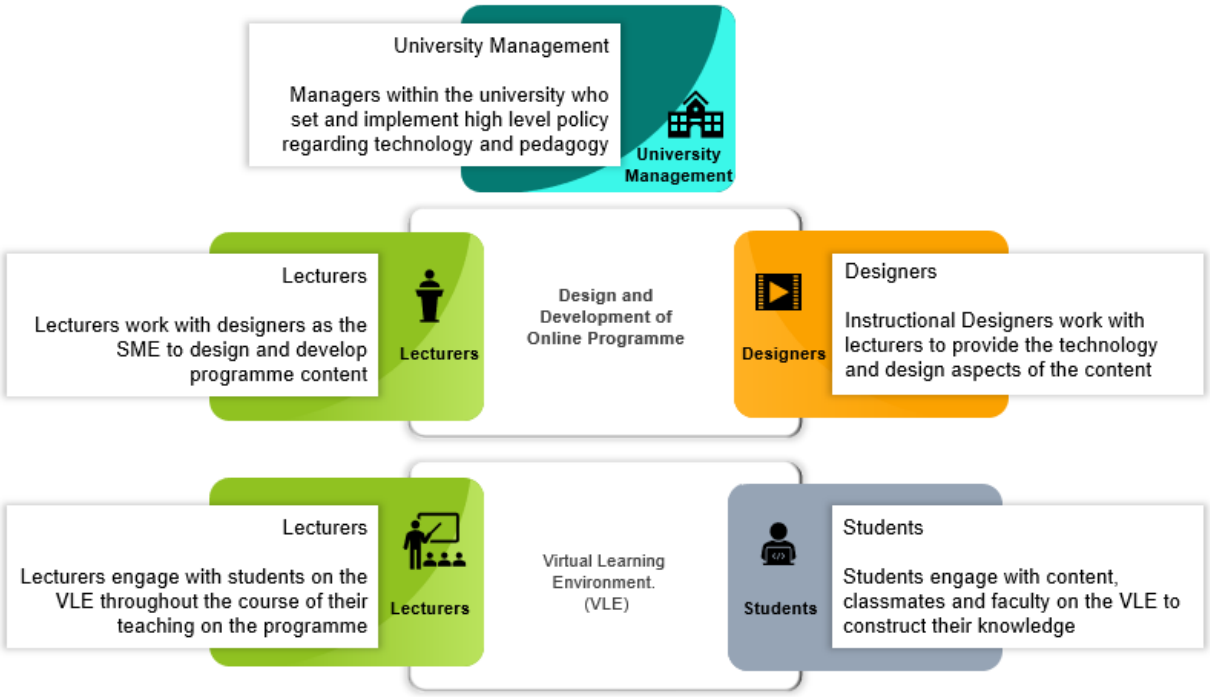
consciousness and any existence of a noesis has a corresponding noema. This relationship between conscious subjects and objects is referred to as intentionality (Crotty, 1998; Husserl, 1969; Moustakas, 1994). For example, in this study the use of communities of practice and inquiry in online higher education is the noema of the experience and using these communities in online higher education is the noesis of the experience. The two are interrelated and one cannot be studied without the other. Every experience also has texture and structure which are manifestations of its essence and allow for it to be investigated in all its forms focusing on nature and commonalities (Moustakas, 1994).

Husserl's (1917) transcendental phenomenology begins with bracketing of the phenomenon and removing all presuppositions. Then the experiences described with the brackets are textually described from all sides, students, lecturers, designers, and managers until an extensive description is achieved. From these textured individual descriptions, an overall description of the phenomenon as it is experienced can be put forward. This study is focused around textural and structural descriptions and an essence of the experience of the participants regarding the community of learners in an online higher education setting (Creswell, 2013; Moustakas, 1994). Transcendental phenomenology is useful for describing the phenomenon using the participants' experiences, perceptions and voices. According to Creswell (2013), the textural descriptions examine the participants' experiences, and the structural descriptions develop through how the participants experienced the phenomenon. Furthermore, Moustakas' (1994) data analysis method of transcendental-phenomenological reduction is well suited to the examination of the experiences of the participants in this study and was used to achieve a textural-structural synthesis and essence of the experience.

4.4 Samples, Sampling and Sampling Strategy

Moustakas (1994) describes participants in a phenomenological study as individuals who have experience of the phenomenon and are willing to share and explore those experiences. With this in mind I adopted a purposive sampling strategy for this study. In purposive sampling participants are selected to participate based on their first hand knowledge of the experience (Padilla-Díaz, 2015) rather than the general population (Peoples, 2020). It can be argued that the online learning environment has a number of stakeholder groups who will have this knowledge, and which were necessary to include in this study to ensure that the phenomenon was being described from as many different perspectives as possible. Figure. 4.1 lists these groups and explains how they are connected.

Figure 4-1 Stakeholders in Online Learning



Regarding sample size, Marshall (1996) suggests that the appropriate size is that which is optimum to answer the research questions and provide a detailed description of the phenomenon. There are a number of other positions taken in the methodology literature, for instance Creswell (2013) and Gray (2004) both recommend 5 to 15 participants who have experienced the phenomenon, while Peoples (2020) recommends 8 to 15 participants. In each case they stress the importance of ensuring that saturation is met (No additional insights are being gained from participants) more so than the actual number of participants, or as Hycner puts it the method requires few participants, but the phenomenon determines the method, the selection and type of participants (Hycner, 1985; Peoples, 2020). As I have determined the groups from which the participants should belong, and have chosen purposive sampling, so that in this qualitative study, a small and selected sample can be taken (Miles & Huberman, 1994). Purposive sampling is defined as the use of selected participants that are most likely to yield appropriate experiences related to the phenomenon (Campbell et al., 2020; Palinkas et al., 2015). The reason for adopting this sampling strategy is that there are individuals and groups who have experience of online communities of learning that will serve to address the research questions and should be included in this study.

One of my key objectives was to access a wide range of participants to capture the essence of the phenomenon. Two selection criteria are described in Table 4.2. The first is that the participants have experiences to share from their involvement in online learning environments. This can be either direct involvement i.e., students and lecturers, or indirect

which is the case for designers and management/policy makers. The second criteria was that within each group more than one country, cultural background and university should be represented. As online learning and online learning communities have a global reach and participation, this phenomenon can be experienced by individuals from many countries. As research question R1.1 is specifically concerned with how, if at all, the community is affected by the cultural diversity of the students' backgrounds, it was important to include those from differing cultural backgrounds across all groups to address this. There was no assumption made on the cultural background of the individuals based on their country of origin as it is accepted that countries contain distinct cultural groups (Schaffer & Riordan, 2003). When constructing the interview questions care was taken to avoid the use of figures of speech, and phrases that are common to only one country or culture and the selection criteria also ensured that the language of instruction in their university was English. All interviews were through English, and no translations were necessary. As an open question style was used it avoided culturally determined response styles which include acquiescence and extreme responding (Spector, Liu, & Sanchez, 2015).

Table 4-2 Selection Criteria for Sample Selection

Group Name	Selection Criteria	Reason
Students	Students of an online postgraduate programme with its language of instruction being English.	Greater population of postgraduate programmes available online and they have already had a university third level experience at undergraduate level which allows for the community to be explored for its collegiality and other attributes as they are more advanced in their lifelong learning journey. In addition, they have chosen to attend their respective courses rather than it was what was offered to them which could be the case with undergraduates.
	More than one country, cultural background and university.	As online programmes attract students from around the world this was included to ensure a wide range of experiences including the culture and education philosophy of universities.
Lecturers	Lecturing on online modules on programmes at	Lectures are the teaching presence of the community and therefore are an integral part of it.

Group Name	Selection Criteria	Reason
	postgraduate level through English.	
	More than one country, cultural background and university.	To ensure a broad range of experiences were being generated.
Designers	Instructional Designers who work with lecturers to design and develop the online materials.	Designers work with lecturers in their universities to help and assist them with their online lecture materials, discussion forums, online chat functions, etc. While they are guided by the lecturers, they advise on how to engage students in the online learning environment.
	More than one country, cultural background and university.	To ensure a broad range of experiences were being generated.
Managers/ Policy Makers	Those who have a decision-making role in their institution regarding online learning policy.	They inform the policy which influences the direction and construct of online learning and its communities which are supported by the lecturers and designers for the "*benefit*" of the students.
	More than one country, cultural background and university.	To ensure a broad range of experiences were being generated.
Additional Criteria	Each group should have a minimum of five participants.	To ensure that there is sufficient representation of each group.
	There should be a minimum number of two participants from each country or geographical region.	To ensure that there is sufficient representation from the variety of regions where there are institutions providing online postgraduate programmes through English.

Student participants were contacted and invited to participate either through their programme's leader via email or following direct appeal during a lecture or orientation session which I attended. As described earlier in this chapter recruiting student participants was difficult and despite multiple and varied attempts just five were recruited. Of the five, one was interviewed three times, two were interviewed twice and the other two were interviewed once. Regarding contacting participants for the other three groups, I used email or instant messenger to introduce myself and my study to those I had details for through my attendance at conferences, forums and from other connections through my work. If they were open to participating, I then forwarded the participant information sheet and consent form. Signed consent forms were returned prior to the interviews taking place. A transcript of their interview was emailed to each participant for review and approval for use in the study. I acknowledge that there were cultural differences between some of my participants and myself, I had worked in these countries previously and was able to adopt my style sufficiently for such instances.

4.4.1 Introducing the participants.

The purpose of this section is to introduce each of the four participant groups and provide details as to their background, their characteristics, and contexts. This study involved thirty-six participants from the four stakeholder groups, students, designers, lecturers, and university management. A summary of the participant groups is given in Table 4.3. While participants were from many diverse backgrounds and countries, the difference between their countries of origin was less than that between groups. The data generated from these interviews is anonymised and any references which may lead to the identification of their institution have also been removed.

Table 4-3 Summary of Study Participants and their groups

Group	Number of Participants	Number of Interviews	Locations
Students (STU)	5	9	Ireland, UK, Malaysia, Kuwait
Lecturers (SME)	8	8	Ireland, UK, USA, Australia, Egypt

Group	Number of Participants	Number of Interviews	Locations
Designers (ID)	6	6	UK, Canada, USA
Managers (PM)	17	17	Ireland, UK, USA, Switzerland, Netherlands, Canada, Australia, South Africa

4.4.1.1 The Students (STU)

This group was comprised of five participants who were all engaged in online postgraduate taught programmes or had recently completed their studies. The programmes were from the disciplines of education, healthcare, and business. The programmes were of a minimum of twelve months in duration and were either Postgraduate Diplomas or Masters. Those that were continuing their studies were interviewed more than once to gain further insight into their experiences as they progressed through their respective programmes. In terms of geographical distribution, they were from Asia, Middle East, UK, and Ireland. They were all working, adult learners, ranging in age from mid-twenties to over seventy and registered at different education institutions. For some this was their first online programme while others had engaged in other postgraduate programmes online prior to the one they were engaged with when interviewed. The experiences of this group regarding communities vary from those who wish to work alone to those who wish for and seek out their peers in the community of learning. Additionally, there are those who 'reach out' to their Community of Practice outside of the learning environment for support. They become involved in the communities within the institution's VLE platform and also set up their own outside of the institution on WhatsApp or Facebook.

4.4.1.2 Lecturers (SME)

This group was comprised of seven lecturers/professors from third level institutions. In each case they have been or are currently involved in online module and programme provision. They come from a variety of discipline areas and use one of four common VLE platforms: - Moodle, Canvas, Blackboard or Brightspace with multiple other online learning tools and apps. Regardless of their home country they still use the same four online learning platforms. The geographical spread is from Ireland to the UK, Australia, USA, and Africa. All have been involved in online programmes prior to the remote learning associated with the Covid 19 pandemic. All were experienced in using the online tools and technology and were

involved in a variety of e-pedagogy and andragogy both from their current institution and previous institutions at postgraduate level. The communities of learning that they become involved in with the students are based around their modules and their industry partnerships.

4.4.1.3 Designers (ID)

Designers work with lecturers/professors and associate lecturers (contracted or part time lecturers) in their roles in designing and developing the online learning materials and consider students as the final audience for their module and programme design. Lecturers are often both the client and the subject-matter experts in this context. Designers in higher education use a wide variety of tools for the purpose of course design, to support lecturers in synchronous and asynchronous online lectures as well as facilitating workshops for them. They often provide training in modern technology and suggest the appropriate online tools and technology for the particular subject matter. In the context of this study, they are instrumental in developing, designing, and integrating the location for the community to meet i.e., online meeting space and threading it through the content as developed on the module page. In the CoI model they are considered to be part of Teaching Presence as they contribute to how the module is taught. This group includes six individuals from the UK, USA, and Canada.

4.4.1.4 Management (PM)

This group are drawn from the management level of the institutions and have job titles such as Director of Online Learning, Head of Learning Design, Associate Director of the Teaching Enhancement Unit or Education Consultant. Their role is to manage, guide, shape, and advise on the online learning programmes in line with the educational philosophy of the institutions. Given their position within their respective institutions they also play a role at local, provincial, or national strategy level. There are seventeen included in the group from across Ireland, UK, rest of Europe, USA, Canada, Africa, and Australia. While not directly involved in the communities of learning themselves it is their policies that endeavour to see communities formed, extended across modules to the entire programme, link them with professional bodies including industry partners and on to the alumni of the university.

4.4.2 Justification of Sample Size and Variation

Online communities of learning are a phenomenon which can be experienced across many geographical regions. The sampling selection criteria included two requirements. The first was that the participant should be from one of the four identified stakeholder groups so

that that they would have experiences of the phenomenon. The second was that across the group more than one country and cultural background should be represented. For each of the participant groups the objective was to ensure geographical spread and also saturation. Saturation is the point at which no new information is being presented by the participants (Guest, Bunce, & Johnson, 2006; Sandelowski, 2008, p. 875). There can be a number of points of saturation: at stakeholder group level, at regional level and at study level. As such, consideration was given to the diversity of the participants across the stakeholder groups and their representation of geographical regions. In the cases of the student, lecturer and designer groups the sample size falls within the numerical range suggested by Creswell (2013) and Gray (2004) and saturation point was reached with these numbers. While the number of participants in the Managers group is larger than the others this was due to the saturation point not being reached until more participants were interviewed. Additional participants were recruited to generate the fullest range possible of descriptions of the phenomenon (Polkinghorne, 1989; Sim, Saunders, Waterfield, & Kingstone, 2018). As there was no weighting applied to the groups based on number of participants, all interviews were labelled and resulting themes presented in the same way. Each main theme is presented where it was experienced within the groups and representation of the manager's experiences in the findings is of similar length to the others.

4.5 Data Generation – Semi-structured Interview

Within phenomenological research generally data consists of descriptions of the experiences of the participants which are generated through interviews, observations, or self descriptions (Van Manen, 2016). For transendental phenomenology semi-structured interviews are considered both a suitable and a common method to collect individuals' descriptions of their experiences of the phenomenon (Kvale & Brinkmann, 2009; Sebnem, 2011). Additionally as this study is not related to the participants' online education experience as a whole, but to just one specific element of it, semi-structured interviews are appropriate as they can be used to investigate this specific element while still allowing for background, context, situation, and the essence (essential meaning) of their experience of the phenomenon to be expressed. Therefore, following ethics approval from Trinity College ethics committee (Appendix B), data was generated using semi-structured interviews (Appendix C).

Both Seidman (2006) and Kvale & Brinkmann (2009) argue that a qualitative interview provides an appropriate method for undertaking phenomenological research. There are three different types of interviews: unstructured, semi-structured and structured (DiCicco-Bloom & Crabtree, 2006). Structured is a quantitative tool where the same questions in the same order

are asked to the interviewees. Unstructured interviews tend to be conducted in combination with other materials, for example observational data and are often used in ethnographic research (DiCicco-Bloom & Crabtree, 2006; Jamshed, 2014). Interviews in phenomenological research should have some structure associated with them as to be unstructured could provide an inaccurate picture of the process (Mason, 2017) and even the most unstructured interview will need some structure to remain focused on the phenomenon (Bevan, 2014) as experienced by the participants involved. It is widely accepted that semi-structured interviews are the most commonly used interviewing format for qualitative research and often are the sole data source for a research project (Creswell., 2014; DiCicco-Bloom & Crabtree, 2006; Jamshed, 2014). Interviewing as a method employed in qualitative research is not without its critics. Dean and Whyte (1958) questioned the truthfulness of the interview data, Becker and Geer (1957) discusses the absence of certain information and Deutscher (1973) remarks on the difference between what individuals do and what they say they do. Atkinson and Coffey (2002) describe the performance nature of the interviewee and warn that such data does not give us access to personal and private experiences. In assessing the critiques of the interview method, Hammersley (2003, 2017) concludes that far from abandoning the use of the method one needs to be aware of the generation and analysis of the data and what it can and cannot provide. Additionally, Silverman (2017) suggests a number of changes to improve the quality of the interview. The first of these suggested by Silverman (2017) was to "*Improve the transparency of the interview set-up*". In this study, I engaged in an email conversation with each participant prior to them being interviewed, in which along with providing the consent form and information sheet, I explained who I was and what I hoped to achieve from a practice level with the interview that we were going to have.

The use of semi-structured interviews is noted by Giorgi (1997) as an appropriate method by which to keep a balance between focusing on the research question and allowing for the naturalness of the description of the experience. Interviews are more than just questions and answers. There is a need to build up a rapport and to learn as much as possible about the experiences of the interviewee and how he or she feels about, in my case, the communities of learning in an online education environment, but moreover what the significance of these experiences are in the wider context (Coe, Waring, Hedges, & James, 2017). There are three separate parts, then, to building a valid frame for conducting these interviews: the questions, the rapport, and the location. Coupled with this is the phenomenological structure to the interviews themselves, through phenomenological reduction. Previously I spoke about bracketing as I began this study in the setting aside of my own knowledge regarding participant selection. There is also a place for phenomenological reduction in the interviewing itself as described by Bevan (2014). Table

4.4 illustrates the phenomenological reduction approach as it relates to the interview questions in this study.

Table 4-4 A structure for Phenomenological interviewing Bevan (2014)

Phenomenological Attitude	My Approach	Interview Structure	Method	Example Question
Reduction "*Epoche*"	Active listening	Clarifying the description of the experience.	Varying the structure of the questions?	What are your thoughts on collegiality in online learning?
	Open to the participants' expression of natural attitude.	Discovering the context of the experience.	Descriptive Questions	Tell me about what you aim to achieve for the students who study online?
	Critical reflection on my own position (to be set aside).	Modes of Appearance of the experience.	Descriptive and Structured questions about appearance.	Do you encourage your student groups to work with others in their class? If so, how do you achieve this?

Taking the format of a semi-structured interview in the frame of phenomenology, I then also needed to consider the medium I was going to use to conduct the interviews, the effects that might have on how the questions were to be structured and how I approached the interview. Interviews can be conducted in a variety of forms from face to face and via telephone, via email and through Microsoft Teams, Skype or Zoom which have been referred to in the literature as e-interviewing or remote interviewing. Due to the participants being in various locations and the times that they were available, the interviews in this study were conducted using an online conferencing tool, both Teams and Zoom were used. It could also be suggested that by doing the interviews online that they are contextual (King, Horrocks, & Brooks, 2018). The subtle differences in using internet mediated technology does require a modification of how the questions are posed and how the interview is conducted (Deakin &

Wakefield, 2013; Hanna, 2012). While it is not possible in an online setting to begin with the same "*putting at ease*" of the interviewee as can be done in the face-to-face setting through handshake, offering a cup of tea etc., online does still afford the opportunity of putting someone at ease through introductory comments and general questions (Deakin & Wakefield, 2013). Checking microphone, camera settings at the beginning can also be useful way to build rapport (Weller, 2017). The lead into the interview occurs more quickly in an online setting. With the online interviewing both audio and video were used. The use of video in particular assists in building the rapport. While online interviewing has the advantage of not needing to travel to a set location and being able to interview at a time that suits the interviewee (for example at home or in the evening), there is the potential for distraction which needs to be managed (Deakin & Wakefield, 2013).

Facial expressions and cues, nodding, smiling, etc. can be used as the use of video was employed wherever possible. As the interviewer I was alert to facial expressions and cues of the interviewee: do they look confused, unsure, etc. While introductory and soft questions are important at the beginning of all interviews to set the participant at ease, they are even more important in an online setting as the connection is more difficult to make and maintain. The use of a tool like Teams or Zoom also draws in the experience of telephone interviewing. Holt (2010) suggests that getting the interviewee to reflect on their experience at the end of the interview is useful in determining their level of acceptance with the tool and technology. Stephens' (2007) earlier work in this area compared both face to face and telephone interviews and found, though not his first-choice, telephone interviews were a suitable tool in the generation of the data within his study. In his work the reason for conducting telephone interviews was the distance between interviewer and interviewee, which is the same in the case of my study. Issues which he raises with the tool include interrupting the interviewee, lack of topic control, issues with question articulation and the lack of materials and visual cues. The question articulation and need to be very clear in what is being asked and avoiding interruption were considered in my pilot interviews. With the inclusion of video on the interviews in this study the visual cues issue mentioned has been overcome.

4.5.1 The Design and Development of the Interview Schedules

At the heart of interviewing is finding out what the student/participant/interviewee's experience is in an online environment specifically in relation to communities of learning, collegiality, and connectedness. The questions are designed to provide the opportunity for these experiences to be shared. Coupled with these are the questions that will explore communities of practice and inquiry and how these lend themselves to building collegiality

among the student group. The interview questions were created to be open-ended in order to encourage participants to share their experiences (Creswell, 2014). Table 4.5 below shows the alignment of the interview questions to the research questions and the theoretical framework being explored.

Table 4-5 Alignment of Theoretical Framework with Research Questions and Interview Questions

Research Question	Research Sub questions	Interview Question area	Theoretical Framework
Are the communities formed within the context of a programme in online higher education Communities of Practice, Communities of Inquiry, or a hybrid of the two?	Does the community formed, (if any) support student connectedness, collegiality, and engagement? If so, how is this manifested and sustained?	Philosophy and Model, Pedagogy. Discussion Forums, Group Work, Communication Community Collegiality	CoP CoI Connectedness
What constitutes, i.e., the characteristics of, an online community in the context of postgraduate higher education with specific reference to collegiality and persistence of a diverse student population?	How, if at all, is the community affected by the cultural diversity of the students' background?	Culture, UDL, Access and Inclusion	Culture
	What effect do these communities have on students' sense of belonging as learners?	Silent Student, Identity, Community	Connectedness

The interview questions as described in Table 4.5 have evolved through the piloting of an initial set in November 2018 (the original and final question sets are listed in Appendix C). The pilot interviews were conducted using the same mechanism as the study interviews. They were conducted online using audio and video enabled tools of Microsoft Teams or Zoom.

Piloting the interview questions has allowed for an iterative approach to the design and the development of the research tool. In choosing and constructing a research interview, it is not done in isolation of research philosophy and strategy (Rowley, 2012). The interview questions are intended to give voice to the participants' experiences regarding the social and cultural setting of their online learning environment. As Table 4.5 illustrates they need to be designed to allow for description and context of the experience to be expressed. I piloted the interview questions with three individuals, a student, a lecturer/manager, and a designer. These were all carried out online as this was to be the format of the main interviews. In so doing I used the conferencing tool Zoom and asked for the interviewee to have their camera switched on. There were several learnings from this pilot. Firstly, the online nature of the interview worked well and did not shorten the interview as these pilot interviewees were happy to speak about themselves and their experiences and enjoyed the social discussion (Rubin & Rubin, 2011). Secondly the piloting allowed me to reflect on my own style and again to try to bracket away my own thoughts and knowledge. I can't say that it was possible to completely bracket off my own practical experience as in some cases the interview became more a collegial discussion as the interviewees asked about the environment I work in as a point of reference for how they explained their experiences. For example, they may ask "*Which VLE do you use in your university?*" The piloting did highlight this to me, and I was conscious of replying to aid the discussion but not elaborating too much. Finally, I did modify the questions slightly to make them more open so that it provided a launch for the description of an experience rather than a short answer.

Interview times and dates were determined through scheduling the best time of availability and convenience for the participant. The setting for interviews was online in a closed, controlled Zoom or Teams room, entry was by invitation only. Interviews were recorded for later transcription and analysis. To ensure accuracy, participants were provided with an electronic copy of their transcribed interview and asked to verify its accuracy and clarify any discrepancies. The interviews were transcribed verbatim and once accepted by the participant, the next step was analysis. Interviews were conducted over a period of fourteen months as illustrated in Table 4.6.

Table 4-6 Interviews

Date	Student (STU)	Lecturer (SME)	Designer (ID)	Manager (PM)
July 2019	STU A STU C			
Dec 2019	STU A STU C			
Jan 2020	STU J			
Feb 2020	STU F STU G	SME 1	ID 2	PM1 PM2
March 2020				PM 3 – 6
June 2020		SME 3		PM 7 PM 8
July 2020		SME 2	ID 3	PM 9 -13
Aug 2020	STU C STU G	SME 4 SME 5	ID 4	PM 14 PM 15
Sept 2020		SME 6 SME 7 SME 8	ID 1 ID 5 ID 6	PM 16 PM 17

The interviews lasted between 40 and 75 minutes. Three student participants were interviewed on two occasions and one on three occasions. This allowed for description of their experiences at different times in their student journey to be captured, (beginning, middle and end or beginning and end). With the other three participant groups as they were already immersed in their roles one longer interview allowed for all of the interview questions to be asked and descriptions of their experiences to be captured. More than one question was asked on each area and the questions were designed to obtain as detailed a description of the experience as possible. I found that those that agreed to participate wanted to speak about this phenomenon and spoke freely about it.

In conclusion the research tool used in this study to conduct forty interviews with thirty-six participants was semi-structured interviews. The interview questions were aligned to the thematic framework of the study and its phenomenological design. The resulting transcripts were agreed by the participants, prior to the commencement of the review of the data to identify statements and quotes which provided an understanding of how they experienced the phenomenon.

4.6 Data Analysis

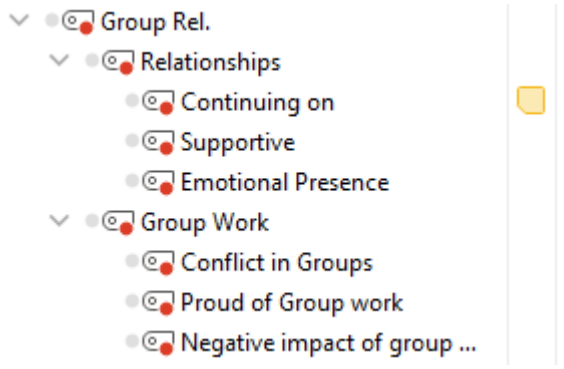
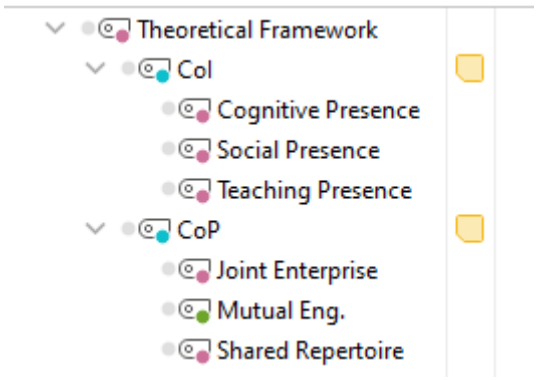
The purpose of data analysis in this study was to bring together the descriptions of the participants' experiences and to cast a light on the similarities and differences (Priest, Roberts, & Woods, 2002) which exist to enable the construction of a multifaceted view of the phenomenon.

Any method to describe the phenomenon must in and of itself preserve the participants' experience of the phenomenon, indeed Hycner (1985) cautions against the use of the term "*analysis*" when it comes to phenomenological research as the aim is not to break apart but to investigate the constituent parts (Giorgi, 1985, 1997). In contrast, Moustakas (1994) describes the process as *"organising, analysing and synthesising of the data*". The underlying aim in the approach adopted is to be true to the descriptions of the phenomenon and all of its constituent parts to bring forth its essence from the participants' viewpoints. Thus, I began with a transcription of the individual interviews and listening to the audio of the interviews several times to become familiar with the participants' views on the phenomenon.

Following on from transcribing the interviews which I carried out personally, they were sent to the participant for verification and review. Any changes or edits requested were made and the transcript finalised. In reading and re-reading, all interviews were considered equal and all statements and paragraphs within each were considered equal. I commenced the process of listing and identifying every expression relevant to the experience and labelling within the interviews based on these significant statements and paragraphs. Borrowing from grounded theory I used Tesch's (2013) eight steps in the coding/labelling process to work through the interviews and label them with the use of software MAXQDA. This approach is also described by Strauss and Corbin (1990) as open coding where statements and paragraphs that describe the entire or an element of the phenomenon are identified and named . From a phenomenological perspective I was labelling each expression so that they could be grouped. Using the method described by Moustakas (1994), I asked two questions of each expression: (1) Is this directly related to the experience and is required for understanding it? (2) Is it possible to label it? If it was possible to label it, then it was

considered a horizon of the experience. Expressions, paragraphs, and statements not meeting these two requirements were not labelled. I did make one modification to Tesch's (2013) process in that I used a label (a word or group of words) throughout and didn't abbreviate the labels to codes. Labels were grouped together under topic headings. For example, groups were mentioned several times by the participants in several ways. Each was labelled to describe the experience of group which the segment related to, and these were then linked together and where necessary, memos were added to aid with labelling. Figure 4.2 Illustrates this.

Figure 4-2 Labelling of Interview Segments

Inductive	Deductive
	

In selecting a label for a particular segment, I had two frames of reference, theoretical framework, and direct experience. As there are known theoretical frameworks which are directly related to the phenomenon of communities of learning and form part of the research questions, CoP, CoI and Connectedness theory, where I came upon direct experiences of these, I labelled them as such. Equally there were descriptions of mutual engagement which were described as relationships within groups and to stay true to the participants description these were labelled as Group Relationships, (fig4.2). Therefore, there were labels assigned which were guided by the theoretical framework and research questions (deductive) and equally ones for new ideas, experiences, and descriptions (inductive) (Silver & Lewins, 2014). A full set of labels is included in Appendix D. Each interview was labelled and relabelled several times after which significant statements were grouped into broader themes that were assigned to specific experiences. Both common experiences of the participants were identified as well as uncommon experiences that are unique and noteworthy. This was a slow process which required much reflection on my part and returning to the phenomenological reduction. The aim in labelling was to organise the data, not interpret or analyse it and step 5 in Tesch's (2013) process "*Find the most descriptive words for the*

topics, which can then turn into categories" marries well, I believe, with this stage of the phenomenological analysis which Giorgi (1985) refers to as identifying "*meaning units*".

As the labelling of the meaning units continued it became apparent that some could be grouped together into categories and any duplication was removed. Once all transcripts had been labelled the categories were looked at to commence clustering and thematising (Moustakas, 1994). I listed all labels and categories and began the process of grouping them together where there were apparent similarities. This process continued with looking for patterns and connections which resulted in the identification of themes. Types of patterns and connections included: combining like with like, subsumption, context, frequency, and function. During this process I continually returned to the original transcripts to cross check the identified meaning unit.

The final step was to compile the meaning units and themes into a textured description of the phenomenon which included direct quotes from the participants. This is presented in the Findings Chapters 5-8, where each participant group's experiences of the phenomenon are presented under the four themes that have been identified: 1. Building connections, 2. Culture, 3. Influences on the Community, 4. The working community. Each chapter concludes with a summary of the main characteristics of the phenomenon as experienced. Finally, these experiences of the phenomenon of communities of learning in an online setting are discussed in relation to the literature and their implications for policy and practice in Chapter 9.

4.7 Credibility, Rigour and Transferability

Qualitative research is often criticised for poor scientific rigour and for being subject to researcher bias. It is suggested the description of "*strict enforcement of rules*" captures what is meant by rigour in the research process (Davies & Dodd, 2002). The integrity of qualitative research can be protected by ensuring validity and attending to the issues of objectivity and generalisability (Koch, 2006). Throughout a qualitative study the research must demonstrate its rigour by establishing trustworthiness some of which is general to qualitative research and others specific to phenomenology (Guba et al., 1994; Merriam, 2002; Sebnem, 2011). To establish trustworthiness Guba and Lincoln (1989), describe four different criteria which should be employed by the researcher: credibility, transferability, dependability, and confirmability. Some of the techniques which can be used to ensure that a study is credible are as follows: peer review, audit or decision trail, triangulation, thick description, clarifying researcher bias, reflexivity, prolonged engagement, and field journal (Creswell & Miller, 2000; Davies & Dodd, 2002; Koch, 2006; Peoples, 2020). Creswell, and

Miller (2000) suggest that to ensure credibility at least two of the techniques listed should be used. In conducting this study on the phenomenon of communities of learning: communities of practice and inquiry in online higher education I ensured credibility by clarifying researcher bias, keeping an audit trail and reflective journal.

As previously mentioned within the process of conducting a phenomenological study is included the need for "*Epoche*" or bracketing the researcher's own opinions on the topic so that researcher bias can be set aside (Peoples, 2020). Before any bias can be set aside it needs to be identified. I am aware that in conducting research in this area I bring my pre-existing knowledge, experience, values, and beliefs. Therefore, at the beginning of this study, I described my own background in this area so that it could be recorded and set aside. In addition, as mentioned earlier in this chapter in the selection of participants for the study I again looked at what I believed initially and adopted a fresh approach. My choices in the research design for this study can be looked at regarding how I minimised bias. I chose purposeful sampling instead of random sampling. However, the participants were from a variety of institutions and regions to minimise the impact of bias. I chose semi-structured interviews which did contain questions which I had chosen regarding the research topic however they were open questions which allowed the participants to give a full and expansive account of their experience. They were provided with a transcript of their interview in its entirety to ensure accuracy. In the method of labelling, I adopted both inductive and deductive approach as again I was attempting to ensure my own views were put to one side. Throughout the process I constantly reviewed, reflected and altered my approach to remove as much of my thoughts from it as possible. In addition to this I had regular meetings with my research supervisor to discuss my journey through the research process and its findings. Furthermore, the inclusion of the differing stakeholders goes some way to limiting both the bias from one group and also my own. Finally, I didn't set out to prove or disprove a hypothesis but rather to gain a better understanding of the phenomenon with the aim of using this to improve practice and policy.

Confirmability requires the researcher to show how the synthesised description has been arrived at through the process of inquiry (Koch, 2006). This requires self-awareness and as such I established a reflective journal early in the research process where I wrote analytical and reflective notes (Lauckner, Paterson, & Krupa, 2012) as well as notes on conversations with my supervisor and other colleagues. Koch (2006) also recommends that an audit trail or record of decisions made is recorded and the reflective journal is an appropriate home for this also. My journal was divided into several sections including context and map (setting out the context of the study and mapping its steps), theoretical framework, methodological framework, participant selection, management of data, labels, categories,

themes, and discussion topics. I made journal entries when anything arose that needed further reflection and consideration. This assisted in my acknowledging bias, values and beliefs and their impact on the study (Bolton, 2010). The description of the path through the methodology that I have included in this chapter also acts to illustrate my decision path.

Dependability, reliability, and trustworthiness looks to determine accuracy of the data produced and of the findings, interpretations and conclusions that are drawn from this data. Moreover, if the process were followed by other researchers, they should be able to reach similar conclusions. According to Blaikie (2009), to establish a clear path through the research with explanation as to how the track was devised and followed adds to its reliability. I put together a consistent set of questions for each interview undertaken. Transcripts were checked for correctness by the participants themselves and every effort was made to ensure that labels or the application of them was consistent across all interview transcripts (Creswell & Miller, 2000).

Regarding transferability or applicability, according to Guba and Lincoln (1989) this is achieved by describing the phenomenon in enough detail so that the conclusions are transferable to other contexts. In this study the inclusion of participants who were able to describe the phenomenon from their four specific contexts and as they came from several differing universities and countries helps to increase the transferability of the conclusions. However, the world view is ever changing and the Covid 19 pandemic has changed how individuals view online learning in higher education. The nature of the data generated was intended to explore the phenomenon experienced by specific groups of participants and it is of a particular time. While our post pandemic world has changed, the conclusions of this study I believe will provide suggestions for change in practice and policy. If I were to repeat this study with a different sample from the same participant groups, it may result in some of the findings and conclusions being different but adding again to our understanding of the experience of communities of learning in online higher education.

4.8 Ethical Considerations

All research has the potential to cause harm or undue stress to the research participants. The risk to the study participants in the case of this study was identified to TCD School of Education Ethics Committee in accordance with the ethics code of practice. Ethical approval was sought (Appendix A) and granted (Appendix B) from TCD School of Education Ethics Committee.

A participant information sheet and informed consent form was prepared and was circulated to the potential participants prior to recruitment. Informed consent for each participant was obtained prior to their participation in the study. Participation in the study was voluntary and participants were able to withdraw from the study at any time. All interview data which included names and places was anonymised and participants were also anonymised. The participants were advised of confidentiality, anonymity, and the choice to withdraw from the study at the beginning of each interview. Participant codes were used to label data instead of using names and a list of codes to participants has been safely stored. Transcripts of interviews were reviewed by the participants to ensure correct representation of their views. All data was securely stored on a thumb drive.

As the security of the data might have been of concern, all interviews and their subsequent transcriptions are held on password protected thumb drives in a locked cabinet. All platforms, apps and PC or laptops used were password protected. All files stored also have password protection. All data has been backed up locally and not on the cloud.

4.9 Limitations

As with all qualitative research there is a risk of researcher bias due to the nature of the research process and the generation of labels, categories, and themes. I have addressed this issue through bracketing as part of the phenomenological method and continuous reflection as the study progressed. In addition I kept a journal throughout the research process. Finally the reading and re-reading, labelling, and re-labelling of the transcriptions allowed me to be immersed in the data to further reduce bias and ensure that the findings presented were a true description of the phenomenon as experienced by the participants.

As participants were purposefully sampled and then volunteered for the study, it could be argued that only those that were positively disposed to online communties of learning took part and what is represented is only a particular cohort. However the experience of online communities of learning is an idiographic experience and therefore the participants may represent other individuals' experience while also acknowledging that their experience is not representative of all individuals.' It was not the purpose of this study to arrive at a definitive conclusion but rather to describe the phenomenon as it exists in the study groups.

4.10 Chapter Summary

In this chapter I have set out the research paradigm, ontology, epistemology, and methodology along with the research design and approach. This sets out the framework in which the study was conducted. The qualitative approach with the phenomenological method looks to gather the experiences of the participants to be able to construct a rounded view of learning communities in online higher education. Choosing semi-structured interviews conducted online was shown as an appropriate method for the generation of the data. Finally, the methods used to analyse the data were discussed. The findings of this analysis will be presented in the following four chapters and discussed in chapter 9.

Chapter 5 Findings 1 University Managers' and Policy Makers' Experiences

5.1 Introduction

The findings from interviews conducted with 36 participants across the four participating groups (management, designers, lecturers, and students) from a variety of English-speaking education institutions across the globe are presented in this and the following chapters. The findings revealed the stakeholders' experiences of 1) building connection, sense of community and mutual engagement, 2) impact of cultural differences on community formation, 3) the influences on the community including the role of the Teacher in the learning community and 4) which communities are formed and how they are sustained. No one group, students, lecturers, designers, or management has total control over the formation, sustaining and promotion of the community and each is dependent on the other for its overall creation.

This chapter sets out the experiences and reflections of management /policy makers' (PM#) across each of the four identified themes. The following chapters set out the instructional designers'/designers'(ID#), lecturers' (SME#), and students' (STU) experiences. The order in which the themes are explored is indicative of the process of building a community from connection and cultural setting to shaping the community into its working form or not as maybe the case. Having explored the experience of each individual group, these will then be compared and contrasted with the other groups to draw together the overall experience of the phenomenon as described by the participants of this study. Table 5.1 presents the themes and the subthemes that have emerged through the process of reviewing, labelling and compiling meaning units from the transcripts of the participant interviews. A short quotation is provided from one of the participants in each case to illustrate the meaning unit.

Table 5-1 Themes and their Subthemes

Theme	Theme Description	Subthemes		
Building Connections	How and with whom are connections made and do the students feel a sense that they belong.	Connecting with others.	Mutual engagement.	Sense of Belonging.

Theme	Theme Description	Subthemes		
	I feel part of the group. That's because all of us are adults, so my concept of belonging to a group is what I have so I am okay with it (STUF).			
Culture	Dimensions of culture and western educational norms that influence community involvement. *I think culturally the students are different, but I don't tend to morph my style with them (SME 1).*	Cultural Dimensions of the community		
Influences in Community formation	Lecturer's / Designer's influence on the set-up and management of the community and where it is formed. *Communities should be formal ones on the VLE. Informal ones I have a particular issue with. WhatsApp and Facebook groups have no place in education (SME 2).*	Teaching Presence		
The working Community	The experience of the communities which are formed or designed into the virtual learning environment. *The reason I'm feeling this community is because I'm studying the space (STUG).*			

Managers and Policy Makers in any university are uniquely positioned to set high level policy which underpins the VLE itself and the course design on it. They influence the educational model which is adopted by the university and the pedagogical framework in which the technology and tools of the online learning environment are positioned. In this study this group of participants came from the US, Canada, UK, Ireland, Netherlands,

Switzerland, South Africa, and Australia. They occupied roles such as director, manager, senior manager, dean, head of function or consultant and there were seventeen in total. The challenge for these managers is to ensure that their universities keep pace with the technological changes while maintaining an authentic pedagogical education framework. These managers described having a direct role in implementing policy and strategy for their university. It is not surprising then that they are the group with the greatest diversity in the theories and models described as being used by their institutions.

As a background to their experiences of online communities of learning they describe a variety of standards, models, and theories of education. Those based in the US and Canada, for example, reference Quality Matters Rubric[4] and interestingly, showing the global reach of this standard, it is also mentioned by PM14 who is based in Australia. There are several other education models, design models and learning theories described by this group including Moore's Online Model (PM9) (Moore,1993), Connected Curriculum (PM8) (Fung, 2017), Social Learning Theory (PM11) (Bandura, 1977), Adult Learning Theory (PM8, PM14) (Knowles, 1977; Merriam 2001), Gilly Salmon's Five Stage Model (PM14) (Salmon, Nie,& Edirisingha, 2010), ADDIE Model (PM 16, PM13) ("ADDIE Model") and the ABC Framework (PM7) (Laurillard,2009). Social Learning Theory and the ADDIE model are also mentioned by the lecturers' and designers' participant groups. While these models and theories are not presented as a theme, they do play a part in the framing of the policy and experiences that are related by participants in this group. The experiences of this group are presented in the following sections under their themes and subthemes, all of which have been identified in the case of this group.

5.2 Theme #1 Building Connections

This theme of Connection is based on several theoretical frameworks, that of McMillan and Chavis (1986) and their sense of community theory, Moore's (1989) online education model, the mutual engagement spoken about in the CoP and the social presence of CoI. McMillan and Chavis (1986) state that "*sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together*" (p 5). They identify several components in their theory including membership, influence, integration, emotional connection, and shared stories. When students connect with their peers in an online setting, they then have an opportunity to feel a sense of belonging which fosters collegiality and collaboration among the group. Tinto (1997) describes classrooms as

[4] Quality Matters Higher Education Rubric 6th Ed 2018 is a set of standards for the evaluation of the design of online and blended courses. The publishing organisation is based in the US

small communities where social and academic interactions take place . While Moore (1989) describes three types of interaction in an online environment, Learner-Content, Learner-Learner, and Learner-Instructor. For the purposes of this study these last two interactions can be considered as the social interaction components that are associated with community.

The notion of presence and having presence in the online environment as a way of connecting people is a theme which carries through to the heart of the managers' experience. If they are the ones tasked with enabling the university's approach to online communities, then their vision of presence in the online classroom sets the frame for the lecturers and designers. They take their teaching and learning philosophy and link it to connecting students to their programmes, on to theoretical frameworks of design which in turn underpin their university's approach to online learning communities. PM1 for example links her institution's constructivist framework to connecting the students and on to the idea of Garrison, Anderson and Archer's (1999) CoI and having a presence in the online environment.

> *To me the most important part is the engagement of people online, connecting people and their interacting and learning from each other, the whole constructivist idea of creating knowledge. In general, anything that creates this idea of presence is what Garrison, Anderson, and Archer talk about these different types of presence. (PM1)*

5.2.1 Connecting with others.

The idea of a presence, being present in a social and cognitive way is enabled by connection with peers, content, and the lecturer. PM4 speaks about the support mechanisms to enable connectedness within the class group, through the technology used and the ethos of the lecturers and designers.

> *The actual physical connection and an ethos of connectivity, the person, being actually really important to making that connection. We are people and we do react to other people. (PM4)*

The final point made here by PM4 is that connection relies upon reaction to other people and whether it be students or lecturers they react to other humans. So be it communities or connections it is a human element or presence which is sought. While students were not particularly concerned with the mode of the connection or the tools to be used, they are affected by feelings of isolation, and this is noted by managers in their concern for the students and their advocating for increased connection within programmes. The result of a lack of connection is articulated by PM4, as student frustration and eventually leaving

the programme. Persistence and programme completion are linked to connection to the course and the class group. Putting students in a group will not necessarily result in a connection it needs to be worked upon and supported by the lecturer, the design, and the other university support mechanisms.

> *We had to work hard on connecting students because one of the things that creates disengagement, or disenfranchisement is when the students don't feel a connection. It contributes to their stepping out. If they have solid relationships, people that they can go and talk to, they're less likely to drop out. (PM4)*

According to the managers' descriptions, making connections in the online environment are forerunners to forming a community and with these elements the student has an identity as part of that community, programme, and the university. This is important in their not feeling isolated and persisting with their programme. PM4 specifically links disengagement with students feeling disconnected. This is supported by other managers who describe being connected as identifying with the university and it builds bridges for the students.

> *I think it's very important for our students to feel that they're part of a higher education institution and to have that identity. (PM10)*

> *If we make some small connections, it doesn't have to be all at once, but build those bridges and connect with our students they will persist. (PM15)*

Managers point out that there is an emotional presence in being connected which is part of the social presence of the community. They speak about the student's need to feel connected and to identify with the university as part of that connection. While they speak about CoI as the framework in which this connection can be fostered there is also equal mention of CoP and in particular mutual engagement.

5.2.2 Mutual Engagement

Each university and discipline area approaches the collaborative tools, for mutual engagement in different ways. Some make them part of the assessments; others use them as a tool by which they can give formative feedback. In so doing they are embedding them within the course and as well as encouraging the students to engage and rewarding the engagement. For time poor students it is important that there are multiple value points for their effort. Finding attractive ways for the students to engage that meets them where they

are regarding time and the programme is essential. This is the policy in many institutions, ensuring that the tools available are utilised to their fullest extent to encourage and support mutual engagement.

> *Using technology to enhance engagement is a faculty responsibility but also a design responsibility. I love the fact that the technology is giving us opportunities to create unique forms of engagement that we've never had before. (PM4)*

Using the technology available to create communities online with students and others, can give opportunities which may not have previously been present. However, this needs to be led through the manager's policy implementation to enable their formation. Managers believe that all students should have the opportunity from the commencement of their learning journey online until its conclusion to engage with other students and with others (lecturers, tutors, industry experts) in a meaningful way.

> *This is our ethos as an Institute, I want to ensure it is always reflected in our online pedagogy now and moving forward. I want to support relationships between the Institute and industry, industry and our students, student to students, students to the Institute. (PM9)*

The ethos of a CoP as described by PM9 allows for mutual engagement among many groups. When it is supported by the technology and management it can be embedded within the online pedagogy. The objectives are those of social learning, constructivism and building knowledge together described by PM1 earlier, but also the opportunities of linking outward to professional and industry communities as described by PM9. The community experts can share their knowledge, networking can occur, and students can hear about opportunities regarding research and employment opportunities after they complete the course. The mutual engagement gives rise to the shared repertoire and the possibility of joint enterprise.

Achieving the learning outcomes of a programme is the shared goal of student, lecturer, and the university. PM8 describes how this links to mutual engagement, communities and is embedded in the design of the programme as well as the design of the online learning experience.

> *When we are developing new programs, we embed social learning, community, and mutual engagement elements. Students are better able to value, the discussions with other students when they can see clearly those activities feed into learning outcomes,*

but also because they feel like they are part of something when they're doing them. (PM8)

When correctly embedded into programmes then the students are aware of the linkage to the learning outcomes and how it contributes to the overall programme, they are more likely to engage and support the community. Linking achieving the learning outcomes to the embedded community will increase their value to the students, in particular the transactional students.

Early establishment of group relationships can assist in the confidence and motivation of the student and PM4 suggests the early foundations of the relationship as being critical to the student persistence with the course. Student orientation is part of the onboarding of the student to the programme and online environment. Normally this is not carried out by the lecturers although they may be introduced to the students at this time. It is a time for more social interaction even in the online environment and where relationships can begin. Sociable environments that support relationship building allow the students to become confident and with confidence comes comfort with the environment and the course itself. When early opportunities to build relationships are designed into programmes this strengthens the relationships and gives them a wider reach which serves to authenticate them. So early engagement and using their newfound knowledge are key elements to ongoing support of the community by the students.

They formed those relationships early and the orientation helped with that. But the types of group assignments have helped with that as well. Especially with working professionals. They want to be able to apply their knowledge today or tomorrow. (PM4)

Postgraduate students can come from a profession, sector of industry or with a profession or business sector in mind. They can be motivated initially to undertake their programme through a general interest in the areas or as it will advance their career in some way. Trusting the group to create knowledge that is applicable in real time back to their work environments is an indication of a relationship that is collegial, collaborative and that the student is invested in it. Students may also be connected prior to coming on their course to like-minded communities online through Twitter or LinkedIn. When they come across these individuals on their course their prior online socialisation with them assists in establishing them within the group. In particular if they are participating in a course which is connected to their professional practice. This was described by STUG (Student Participant G) and supports the description provided by PM4.

5.2.3 Sense of Belonging

Garrison and Akyol (2013) also emphasise the importance of a sense of belonging with to CoI model . What a sense of belonging can achieve is a dispelling of anxiety and feelings of isolation and it can build connection with the community. As PM1 puts it.

> *Sense of belonging is critical. It is what anyone who is trying to deliver programs online should have first and foremost in their minds. So, our responsibility is to be aware of that and to build in those supports. You need institutional backing to do this. (PM1)*

So important is building a sense of belonging to managers that they wish it to be a priority at all levels of the institution. From a policy perspective it involves building in support, some managers suggest that this is in the form of a student support officer, lecturers see it as part of their support role and that they are the ones that the students want to feel supported by. In the next example PM7 describes how a sense of belonging is built from the very beginning similar to the group relationship with icebreakers in week one, right through the first module and following modules and how student engagement is monitored using learning analytics.

> *We begin with icebreakers to build a sense of belonging. We continue to build it within the course and are very conscious of the fact that the students possibly never see one another, or they see one another only on Teams. So, in the courses we purposely integrate interview assessments into teaching and learning activities that will build that sense of belonging. Quite a lot of group work is done, linking groups from one module to another, to build that sense of community. Some short fat modules in particular are about building that community day after day, the learning activities are structured around collaboration from the ABC learning design framework. We also monitor the logs from Moodle, the interaction level, we physically have somebody that will ring up a student and say, I notice, you're not clicking on, is everything okay? (PM7)*

Interactions with professional services in the institution or support staff, their lecturers and peers are critical to the development and maintenance of a sense of belonging. The lecturers guide the learners through their studies, including assessment, to signpost the routes forward through individual modules and throughout the course. The short fat modules providing opportunities for routine connection so that the students feel that they matter and

more importantly that their presence would be missed if they were not there. This coupled with someone seeing how often they log onto Moodle and connecting with them if they have not logged on for a while provides that support to the students. In the interview assessments they have an opportunity to speak one on one or in groups to the lecturer so that while it is a form of assessment it can also allow for connection between the lecturer and the student. These synchronous interactions help to foster the sense of belonging and minimise the differences among the student group which may otherwise inhibit them from becoming involved. The planning to support the ethos of the sense of belonging is not just within the design of the online module but follows through to the assessment strategy and is grounded in the original programme design from the sequencing of the long and the short modules. The need for an online environment that supports the sense of belonging is built at all levels and then followed up and support given for those that may not be engaging.

5.3 Theme #2 Culture

One of the research questions posed in this study is how if at all, the community is affected by the cultural background of the students? There are examples from the students themselves as to how their cultural backgrounds affect how they interact with the community and indeed how it influences their views on sharing information. For the purpose of looking at the experiences of the participants and the influence of culture on them, the definition of culture adopted for this study is a combination of that put forward by Hofstede (1980) and Matsumoto & Juang (2016) "*The set of attitudes, values, beliefs, and behaviours shared by a group of people, but different for each individual, communicated from one generation to the next*" (p19) . There is a need to understand the managers', lecturers', and designers' perspectives on culture as through their policy and design, the environment for the student experience is set.

There is a recognition by managers that there is a need for guidelines around how to engage in online spaces which reside within the university space. These are sometimes described as Netiquette or engagement guidelines, or such matters are dealt with in the code of conduct for online learning.

> *There are some codes of conduct that students have to abide by in an online environment. There has to be very clear guidelines about participation. (PM4)*

In the online education setting the challenge is in knowing which cultural norms apply in which contexts and which are less important. PM4 suggests that their institution has policies or guidelines in place to regulate interactions online and this coupled with the

education framework supports the safe use of the online space. Digital culture and other cultural norms and dimensions do exist within the institutions, and it is imperative that this is recognised, and care given to the cultural complexity which exists without stereotyping the students based on their country of origin.

> *It's important that the faculty member and the instructional designer find ways to create a level playing fields culturally. (PM4)*

The practical differences of a multicultural student group can be that they are accessing the programme from differing time zones. Design then needs to allow time for students to reflect and create more crafted responses to the online chat. PM12 illustrates how the consideration of culture in the design incorporated into the community space will allow for sharing of experiences and learning. One of the possible ways in which this may be alleviated is expressed by PM12 where they speak about the advantage of online learning communities and online learning for those who need more time to become accustomed to academic culture.

> *The online is actually safer for the more reserved student. Online makes it easier for them because not everything has to be spontaneous, immediate, they can take time to catch up in this academic culture. (PM12)*

The use of the word gregarious to describe the students from western cultures is used more than once and it seems to be one of the distinguishing factors in that cultural grouping of online students. PM4 suggests that training of faculty and design can assist in smoothing the differences that exist between differing cultural groups online.

> *If the faculty have been trained and instructional designers can give them some tips and ideas, but they have to find a way to engage with students in this environment. It's not always easy, some of the Middle Eastern or Asian students, it's not in their nature to be gregarious. (PM4)*

In this example PM4 isn't of the opinion that this leads to isolation of the student but rather that they are not as involved in the online interaction. PM4 also points out that this inequality in the level of interaction in the online classroom is not as a result of group engagement online but rather it is there already, and the online environment emphasises it.

I don't think they feel isolated because of the culture background. I think they're less likely to be gregarious in an online classroom. I don't think it's the online environment that creates that, but it can add another barrier to participation. (PM4)

It should be noted that while the examples and references given, support the power distance phenomenon not every individual from the countries mentioned behaves in the same way. It is the disadvantage of such a model that it does not account for the individual. When individuals are within their own cultural group, they may respond differently than if they were in a more diverse group. As with many cultural frameworks life events and other variables can change how people respond to differing situations.

Power and distance dimension of culture features several times within this study and its effect may hinder the formation of a working CoP. Similarly, it may affect the component of cognitive presence where it requires debating and challenging concepts to construct knowledge. As is described in the Hofstede (1980) model there is a greater importance placed on the individual goals than on the collective. Within the design of the programmes the managers do consider student differences and that it may have little to do with where they come from but rather their motivation and their goals as explained by PM16.

Canada is a very multicultural country to begin with. So, it's not culture so much as, maybe personality, where they are more individualistic versus collectivist. In our design and our development of the pieces, we're always taking that into account and we're trying to give choices for those people that are not comfortable speaking out. (PM16)

Recognising that these cultural dimensions may exist in the populations of students that engage with the online programmes and providing different ways for them to interact with the online community is important. Another possibility also exists and that is as adult learners this is the way they learn. According to Knowles (1977) one of the five elements of Adult Learning Theory is that adult learners are independent and can direct their own learning (Knowles, 1977).

They're postgraduate students and community is not hugely important to them. I think they're more focused on getting the qualification. (PM2)

Postgraduate level online with time poor students. We find a lot less engagement at a postgraduate level and a lot less focused on social interactions and building relationships with others. (PM5)

Our MBA people are very singular. There's a reasonable amount of discursive activity on the programme but people are quite focused on their own outcomes. (PM8)

Clearly there is a segment of the postgraduate population across several institutions that display individualistic qualities, their goal is about getting their qualification and as adult learners they are more independent but also time poor. So, what appears to be a cultural phenomenon may be due to other factors such as the nature of the adult learner.

5.4 Theme #3 Influences in the community

The inclusion of communities in the online learning environment, their position, practical use, and sociability on one level are influenced by the policy and management of the university. The membership of the community and the cost of supporting its membership for industry and alumni are policy decisions which are made, and which influence the ongoing nature of that community.

PM9 provides an example of how the role of management is important to the formation and support of communities. He identifies the issue that exists with only the module lecturer managing the community and is looking to support its formation and sustain it with an additional resource. His role is similar to the others in the group as they look to plan and put in place policy as it relates to the overall ambition of the education provider. They are slightly removed from the space which the lecturer occupies and can take a more high-level view of how communities can be enabled and sustained within their university structures in a safe and secure manner. Similar to ID6, he describes the early planning stages of a social media platform within the university to be used as a community space that can extend to industry partners and to alumni.

There is another professional social media platform that I am considering adopting particularly for online students to promote a community of practice between them. We hope to gather more alumni and industry experts moving forward into the community. I would have an individual, not necessarily an academic staff member controlling that. (PM9)

Who forms the community and where it is positioned, is a point which differs between managers in differing institutions, some believing that it is part of the education model and others very clearly seeing it as a separate entity, while all the time acknowledging that there are differences among their faculty. The following example shows that while they are not

prescriptive regarding the community structure that is formed, they are looking for ways of enabling collegiality and collaboration. The formation of a community can be more ad hoc than by design. However, with links back to industry a community of practice can form even though it may not be directly identified as such.

> *We're not necessarily following any particular community structure, but we want to ensure that every course has some collaborative element: discussion board, live session, or group work with real-world experiences. A lot of our faculty are industry experts who come with real world examples providing real world conversations from their community. (PM13)*

The universities who employ adjunct faculty (a lecturer educator hired on a contractual, part-time basis with specific expertise) look at communities for their links with industry as well as from an educational perspective. The adjunct lecturer is a member of a different community, one which is of interest to the students and which they can be introduced to, where links can be strengthened, and a programme community can become recognised in an industry sector. With this there are different possibilities to consider, such as a CoP related to an industry sector which the student joins with their lecturer and is hosted in the module but with a possibility to transfer to an external community to continue on such as a student chapter of a professional organisation or industry body. The alternative which is suggested by PM16 is that there is an ongoing community around a particular programme which is in an accessible space that allows students, (potential, current and past) to access it and engage. This is similar to what is described by PM9 earlier.

> *We have faculty that have been developing courses and working with us for such a long time because of the community that, develops around these programs. They will get to know both the faculty and the other participants, and they'll develop a community. We are working on the ability of alumni to stay connected with this community. (PM16)*

Differences exist as to where the community should be based: within a module or separate to a module. This can have implications for the role and influence of the lecturer in the community. With only few exceptions communities or groups formed by the students themselves through social media channels remain the domain of the student, due to the Universities policies. PM14 is clear when she describes what is included in a good curriculum design and what she sees as external to it. The approach here differs from that which was described earlier. The university policy in this example is to provide the best learning environment possible for the students but give them the knowledge and opportunity to form

their own community. Social media is suggested as a space for such a community, but it is seen as outside the responsibility of the lecturer and the university.

> *Starting off with really good curriculum design that's very focused on the online world, consistency in the learning design so that students are supported. Then offer them an opportunity to create community. A Facebook group, or something else, so they can connect with each other, that's not really up to the university. (PM14)*

PM14 is very clear that the community space is outside of what is provided by the university. PM16 in contrast suggests that there is some responsibility on the part of the university but other barriers such as cost, and resources have prevented movement on the formation of a community space. These other alternatives are suggested as a place where the online group can collaborate and share resources within the university network but separate from the modules themselves. This is to enable a continuing connection, as once a module is complete, they can lose access to the discussion forums and meeting spaces from within that module.

> *We are looking at other programs and implementing a digital hub, or a place where people would be able to develop their learning community in a better way. (PM16)*

There are different approaches to communities but in the main they are supported, encouraged, and enabled by university management. They are more concerned with the situation and people to support the community rather than the technology which supports it.

5.4.1 Teaching Presence

The university managers perspective on Teaching presence is more to do with how, if possible, to enable it within the online setting. They look to train faculty, explain how students perceive the teaching presence and ensure accessibility for all students. They will engage with faculty and where necessary explain and demonstrate how Teaching Presence can be established in the online setting.

> *We train staff in, how they can facilitate this sense of community establishing their own Tutor presence. (PM 8)*

PM8 identifies that training is needed not only in the area of community building but also in teacher presence. When she refers to training in this area it relates to the teacher presence which is not only physical in synchronous sessions but also how to have a presence

through materials provided, asynchronous recordings and discussion forum debates. PM1 refers to a similar element of the design and build, while acknowledging the need to build community and to establish a rapport between students and lecturer in the online setting, she refers to a "*human element*", a sense of the teacher and sense of the class. So, for them it is more than the build and design and even the importance of the teacher, they are suggesting that there is something more, an additional component.

> *The build it and they will come method for communities doesn't work. You need to have the human element, the sense of community, of class, of a teacher helping you, all those human elements. (PM1)*

PM1, while referring to the sense of a teacher, teacher presence, also goes beyond that to other human elements which are important, the sense of community and the sense of identity of the class group. This sense of community is enabled through the virtual communication and community spaces available to the students and is similar to that which is described by MacMillan and Chavis (1986) and more recently by Chatterjee and Correia (2020). This sense of class and community described by PM1 also links directly to social presence as part of CoI. This teaching presence can be in many forms in both written and spoken words. Managers agree that teaching presence is important and should be part of the online learning community in a form that is accessible to the student.

Adjusting the group size can enable the teacher presence to appear more accessible, however sometimes it requires others to assist in the teaching and that can have mixed effects when trying to establish teaching presence. Students have a perception of what teacher presence should be and there is a need to manage their expectations.

> *In one faculty they've had a very strong network of distance learning tutors who were quite frequently postgraduate teaching assistants. I think that there can always be a perception of value on the part of the students when, they thought that they're going to be learning from a particularly eminent lecturer in the discipline, but then they've only got contact with somebody who is only a few years ahead of them. It's a little bit of a tricky one for us. (PM 8)*

In very large groups when students are divided up for small group teaching opportunities it can mean that the lecturer isn't available to all of these groups. The inclusion of a teaching assistant to the group or community may be received in different ways by postgraduate students and it may not be appropriate in all cases. In certain situations, these

small group sessions require the guidance of an experienced lecturer and their knowledge of being present for their students.

> *If a student from the medical or nursing school where there is a high risk associated with certain activities and, sometimes the patient dies, and things happen. We found that this is when they really need a small group, kind of a debriefing about a sensitive topic or subject where it's really best for them to be able to talk through what happened. (PM4)*

Management recognises that lecturers are required to do more to allow for these groups to be facilitated in conjunction with the educational content and a balance is required. It may be beyond the actual teaching load and comes back to the idea of nurturing the group of students.

> *The more one on one or small group, it really depends on the academic's willingness to extend themselves beyond your typical teaching load to engage students. (PM15)*

Feedback from the students on their small group experience is very positive. Where managers and their institutions sought feedback, the students indicated that they need to know what is expected of them in these sessions. Clarity of purpose is important, and the value has to be evident to the students.

> *With smaller groups this is the feedback we've been getting at the end of the course that they've really enjoyed the smaller discussions as long as they're very clear as to what they're supposed to be doing in those sessions. (PM16)*

5.5 Theme #4 The working community

The need for a community and sense of community is an aim which those from the management group speak about including in their university's educational model. They see that there are challenges given the class size and the areas in which the students are studying. Nevertheless, they strive to achieve the connection for their students as they are aware of the relationship between connection to the students and retention on the programme. They note that it cannot be a one size fits all and that the communities are there for the students who wish to engage with them.

> *We've already recognized the power of community for those who wanted it. (PM6)*

Different disciplines adopt communities to a greater or lesser extent. In particular managers reference the medical and nursing students and lecturers very naturally forming communities whereas the business disciplines are less likely to do so. In this instance a reason for why this may be the case is provided by PM8 who suggests it may be due to the more isolating nature of the work in some of the areas of business.

> *The medical profession seems to form community and share practice almost naturally. But when you go out of this and I don't want to pick a discipline, but in accounting and business, they tend to be more isolated because their work requires them to work on their own more. (PM8)*

To allow for academic freedom there are examples where including a community model within a module or course is recommended rather than a strict policy. This allows for flexibility of design, acknowledgement of differing disciplines and academic preferences.

> *We have very distinct audiences for different programs, sometimes it's appropriate to build community-based measures in and sometimes it isn't. (PM8)*

Clearly, it is the integration and seamless inclusion into the programme where the community feeds into the learning outcomes becoming part of the learning rather than an extra component that works well.

Where the community is anchored, in a module, in a programme or in the wider university online space is referenced by the managers group. Having a space that is consistently available to the students and is not linked to a lecturer or module has its benefits. This is spoken about in two separate ways. The first refers to building a community for students even before they arrive on the virtual campus to empower early adopters, and the second is referenced as a digital hub which is built on the VLE but separate to modules.

> *But more importantly, they joined a community before they even started on the online campus. (PM7)*

> *We have some other faculties we're looking at implementing a digital hub or a place where people would be able to develop their learning community in a better way linked to their module/programme but also to the outside world. (PM16)*

Management are committed to establishing communities in their online learning environments to support their learners and to reach out to the wider campus and industry

communities. Of the two models, CoP and CoI, CoP appears to be the more popular or at least the most spoken about of the two. Some speak of the CoP as their strength, and they are working on making it more accessible and extending it beyond the programme to the alumni. Planning for its further or extended use will put CoP at the centre of their education model for years to come. It shows a commitment to the model and to communities in general as a mechanism to support students and reach out to industrial/business partners.

> *Currently, I feel that we use community of practice more, given the nature of what we have done for a long time, I think that's where we have strength. A community of practice is not just having someone to talk to while you study a module but it's about afterwards as well. It's about helping each other, building confidence to get jobs, to let people know about CPD opportunities, etc. It's about all that learning that can occur outside your program of study, I think if we are to carve a community of practice and constrain it in the VLE we're missing the point of what community of practice is and that it should be something that goes beyond the course of study. (PM9)*

The aim is for CoPs that reach beyond the course of study right to the heart of the business or professional practice and provide the linkage between new novice participants and long-standing experts in the field. There are other examples of those who have used CoP successfully and have plans for their continuing use. As with many other models it is not for everyone, and success is not guaranteed. There are instances where the language is again mentioned. The name CoP is not used as the students would not identify with it but in all other respects regarding activities, engagement and sharing of information it bears a distinct resemblance to a CoP.

> *I don't think we would call the community of practice for them because it's a term, that we don't necessarily introduce them to, but the way that they engage in their activities and their conversations is very reflective of what community of practices are. (PM15)*

Managers speak less about CoI directly than they do about CoP. As with the example from PM15 this may be due to language usage and on closer investigation the elements of a CoI are present. As seen with the lecturers and designers its inclusion is more prevalent with US and Canadian participants, but it is not always the go to model for use and is considered alongside the CoP model.

> *My postgrad was from Athabaskan university and of course, Garrison and the community of inquiry model that came out of there. I'm a big proponent of that. We start with strategic thinking and creative thinking in the digital area then move to digital*

transformation. In that we've really tried to bring in a little bit of the community of inquiry approach. However, we are a business school, so we generally attract the business audience. So, communities of practice are formed more easily and are based around shared experiences within an organization, not the type of organization. (PM16)

One participant suggests that the CoI model is a more evolved or advanced model that is something that follows on after the CoP model had been established.

I suppose that Community of Inquiry is something that is perhaps going to become more prevalent and perhaps something that we can move towards given that we have our community of practice well established. The Community of Inquiry piece, we will need staff to buy into and they will need to see how (a) that does not detract from good things that are already happening and (b) whatever it is they want to achieve overall. So, like everything else it can become evidence based. (PM9)

In this case rather than it being an either-or situation, CoI is seen as a more evolved model than CoP and one to aim for and move too while retaining the good work achieved through the CoP model.

5.6 Summary of University Managers'/Policy Makers' Experiences

This section brings together the findings from the experiences of the institution managers/policy makers from this study of the online community of learning through the four thematic areas: - Building Connections, Culture, Influences in Community Formation, The Working Community.

Building Connections

- Education models are constructed to support student and lecturer connection to their programmes and to the university. Establishing a presence in the online environment is important.

  Connecting with Others

  - Lack of connection can lead to disengagement. If they are connected and have someone to speak with, they are less likely to disengage.
  - There is an emotional presence in being connected which is part of the social presence of the community and speaks to the need to feel connected and to identify with the university.

Mutual Engagement

- Using the technology available to create online learning communities with students and others, can give opportunities for broader discussion and knowledge building but, this needs to be led through policy.
- Primary objectives of the communities are those of social learning, constructivism and building knowledge together, but also the opportunities of linking outward to professional and industry communities.
- Embedding the achievement of learning outcomes into the community involvement provides an integrated approach to mutual engagement.
- Early engagement through involvement in communities are critical to the student persistence with their course.

Sense of Belonging

- Managers wish students' sense of belonging to be a priority at all levels of the institution. From a policy perspective it involves programme design, learning analytics and providing support services.

Culture

- Policies for inclusion, netiquette and embracing diversity are needed to be in place. It's important that there are ways to create level playing fields culturally and engage students from all backgrounds.
- Cultural background and individualism of the students can cause a barrier to participation.

Influences on the Community

- Suggestions are made regarding the use of a professional social media spaces separate from the VLE but within the University system where a CoP could be formed to include industry experts, alumni and students but not necessarily academic staff.

Teaching Presence

- Teaching Presence is valued and important, but training is needed not only in this area but also in community building. Small group teaching situations can give the students a supportive environment to discuss difficult topics.

The Working Community

- Education policy and theoretical framework adopted differs greatly within this group and they also note that a community of learning is not adopted across all disciplines, and it is not for all audiences.
- There is evidence of both communities being formed, one suggestion is that CoP is formed to begin with then followed by CoI. Elements of each community type are evident, but they are not always named formally.

Chapter 6 Findings 2 The Designers' Experiences

6.1. Introduction

Designers or instructional designers work closely with lecturers and other faculty members in the design and development of online content, the engagement activities and meeting spaces which are included in the VLE. They are instrumental in directing cognitive and social processes for the purpose of attaining personal learning and achieving the module learning outcomes. Designers form part of the CoI model's "*Teaching presence*" working before the course commences with the lecturer, to design the module, and this relationship can continue while the module is running as the designers add or improve the online learning tools in use. They are involved primarily with the student-content connection but also in supporting the student-student and student-lecturer connections within the VLE. There were six designers interviewed in this study, from a variety of different higher education institutions in the UK, USA, and Canada. These designers had a technology background but also had experience in the area of education models and pedagogy. They were involved in the architecture, structure and sequence of the learning, the creation of content and the implementation and tailoring of the technology tools to enhance the learning experience. ID6 describes the role of the designer and how they integrate the technology and pedagogy as follows: -

> *When I'm designing, I start with what are the goals of the course and faculty. Then I choose tools to go along with it. The combination for success is the faculty member and the tools that are utilized on the platform. I would also include the pedagogy that we're going to use, or we're suggesting, types of instructions and activities that faculty can use. It's probably a combination of all three: - faculty, technology, and pedagogy. (ID6)*

ID6 refers to the three major facets of the role: platform, tools, and pedagogy. During this study designers mention four different platforms which they use. These are: - Moodle, Brightspace, Canvas or Blackboard. The choice of which to use is not the designers it is made at university level and doesn't change year on year. ID6 speaks about choosing tools, these can be those already included in the platform or plugins which are specific special tools for example live chat rooms such as Zoom or Teams, collaborative tools like Google docs, Padlet, Kahoot and there are many more. ID6 also lists the pedagogy to be used as the basis for the design. This provides a framework to guide the design and development of the course. ID6 specifically mentions social learning theory but there are others referenced by this group including the US Quality Matters Rubric (ID3/ID4) and the ADDIE Model (ID3). In conjunction with faculty, the technology, and the pedagogy, they work together to develop the course.

This framework will be referred to as I go on to look at each of the themes as experienced by the designers. Experiences of this group covered all themes and subthemes identified with the exception of Subthemes 1.3 Sense of Belonging.

6.2 Theme #1 Building Connections

This first theme is about putting in place the environment to allow connections to be made and that includes connections between students, student-lecturer, and student-course content. The connection between the designer and the lecturer begins well before the student enrols on the module or course and even though the designer never has a direct connection with the student, they play a fundamental part in the implementation of the pedagogical approach, the design and the integration of the technology/ tools used by the students on the VLE. Building connection opportunities are therefore part of the design of the online learning environment. Designers work with the lecturers to foster connections and enable communities to form. The designers speak about their work to support connection by their designs. They acknowledge their role is to provide connection and collaboration opportunities, but it is up to the student whether they wish to embrace them or not. ID5 and ID2 describe this.

> *This sense of community and collegiality we build it into the programs, but you're always going to have people who aren't interested in community and do not get involved and then there are others that do. (ID5)*

> *It doesn't really matter whether you're studying online or on site the philosophy is the same, students are part of a community and designers like me do a lot of the work building that. (ID2)*

As they design these opportunities for student-student, student-lecturer, and student-content engagements they use a variety of tools such as Wikis, Chat groups, discussion forums, Padlet and Google docs. The following are examples of collaborative opportunities that the designers include, and they explain how they use them to build up connections. In the first example ID5 speaks about the use of Wikis to build a shared repository. ID1 and ID2 give some examples of self-registering chat rooms and small group discussion forums.

> *We get students to create a Wiki in the course on migration and health. There are three case studies, different parts of the world, different migration patterns and we'll get groups of four or five to work on building a Wiki and then share that with the rest*

of the group. So, at the end of the two weeks, everyone sees the content, but they've been involved in creating that content as well. (ID5)

In Moodle there is a function is called "Sun-up." So that's what we use to basically create an empty group. Then students can self-register in this group to chat without the lecturer present, it's their own space. (ID1)

We creatively design some collaboration workspace; group work discussion and it can be used like zoom for face to face or some small group work. (ID1)

There's a discussion forum, which is a bit bland. We quite often involve other tools such as Padlet or Google docs. We're looking for more visual ways to get people to collaborate apart from discussion forums. (ID2)

Designers consider wikis and discussion forums as micro communities of practice when they are set up for small group sessions. There are different approaches to the use of collaborative tools. Some make them part of the assessments, while others use them as a tool to give formative feedback. In so doing they are embedding them within the course, encouraging the students to engage and then rewarding the engagement. For time poor students it is important that there are multiple value points for their effort. Finding attractive ways for the students to engage and meet is essential. ID5 explains how this can work in his university.

There are usually 30 or 40 students on the course, we'll break up the discussions into three groups. It's a nicer number to actually have a conversation with and you get less of the "Oh yeah. I agree" comment. A tutor is assigned to each group, and they probably spend two or three hours a week engaging on it. Their role is more to facilitate the conversation, the students will take the lead on it. Some of these are assessed and some not. An example of non-assessed would be using, a Wiki. The small groups build up a Wiki and then share that with the rest of the class. In terms of ones that are assessed they prepare and present an assignment. Marks are a mixture of their own mark and say 20% of it is based on peer feedback. (ID5)

6.2.1 Connecting with others

On a number of occasions, the discipline specific nature of how connections are built is discussed. In essence students are students but what they are studying differs. ID1

suggests that discussion forums aren't used in STEM because they prefer more practice questions and exercises. In contrast, humanities and social sciences are seen as disciplines that utilise discussion forms well. Regarding STEM, the one exception to this which is not mentioned is the healthcare professions. It can be seen with students from this discipline that they are involved in discussion and engaging through forums online.

> *In STEM disciplines we don't utilize discussion forums. It's a case of let students focus on questions or exercises, individually. They have the opportunity to discuss with each other and instructors in tutorials. For other disciplines, like for humanities or social science the peer discussion, peer review and sharing are more used at the university than in the science courses. (ID1)*

These silos or prior assumptions as to what is required by different disciplines is something that designers try to mitigate against by working with lecturers at the design and development stage regarding how to build the learning community.

> *The same approach is not for every course, every designer, or every professor. They might use a different, approach to design, but we always think about the learning community, whenever it is possible it should be encouraged. (ID1)*

Designers such as ID1 suggest that students should have the opportunity from the commencement of their learning journey online until its conclusion to engage with other students in a meaningful way. They look for ways to create these opportunities for engagement that are flexible and adapt to the learner. Support is required for in-course communities, ones that continue when the course is finished and ones which reach out to the wider community. The designers speak about two different communities, one which only has the current students and another which includes individuals from outside that student cohort.

> *On one of our courses, they're looking to meet up and not for discussion, but more for professional networking. We created discussion groups that they could enter depending on what their background was. So, if they identified with one of them, they could go there to chat with other like-minded individuals. (ID6)*

ID6 suggests that when he is working with lecturers to set up a community engagement space, they have a number of objectives in mind. Primarily that of social learning, constructivism and building knowledge together, but also the opportunities of linking outward to other communities in that profession or industry. He believes that these can be

both beneficial in building community and in having contact with experts who share their knowledge. It can be a place where networking occurs, and students hear about opportunities regarding research or employment opportunities. So, while these are referred to as discussion groups, they have a different purpose than the discussion of course content as described by ID6.

> *I would say we design the community type based on what the faculty is interested in, in their specific domain. Probably more a community of practice, definitely building the idea of networking and having learners share their own lived experiences and facilitating some type of discussion related to those experiences. That's something that learners really appreciate. One of the ways that I think about designing is that I have to pick and choose, depending on the situation where to lead that lecturer. Sometimes there are bright spots where we get to do really fun and exciting things, but sometimes it's more traditional. (ID6)*

ID6 summarises the approach taken by designers in that they are guided by what the lecturer wishes to include in the design. The inclusion of activities that support community formation are jointly considered. The type of community model, CoP or CoI depends on the lecturer or professor.

6.2.2 Mutual engagement

The need to make students comfortable is important in the supporting and retaining of the students on the programme. The experience of being isolated, feeling alien or stupid as described by one student, can result in high attrition and lower completion rates. From Wenger's fourteen indicators the need to identify with the community is included as "*Mutually defining identities*". Whether within newly formed or established communities those on the periphery need to identify with the community, its members and feel that they belong and are not out of their depth (Baxter, 2012). When students mutually engage it provides a basis for them to learn with and from their peers and is important to the overall comfort and inevitably student success. ID5 speaks about an experience from a group of students that engaged with a discussion forum and who provided feedback that they enjoy the experience.

> *The posts from the students become part of the content. We may ask them to provide experiences or their own response to a reading or to an activity and then build on other peoples.' The questions and the activities, the discussions that are going on are relevant to their assessment. The course is built up year on year and it is left open so people can continue to contribute. This has been done for years before I started, and*

I just continued. We get student's feedback that they really enjoy this discussion forum and that they benefit from their own and previous discussions. It helps to set the precedent at the start, what is expected and how community works. (ID5)

The community that is described here, is well-established. Each new group of students join it year on year and rather than a new community being started with each course, ID5 suggests that the community continued from cohort to cohort with some members that are constantly present, but others join at the appropriate time for their course. In other words, ID5's community discussion is not cleared of previous posts with each new student cohort but rather they add to it so that over time the community grows and becomes a source of information and a way for members, present or past students to engage. This is similar to the second of Wenger's 14 indicators "*Shared ways of engaging in doing things together*". Those that are already within the community (past students) set a precedent for how the new or peripheral members engage as they join the group.

6.3 Theme #2 Culture

Online communications flow in differing ways as the choice of mode of communication offered can generate cybercultures that are specific to each course or each institution. The free-flowing unrestricted nature of a cyberculture in Facebook, Twitter, WhatsApp groups, without a faculty member present, contrasts with the higher education culture which is controlled and highly structured. There is a recognition that while a dominant cyberculture isn't formed there is a need for guidance in this area sometimes described as Netiquette.

We ask students to respect each other and post messages professionally, and also, don't expose your personal information, privacy information, that's kind of high-level information for each student. (ID1)

In the online education setting the challenge is in knowing which cultural norms apply in which contexts and which are less important. For example, cyberculture is not a challenge which is uppermost for the participants in this study, for some such as ID1 they have policies or guidelines in place to regulate interactions online and this coupled with the education framework suggests that a dominant cyberculture is rare. A challenge is posed to the designers in respect to the technology and tools they use but also in communicating their appropriate online behaviour message.

There are codes of conduct because every once in a while, somebody can make some harsh statements in the discussion or the chats. Students have to abide by these in an online environment but also very clear guideline on if a mistake is made how to edit, delete remove from that chat or discussion they don't always know how to do that and that can be a problem. Our instructional designers work with us to give some tips and ideas, to find a way to pull them into this environment. (PM4)

There are a number of models which support a culturally inclusive design. The ADDIE model for example can be adjusted to incorporate the inclusion of cultural norms. Culture has been included as a dimension of design on three different levels: intention, interaction, and introspection (Thomas, Mitchell, & Joseph, 2002). Designers are very aware that their designs and the content they create with the lecturers is for a global audience and so it needs to resonate with all of the possible participants.

This is reaching a global audience. So, we need to be as culturally aware as possible, offering more than one frame of reference for any problem prompts, any scenarios, or cases that we're providing. (ID6)

ID6 provides a practical example of how culture is embraced in the design model. The "*Intention*" to include cultural realities so that they have a purpose and are considered in the cases provided. "*Interactive*" content for the students to engage with so that the setting for discussion is on a basis that they relate to. "*Introspection*" understanding one's own or the university's cultural frame and acknowledging that it may not be appropriate in all cases. While this seems to fit into the adapted ADDIE model, ID6 also speaks about the Social Learning Model as a frame in which the culturally sensitive course is built.

The business school has an incredibly diverse student population, one of the faculty that I work with there is very, interested in the social learning model and helping business students learn from each other and utilize real world experiences. I've been designing this course with sensitive topics recently. That's something that we really take care to do defining the boundaries of what this space is for. It's quite different for Westerners because we're used to discussing and arguing and challenging everything and that's not the case in all cultures. (ID6)

Designers are also aware of other cultural norms such as power distance, masculinity femininity and individualism. Several experiences are described by them, such as students who have a lot to say or students that are quieter, and how this is balanced in a discussion and how they build content to support or engender a cultural norm. Different individuals in a

discussion group can adopt different approaches to how they work in the group, which is noticeable to the designers.

> *It is something we look at as there will always be people who want to say a lot more than others. It's interesting, one example recently it was clear that Australians, Americans, and Europeans in the group had a lot to say on the subject. But those based mainly on the African continent, they were really good at asking questions. (ID2)*

According to Hofstede (2005), individuals from America, Australia and European countries have a similar moderate Power Distance Index (PDI) which may be indicative of those who are described by ID2 as "*having a lot to say on the subject*". In contrast those from African countries may have a higher PDI and as such have a very high regard for knowledge as it is seen as power and will seek to learn more from those with the knowledge (Hofstede et al., 2005). While they will seek the knowledge, they may not challenge or debate its accuracy or validity. Hence, they may ask questions and gather knowledge as is the case in the example from ID2.

In all cases in this study the language of instruction of the programmes and universities was English. However, English was not necessarily the first language of the participants. Western education systems are familiar with debating, robust discussion, and the nuancing of language in this context. Online education programmes and their embedded communities that are designed from within these westernised systems need to understand how language can be a barrier to engagement and participation. The designers speak about needing to be aware of the proposed audience for the programme and where such language barriers may occur. ID6 provides an insight into her experience in this regard. She is aware that in western cultures discussing and debating is taken as normal whereas in other cultures it is not and so accommodation in the design needs to be made for this.

> *My main goal is to meet people where they are. If they are in a place where they're not ready to have a robust discussion or argument with someone as they do in western cultures, then I think it's perfectly acceptable for them to utilize the material in their own way. The faculty and I design multiple engagement opportunities. (ID6).*

Alternative ways of engaging are suggested however there is a balance to be found as too many alternatives and the essence of engaging with other students is lost. Another approach is to engage with students at the design stage or early in the module to discuss etiquette and their use of language within an online setting. In considering the community

norms in a multicultural group, language used to communicate is important. It plays a key role in the instruction given to students and the guidance on their scholarly activity while on the programme. ID3 describes his approach as he is often responsible for the instructions on how to engage and so needs to ensure that they are clear and explicit.

> *With culturally diverse populations, you have to provide explicit instruction. You cannot, have implicit rules like we do around academic integrity. You have to state them clearly. (ID3)*

Cultural norms and differences are considered in the design as far as possible. Also considered is the language used and how instructions need to be set out so that they are explicit to assist those who do not come from a westernised education background.

6.4 Theme #3 Influences in the community

In support of the lecturers, the designer's role is to work with them to design and develop their online modules. The success of a lecturer's online module can be accredited to some extent to the designer that they work with. The designers have varying experiences with lecturers from those who are hesitant in bringing their modules online to the more experienced who are looking to optimise their time input and the student experience.

> *I worked with this professor from our history department. He was a senior professor and he wanted to go online, but he worried a lot because he'd been saying that he's such a traditional teacher and he doesn't feel like it is going to work out. Having worked with him for two years he is now really happy with his online courses. If the instructional designer is really helpful, tries to accommodate all the needs and build the course based on the skill level of the professor there shouldn't be any issues or concerns.* (ID4)

Designers work to form the learning environment that includes material and content for the module but also the other elements which support engagement such as community spaces, links to live sessions and discussion forums which enhance the student experience. The design of the functional space for the community and the concept of the formation of that community begins well before the students start on the module. ID2 suggests it is at the planning and design stage that the essence of community is crafted into the online learning space. In that collaboration between the designer and the lecturer, they design a community presence. This could be a CoP where work is done jointly and resources shared and collated, to a space where social encounters can happen, and debate takes place to build knowledge

and understanding. Even though they are involved in the design they acknowledge that the main influence on the community is that of the lecturer.

> *The whole engagement collaboration, building the idea of a community, we do a lot of work on this. We can have all the technology in the world, but you do need the really good, engaged lecturer at the other side that's going to bring the students with them (ID2)*

The final design will be as the lecturer wants it to be and even though the designers can encourage the establishment of a community within the design it depends on the philosophy of the lecturer, the discipline area, and the student choice as to what will work best. This is highlighted in the description of the discipline specific nature of the pedagogy employed by some lecturers.

> *Every discipline has their own pedagogy teaching methodology and community formation also depends on the personality and the teaching philosophy of the professors themselves. (ID1)*

Regarding the use of external spaces, social media to host the community, the designers share the opinion that the VLE is a natural space to host a community meeting space and they are reluctant to go outside of the VLE for an uncontrolled environment. They also consider the technical implications of the continuation of the community beyond the one module or at the start of the course. ID1's organisation has invested in developing their own internal social media tool and uses it to provide a consistent and easy to use space for the community. As presented earlier, they are aware of other external student social media groups but are not involved directly with them.

> *We have our own social media system integrated with the VLE. A professor encourages students to go to this system because we realize for each course when students start with the course, they need a space to promote a community and even when they finish that course they can always go back to their community as it is a social media space. As for outside social media like Facebook, we know students in the university self-organize groups in Facebook, and discuss, what's the learning experience but we don't monitor them. (ID1)*

6.4.1 Teaching Presence

Teaching Presence as a component of the CoI model, includes both the teacher and the designer. Designers look at the specific requirements of the programmes and build these into the online modules. They look to create opportunities for critical thinking, discussion, and collaboration, as their embodiment of the teacher presence in the module, for those times when the teacher is not physically present in a live online session or in a chat session.

> *The thing that drives me is where's the learning? Where's the quality of learning? How do I design in the critical thinking opportunities, reputable sources of information and collaboration opportunities? (ID2)*

The overall aim of the design is the "*Quality of Learning*" that "*Meaningful Learning*" and how that can be enabled in an online collaborative, community environment. The CoI model itself is followed by ID3 in her design and it is linked directly to the requirements of the Quality Matters (QM) framework[5]. The Teaching presence as part of the CoI also sits well with the Quality Matters rubric in institutions where it is the policy preference.

> *We use the Quality Matters Rubric and the Community of inquiry model; they really play to the strengths of online learning and technology. The idea of inquiry itself, introducing messy or structured problems and letting learners go on a journey where they do some research, draw conclusions and present to their peers. I think if you meet that rubric, you are in a sense creating those three constructs, TP, SP and CP that are encapsulated by that CoI framework (ID3).*

Here in the structured problem solving designed by ID3, it supports not only the CoI model elements but also the QM rubric. In one design choice providing an engaging and collaborative learning opportunity for the students, ID3's knowledge of both models informs his design.

The Teaching presence is also important for the emotional support and motivation of the students. The designer is uniquely placed to balance tools and technology used with the input of the lectures to bring to the fore the real essence of Teaching presence and how that supports the community of learners. There are two aspects to this, the first is the relationship

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[5] Quality Matters Higher Education Rubric 6th Ed 2018 is a set of standards for the evaluation of the design of online and blended courses. The publishing organisation is based in the US.

and the trust between the designer and the lecturer and secondly is the understanding of how they can work collaboratively to provide differing approaches, in differing contexts.

> *The academic experts are even more important than the course itself, as they are about helping students and encouraging students, not just from a content perspective, but also from emotion and motivation. They are critical to facilitate learning. So, in the design of the course I consider them as the biggest priority, for once the course is open, they are relying on my design. (ID1)*

Designers work collaboratively with lecturers in the designing of modules but are secondary or in a support function when it comes to the teaching presence in the live environment. Designers and lecturers rely on each other to create the environment which facilitates meaningful learning and supports the students. Lecturers must rely on designers to create the right conditions for an atmosphere in which the community can begin to grow and flourish. Designers give guidance as well as design support for discussion forums for example on how they can resemble small group teaching structures which allow for a collegial environment and one where the lecturer can be more a guide on the side. The lecturer is still present, but the environment of small group teaching is more suited to the community than a large group.

> *There are usually 30 or 40 students on the course, we will suggest to the lecturer that they be broken up into three groups. It's a nicer number for them to actually have a conversation. Then we advise the lecturers to take more of a facilitator role to facilitate the conversation and let the students take the lead on it. (ID5)*

Designers can incorporate these small group teaching opportunities into the online learning environment under the guidance of the lecturer and provide direction as to how this can work for them. In certain disciplines this allows for more sensitive topics to be discussed.

6.5 Theme #4 The Working community

Designers work to build opportunities for connections and community to form, considering culturally diverse populations and are influenced by lecturer preference and university policy. The working community theme #4 addresses what the designers believe they have actually incorporated in their designs, a community of practice, a community of inquiry or a less well-defined community model. They refer to the need to have the lecturer on board in order to achieve their design goals of creating opportunities for forming community. Together they provide the structures and framework for the community for

students to engage with. The experience of the designers is that they will build the necessary support for the community but they themselves can't make it happen. It requires the lecturer and the students to engage.

> *We need to make everyone feel part of a community of learners and make sure they are comfortable, and everyone has an opportunity to engage if they care to, and we're not leaving anyone, without the structures they need, without the framework. (ID3)*

Their progress in establishing the space for communities and technology used to support them is evident. They recommend the correct spaces, the ways to engage and sustain the engagement. One of the main concerns is where to create the space for its best use by the students. It goes back to what the students express that sometimes they don't want the lecturer to be involved in their discussions. Some universities have created a separate social network which is within their systems but outside the VLE, while others are still considering this as an option.

> *We're looking at where to create online communities. No one's figured out exactly whether if the university created a social network, anyone would participate or whether they would just stay on their regular discussion boards in their courses. (ID3)*

Designers provide a number of examples of how CoPs are constructed in the online environment and how that model is chosen for a particular discipline. In the first example the designer is clear that the CoP model in their university is not for everyone and finds more use in the Social Science and Humanities disciplines than in general science. He suggests that sharing a reflection or a perspective is seen more often in social science than in science where they are more guarded with the solutions to problems that they are given to solve.

> *Community of practice, I know it's used by many people in the university but, it's not for every course, designer, or professor. In social science and humanities courses, this is on the agenda for you as a designer, to utilise a community of practice. Differently in the science courses, we ignore such things, and we focus on learning technology, adaptive learning, and personalized learning. (ID1)*

> *In STEM disciplines, we don't utilize, discussion or community. We let students focus on problems individually. This is what the professors wish them to do. But for other disciplines, humanities or social science, the peer discussion, peer review and sharing is more used than in the science courses. (ID1)*

In some cases, which community model is favoured is down to the policy of the university and their ties to industry. There is a sense that the community reaches out from the university to the CoP that exists from a work or professional perspective. In this case both student and industry personnel work together in a community on a project or solving a problem.

> *I think it's more for us a community of practice where students have to work on actual projects together with partner companies that offers students a real work-related project. A community of people from the company work together with the students on a project. (ID4)*

The designers spoke directly about CoI including all three of its elements. A direct connection is made by ID3 for example between the CoI model and the Quality Matters rubric[6]. As CoI is linked to the standard for evaluation of online learning then it may explain why it appears to be used more frequently by some designers.

> *Well, I am a pragmatist, so I think whatever works, we clearly have a history of working with a lot of frameworks, like community of inquiry that have been validated, I think who ever created quality matters was very familiar with the community of inquiry framework. (ID3)*

As well as the possible use of CoI as it links to the Quality Matters Rubric ID3 also describes the model and its inclusion in the online design for its concept of inquiry and research as valuable learning outcomes themselves. Elements of the CoI model, Teaching Presence and Social Presence are often discussed by designers and Cognitive Presence less so. The designers in US and Canada name CoI formally but with others while all three presences are described as well as emotional presence it is not always called CoI. Both types of community are used in different ways by the designers.

6.6 Summary of Designers' Experiences

This chapter brings together the findings from the experiences of designers/instructional designers from this study through the four thematic areas: - Building Connections, Culture, Influences in Community Formation and the Working Community.

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[6] Quality Matters Higher Education Rubric 6th Ed 2018 is a set of standards for the evaluation of the design of online and blended courses. The publishing organisation is based in the US.

Building Connections

- The designer's role is to provide the opportunities for student- student, student-lecturer and student-content engagements, however it is up to the student whether they wish to embrace it or not. They see their roles as building a sense of community and collegiality into the programmes they design.
- They use a variety of tools to support their work in building connections.

  Connecting with Others

  - Designers support a community structure that allows some members to be constantly present while others join at the appropriate time for their course. They design in different ways depending on the discipline, for example STEM disciplines have different designs to those in humanities.
  - Designers look for ways to create flexible spaces that adapt to the learner and the course needs in supporting a community for internal, extended, and external use.

  Mutual Engagement

  - Mutual engagement benefits from having opportunities to engage but also providing the information as to what is expected and how the community works.

Culture

- There is a recognition that while a dominant cyberculture isn't formed there is a need for guidance in this area sometimes described as Netiquette.
- Courses are designed to reach a global audience and designers need to be as culturally aware as possible, offering more than one frame of reference for any problem.
- They ensure balance in cultural dimensions and advise on differing approaches to discussion between students.
- Cultural norms and differences are taken account of in design as far as is possible. Also considered is the language used and how instructions need to be set out so that they are explicit to assist those who do not come from a westernised education background.

Influences on the Community

- Designers work on engagement and collaboration opportunities in their modules and on building the idea of a community.
- They are involved with social media spaces within the VLE or university space but not with those outside it.

  Teaching Presence

  - The designer-lecturer relationship, coming together as teacher presence, has an influence on how they work together and on how the community is set up to be formed.
  - Lecturers and teaching presence is a high priority.

The Working Community

- Designers support the formation of both CoP and CoI within their designs but are dependent on the lecturer, guided by discipline preference and influenced by the University policy.

Chapter 7 Findings 3 The Lecturers' Experiences

7.1 Introduction

The preceding chapters describe the experiences of the university management and designer participants regarding communities in their online programmes of study. They described a complexity of interactions which were explored through the presentation of the identified themes. As this study is looking at the experience of the community all participants that share the community with the students are included. In this chapter the third group of participants, the lecturers, will be looked at regarding their experience of communities within their modules and programmes. In essence it is the second of the connections that is described by Moore's (1993) Model of Translational Distance, that of teacher-student. The teacher-student relationship in distance education is conducted through a variety of means including webinar style lectures, one to one chat sessions, email exchanges or discussion forums. The lecturer's voice is also included in the CoI model as Teacher presence which can be described as a collaborative endeavour for the lecturers and the designers in the overall experience of the students in the online environment.

There were eight lecturers interviewed, from a variety of different higher education institutions in Ireland, Australia, USA, and Africa. They are involved in a number of different discipline areas from business, humanities, and science. As previously mentioned, they work with designers in the design and development of their online modules. While designers are guided by their own and the university's design policy, teaching and learning philosophies so too are the lecturers. They reference a range of teaching and learning theories and models which support their approach to their online learning modules. These include Social Learning Theory (SME3), Paragogy (SME2), Liberating Structures (SME8) and the 5E Model (SME7). Unfortunately, the scope of this thesis does not allow for each of these to be discussed in detail. However, it is apparent that there is a wide variety used and referenced by the lecturers including both instructional design, education and EdTech models/theories which will support the learning community in the online environment. Some are quite specific for example Paragogy which looks at peer-to-peer learning.

> *In my experience, the best way in which I know how to connect students and support a community is paragogy, forget the pedagogy. You go straight in, into the jugular and construct experiences, peer to peer learning. (SME 2)*

The experiences of the lectures are presented here through the identified four themes and the associated subthemes, with the exception of subtheme 1.3 Sense of belonging.

7.2 Theme #1 Building Connections

While student–student connection plays an important role in supporting online community development, however one of the first indications of student engagement is the prevalence of their connection with their lecturers through online webinars, discussion fora, and the materials provided. Students wish to connect with their lecturers through these mechanisms but also in a more direct way through one-to-one discussion and through receiving feedback. This social interactivity in particular that occurs between students and their lecturers is a key factor in supporting student needs in online environments and communities (Kuo, Walker, Belland, Schroder, & Kuo, 2014).

7.2.1 Connecting with others.

The findings from the students' experiences show, differing expectations when it comes to connecting with lecturers and their peers and these may even change depending on when the student accesses the programme. As the designers have suggested the online module design allows for all types of interaction and variations in interaction by students at different times. A lecturer's understanding of the differing needs of their students is part of the importance of this student-lecturer connection. There is empathy on the part of the lecturer in response to the emotional presence of the student as an integral part of that connection.

> *A highly engaged student might be really happy to be fully self-directed for the entire semester and do really well in that environment. Another student might need that social validation, that connectedness, that feeling like they belong to the community. If you can design a module to meet a number of those needs, that's absolutely ideal. Within that, some days students will log in and go "Oh for God's sake. I just don't want to talk to anyone. I just want to get it done". Other days they will say, "actually I'm up for discussion. I want to feel like I belong". It can vary day by day. (SME5)*

In SME5's example the emotional presence is illustrated as part of the student-student connection. In designing for connection and creating spaces to connect there is a link between the student emotional presence, teaching presence, and aspects of instructional presence. The teaching and instructional presence seeks to identify and meet the student needs which involve emotional perception and understanding. Some students will freely express their emotions while for others their emotions are expressed by their silence, but they need to know that they are connected and that they are not alone in the online space. Emotions are interlinked with teaching and learning. The lecturer's skill in understanding and

responding to these emotional needs, creating a nurturing environment in which the student can be supported in their learning is apparent in the following example.

> *It is the teacher's ability to connect students to other students, to facilitate those discussions, to manage the peer-to-peer learning piece, to manage the social constructivism and to be there when the students really need them in a nurturing way. (SME5)*

SME5's experience suggests that the lecturer is at the centre of connecting students and in the nurturing process. Whether this is equal in all modules in a programme is difficult to tell as lecturers and their styles differ. In addition, the extra involvement of the lecturer so closely with the students may not be accepted as easily by all students. Some for cultural or other reasons, wish to keep the Lecturer at a distance which contrasts with the total teacher involvement described by SME5.

Lecturers and designers describe planning and designing a structure that supports the formation of relationships. These need to be highlighted to the students and well signposted in the module. Students need to be given opportunities to meet virtually and to get to know each other but in a way that they are comfortable with and that does not give rise to social anxiety.

> *Groups function when people have relationships and people have relationships when they have a chance to get to know each other. (SME7)*

To form a relationship, there needs something known between those forming the relationship. Exercises or activities whose sole purpose is to help build relationships are included at the beginning of certain courses. SME5's example illustrates this.

> *We do Padlet, real time boards and there's always an introduction activity where in their first week students are asked to share a photo of their dog, something, just to build the relationships. (SME5)*

It's a soft introduction, a pet picture or something similar which doesn't put the students under pressure themselves, a low stakes activity. Its purpose is to introduce, to begin to engage and to find that easy way into the group which has no virtual cost to the student. SME5 finds that this early establishment of group relationships can assist in the confidence and motivation of the student and supports student persistence with the course. Breakout rooms can also be used for these types of introductory sessions.

Doing all kinds of things in breakout rooms in general helps with connecting students. (SME8)

In this next example all students were put on equal footing as it was set up that they all needed help from each other. It works similar to an icebreaker exercise which allows students to ask questions of one another but on equal footing. This is intended to support their connection, relationship formation, allows for socialisation among the group and to build trust. SME8 uses a liberating structures model (Kimball, 2012) for this type of activity, in particular, Troika consulting as it gives guidance on how to set up so that it achieves its objectives of enabling group relationships and breaking down barriers which may exist around asking questions and seeking help or assistance.

This semester I'm doing it specifically with the liberating structure, Troika consulting. in a fishbowl style. I'm asking students, three or four students to choose to be in the spotlight. One of them will say a challenge they're facing and the other three will suggest solutions. That person turns their camera off and mutes as if they're not there, but they're just listening and the whole class is listening in. It's just a reminder to them that, oh, you know what, your colleagues are right there for you. Doing all kinds of things in breakout rooms in general helps with that, but this particular activity, because it's about seeking help from other students. I'm trying to do it explicitly so that they can get used to doing it beyond the class and then when we do it where everybody else is watching, everybody else also benefits and then they can also contribute or comment. (SME8)

7.2.2 Mutual engagement

Mutual engagement by the students with the community is needed to build connection and form relationships. Lecturers and designers look to technology in all its forms to provide suitable tools to assist in student engagement and sharing of knowledge to co-construct its meaning. SME2 suggests the use of a Wiki rather than a discussion forum or a message board to assist with student engagement. A wiki is a collaborative tool that allows students to comment on pages of course related materials. Wikis are collaborative in nature and facilitate community building within a course. So, students can see where others are questioning, commenting on, and debating the course material itself. The advantage of this is that they are taking the material, connecting with it, and iterating it to achieve higher order learning as described by Bloom's Taxonomy (Bloom, 1965), creating, evaluating, and

analysing. It also provides a means for the lecturer of providing formative feedback to the students.

> *I used an open Wiki and students were posting into the Wiki. It is really helpful as it assists with giving formative feedback to the students individually. (SME2)*

Using a wiki for mutual engagement is used by other lecturers also and is indicative of a community being formed among the students through the creation of something together, a joint enterprise. Designers also mention the use of Wikis to get students to work together. Discussion Forums are also successfully used but as pointed out by SME2 they need to be set up in a specific way to get the best use from them. She speaks about a post and response method that she finds useful.

> *Discussion forums the formal ones, in my opinion, are one of the best tools that we have to inform socialized learning right now. I use them extensively in paragogy and they're exceptionally robust, especially when used with a rubric. You go back to the design of them in a micro context and for both staff and students need to know what exactly is happening with the discussion thread, because it can quickly become a free for all and very difficult to grade. Through my own work, I've developed a technique, which is your post and response, post once with a specific task, and then the group, a small enough group, because we tend to find in groups over five, they don't function very well anyway. They're focused on learning in a smaller environment just as they would be in group work. And then that they actively engage with the discussion thread to provide some other outcome, the response aspect of it and that's done in a socialized environment as well. Students learn loads from different industries, different thoughts, different thinking about the same thing. (SME2)*

The reference by SME2 to small groups of no more than five is indicative of micro community of practice. The discussion thread is made part of the assessment with a rubric available to the student; and they can be used to give formative feedback. In so doing they are embedding them within the course and as well as encouraging the students to engage, they are rewarding the engagement. On several occasions, the discipline specific nature is discussed by the lecturers and what works for them may not work in other disciplines. SME2 provides an example which illustrates the differences associated with disciplines.

> *What does change from discipline to discipline are the problems that are encountered. So, for a scientist, they have a need to be right before they speak.*

because they're coming from a discipline where negative marking is used mostly in online spaces. That culture is there when it comes to discussions too. (SME2)

The prevailing culture of the discipline has an impact on how the students engage with the content and also with discussions. Not only is the culture of the discipline a factor in how students engage and how lecturers can best facilitate this engagement but also the cultural norms of the students themselves. This is looked at further in the second theme.

7.3 Theme #2 Culture

Social Learning opportunities designed into the modules will be taken up by some students but not necessarily all. The challenge is to identify where culture in the online community can be nurtured to allow for increased engagement by the students. When a culture of collaboration is not innately present within the group then the design becomes more important to ensure opportunities to build a community are available.

A lot of design and in that collegiality, which is not something that naturally occurs, it's a culture that has to be built. (SME2)

Lecturers recognise and speak about the diverse cultural backgrounds of the students and how those impact upon how they engage in an online environment. SME2 specifically refers to the Hofstede idea of Power Distance where the extent to which less "*powerful*" students in the online community accept inequality and consider it as normal. The notional power being aligned to their cultural background. High power distance suggests that some participants exert more influence over the group communication than others. (Hofstede, 1980, 1991).

Where the educational culture is based on inquiry, students will be more conversational and more prepared to engage, but where there is a culture from a disciplinary, educational background or culturally, where there is the requirement to be right the engagement can be less. Where there is a high level of power distance people are less likely to engage in socialized learning. That doesn't mean they're not learning. It just means that they're less likely to engage in socialized learning. (SME2)

As pointed out it is not to suggest that students don't learn in such environments, but they may not engage with discussions and the other mechanisms of a community. Trust and acceptance which are parts of a solid community formation are seen through the person's acceptance of correction and being open to one's own weakness and to the feedback and

correction from others. If a CoP is to be formed then it is dependent on this mutual engagement, sharing and working together. If there is a perceived inequality within the group, it could adversely affect the willingness to be open to sharing and working together. When there are large differences in PDI (Power Distance Index) there is a potential for one group to completely overpower the other to the detriment of the community as a whole. This ability of one culture to overpower another in an online group is an opinion that is expressed by SME6. In this example they explain how the Irish cultural approach can sometimes overpower other cultures.

> *The Irish are gregarious and sometimes overpowers other cultures. (SME6)*

SME6 refers to how this has an impact on the community of learning formed when you have other, more reserved cultures, included in a group. Mixing of groups with different cultural backgrounds can see one being less vocal than the other. The gregariousness of one group may prevent the other from being comfortable in expressing their views. In the second example SME7 speaks about the cultural norms which are associated with asking questions and again they believe that it is a Western societal phenomenon.

> *I've worked with Latinas who would say, "I can't question you. That's not what I do in my culture." It's a very white, dominant, Western kind of sciencey idea that you would question, or you would discuss topics. (SME7)*

With SME1 he mentions that the student cohort is mostly female from the Middle East and that when he comes onto the live online session that the general conversation changes and it becomes more formal.

> *For the Middle Eastern students, they'll be chatting before I join, and then my male face will pop up, and they all get very quiet and more formal. (SME1)*

SME1 also mentions that he does not change any of the content or approach across the differing groups but is aware of the change in approach of the different student groups.

> *I think culturally the students are different. I don't tend to morph my style with them. I know there are boundaries. But I don't change my tone or the way I am because I think that would be bad, it would be false. (SME1)*

The world of online learning provides opportunities which may not otherwise be available but there is the acknowledgment that some cultural barriers may still exist.

Both SME2 and SME8 advocate a holistic approach to the design and running of a module. Students need to be included by the lecturers either at the design stage or early in the module to discuss etiquette and their use of language within an online setting. In considering the community norms in a multicultural group, language used to communicate can be very important. The use of language and being, as SME8 puts it, honest or politically correct is a cultural attribute and in an online setting it can influence communication. She expresses the need to discuss this with the student group as part of the module.

> *We talk about and read a beautiful article about the power of language and the way that when you say something in English versus Arabic, how you lose some of the impact of the meaning. When they have difficult cross-cultural conversations, do they sometimes struggle to express themselves properly? Do things like wanting to not appear as a terrorist come in the way of them being able to really express their opinion about something. Does political correctness sometimes come into play? My experience is the less westernized an Arab student is the less politically correct they will be and they're going to be more honest. So, you don't know if the one who's being politically correct is just expressing a politically correct opinion and expressing it properly, or do they express what they think we want to hear? (SME8)*

The use of language, being politically correct can mask the true nature of the online discussion. There is a balance to be obtained as pointed out by SME8 which complies with the netiquette described by the designers and in being real which the students speak about. In the absence of visual cues and body language we are more dependent on what is written in an online forum or what is said in the online chat room or breakout room. Even if a camera is used there is a barrier to being able to see the non-verbal cues which are present. Moore's Transactional Distance Theory, previously mentioned in Theme #1, proposes that it is not the dialogue alone which is important but how the interactions, learner–learner, learner-content and learner-teacher are included, evolved, and monitored. All variables that impact interactions should be considered, which will include the language of the students and the language of instruction (Moore, 1993). One of the ways suggested by Marmon is that it can be achieved through the cultivation of social presence by teachers in their course (Marmon, 2021).

7.4 Theme #3 Influences in Community Formation

The Community of Inquiry model highlights the importance of the teacher in influencing the formation and sustaining the community. In particular the lecturers are of

great importance not only in terms of the knowledge sharing but also in bringing the social and cognitive presence together. The influence of the lecturer on the community is in bringing the components of a community of inquiry together in such a way that it concurs with learning outcomes and the student's needs (Garrison & Akyol, 2013). The lecturers that participated in this study similarly describe themselves as having a key role in the community formation within their university VLE in conjunction with the designers.

> *If you use the right design, the Tutor has the set of skills to make the connections with learners, then you can manifest any kind of learning experience that you want. My whole philosophy is to do so by design, bringing warmth to the experience as online can be seen as very cold in comparison to face to face. (SME2)*

Interestingly SME2 describes the online education experience as cold in comparison to the traditional face to face style. However, in this example she suggests that this perceived coldness can be removed from online education through design. The point is well made here that the lecturer is required to know and understand their learners and have the skills to be able to teach such a group in an online environment. Lecturers are responsible for their chosen design, the content, and the student-lecturer connection, so building their skills to achieve this is important to community formation. It is put quite forcefully by SME6 that this role belongs solely to the lecturer.

> *No one else has an impact on that delivery of the class and the ability to bring that class together in a community of learning, it is purely and utterly down to the skill and experience of the lecturer. (SME6)*

Taking this further then, it does lead to the expansion of the role of the lecturer as the one to form and maintain the community. This is identified by SME3.

> *I think that we're going to have to be community managers if you like, on top of being actual lecturers. (SME3)*

Taking these three opinions together as a description of the lecturer as the one who has the most influence on the community as they form and maintain it. There appears to be differing approaches between the three. Design and skill of the lecturer as described by SME2 could be indicative of a more guiding and encouraging approach to the community. In contrast there is no doubt that SME6 sees himself as having an influential role. There is no delegation of the responsibility to another support function or a reliance on design to form or maintain the community. This more involved lecturer role in the community could have an

adverse effect on the student's participation as they may become guarded in their interactions and communications or not engage due to this being a barrier, cultural or otherwise. In essence it's a balance to manage the community in a holistic way as mentioned by SME3 and to rely on design to engage the students and to make the space as inviting as possible, thus diffusing the coldness, and minimising any perceived barriers. In adopting this approach, the community needs to be in the college's space rather than on social media to be able to influence in a light touch way. The approach taken by SME6 may be needed when the community forms in a Social Media space rather than a VLE. Not surprisingly then his space where the community of practice is formed and sustained is on WhatsApp.

> *I set up a WhatsApp group we use it for communication and to share some interesting posts, readings, papers, or maybe a Ted talk. Everyone has access and it has become very useful for building a community both during the programme and afterwards. It is a really key tool for them for their group work and projects and for me from the facilitator perspective. (SME6)*

In using WhatsApp as a space for a CoP, SME6 explains the formation and use of the tool. The example illustrates several things from the mutual engagement, joint enterprise, and shared repertoire to his deep involvement with the group from the beginning, throughout the programme and thereafter facilitating the sharing of ongoing practice. It appears to be its ease of use and flexibility that accounts for the appeal and the adult learners give their consent for their data to be used in this way to set up the community. SME6 may not be unique in using this approach. Those that suggest that design is the key to the formation and sustainability of the CoP have established their community spaces within the VLE. Take SME2 for example, who is committed to design being central to the online community, chooses the route of the formal discussion forum in the VLE. In this case she is quite clear regarding her opinion on forums outside of the VLE in social media and their lack of validity within the education sphere. The reason she puts forward for this, is the lack of protection provided within Irish media law and GDPR (General Data Protection Regulations) associated with the use of such tools.

> *So that's what I say, yes to formal ones on the VLE. Informal ones I have a particular issue with. WhatsApp groups and Facebook groups, they have no place in education. (SME2)*

Social anxiety in the online environment has a direct impact on the students' ability to engage and may lead to isolation. The existence of this social anxiety is described by a number of the participants in the lecturer's group and in the student groups. There are many

ways to address this in the online environment. In the following examples the first suggests that the lecturer takes a backseat and becomes a guide to the students and the second suggests a more involved structured approach.

> *Students are sometimes just afraid to ask questions because they don't know if it's a stupid question or not. So then as the lecturer, you try and facilitate a comfortable setting and sometimes that's through taking a backseat. (SME3)*

> *Students are too afraid of making mistakes in an online environment, in front of their peers, they're absolutely on their knees with social anxiety. You have to make them do it through a structured approach. Show them what they need to come out with. The best experience I have with formal discussion threads is when I give an example and say, "Here's a really great job that a student did before, have a look at that." They are all delighted and they're much more confident about it. (SME2)*

The lecturer then does need to be a "*community manager*," co-constructing the knowledge with the students in a way that is open enough for the extraverts among the group while being aware of those that are rendered unable to participate due to the negative impact of social anxiety. They need to reach out to all students in an appropriate manner, meeting them where they are most comfortable.

Where the community is formed and supported with the university IT Systems such as the VLE or in an independent online space such as a WhatsApp group will allow for differing types of technology to be used. On a VLE there are options which include discussion forums, breakout rooms, live face to face chat functions and chat rooms which can be synchronous or asynchronous. The cohort attending a given module may be widely dispersed across time zones or have a variety of work schedules which make 100% synchronous community engagement difficult. The lecturers employ a variety of tools such as chat rooms, discussion forums which are used on the VLE to support mutual engagement, communication, dialogue, and social presence. It is with such tools that the students are connected to one another and to the lecturers themselves.

> *When we talk about communities of practice, in one sense, the discussion thread, invokes a small, micro community of practice. The theme or the objective of that community is set by the educator and that would be me. (SME2)*

> *The teacher's ability to connect students to students and to facilitate those discussions, to manage the peer-to-peer learning piece, to manage the social*

constructivism, the community, if you like and to be there when the students really need them in a nurturing way, that is what makes it work. (SME5)

You're talking about creating a community or fostering a collective which gives students a collective thought of who they are, who they're going through this with. (SME1)

In these examples from SME2, SME5 and SME1 is the belief in the pivotal role of the lecturer to influence the formation and support of the online learning community. The role of connecting students and nurturing them in a social way by being companions on the learning journey is evident. SME2 speaks about the use of the discussion forum or thread to form a micro-community, sharing information and discussing the content of the module. The lecturer sets the theme or the opening question around which the engagement and the sharing of knowledge and experience can take place. A micro-community is to suggest a smaller group than the entire class with the objective of allowing more time and space for the members to interact and gain each other's trust. The smaller size does not decrease the value of the interaction but allows it to become more personal in nature. This also supports the elements put forward by SME5, peer to peer learning, nurturing, and connecting. These are easier to achieve in smaller groups than in larger ones all the while requiring the presence of the lecturer to foster a collective. The sentiment expressed by SME1 gives an indication of the sense of collegiality within the communities formed. Their identity, who they are, and their community's identity, who they are going through this with, are closely aligned to social constructivism as a learning theory, which is also mentioned by SME5.

7.4.1 Teaching Presence

The lecturers' experience of teaching presence is a reflection on how they see their own presence within the online setting and by extension the online learning community. They experience it in their approach to online classes, be they synchronous or asynchronous and how they thread their teaching style through the online materials and student learning experience. For lecturers it begins with the design of the material and the scaffolding of student engagement. Their responsibility is not only to instruct or teach but also to facilitate the discourse between the students through discussion and debate. The designers are involved in the early stages in setting up the module but its success rests with having a presence online to support, nurture and engage students. As SME3 suggests lecturers can make it a good experience for the student or a "*nightmare*".

Even as lecturers, we can make Moodle, very simple for our students or an absolute nightmare for them. We have to take responsibility for the accessibility, the clarity and how students can engage with and consume the materials. (SME3)

From the CoI model, design is considered to be part of the Teaching Presence, in some cases the lecturers consider them as two separate entities and that good teaching alone will be able to achieve the required learning experience for the students. Teaching presence, as SME5 puts it, is extremely important, but a really engaged teacher is still the most important part of the teaching and learning experience and cannot be circumvented with technology or design.

I think good teaching will trump learning design any day of the week. (SME5)

SME7 agrees and expresses her experience as one of connecting and mentoring the students and putting Teaching presence into all aspects of her modules, looking at learning outcomes and what the students need to engage and be part of their discipline community.

I think at the core of a lot of the problems or challenges, is too much content but getting scientists to back off on the content detail and focus on meaningful learning for diverse populations of students is important. (SME7)

For some they will use whatever is at their disposal to achieve this, for others it is their experience and skill as teachers which is relied upon. Two key points in this: - 1) the meaningful learning and 2) the diverse population of students. Thus far the descriptions have centred on what Teaching presence is, SME5 goes on to describe what it is not and how the complexity of a diverse student population impacts on the approach which should be taken in an online environment. Specifically, what online learning is not, is a replication of what might happen on campus, and he is clear that will not work in an online setting. The student population is different to that which is on campus, and it cannot be a direct transfer of what a lecturer does on campus to a synchronous online class. SME5 describes a situation which is the *"ideal"* where a "*few scrappy pieces of paper*" can deliver a "*really incredible product*" even with an appropriate time allocation. This is not at the heart of what can be achieved by online learning environments. In this case the suggestion is that Teaching Presence alone is sufficient to provide an engaging student experience. SME5 goes on to clarify this by saying.

I think that the pedagogy in universities hasn't changed for a ridiculous amount of time. But the world has changed though. If I want food, I dial. I pick up my phone.

Whatever I want, I get it in ten minutes. But somehow, I have to wait for the academic to turn up because my class is on Thursday. So, Monday, Tuesday, Wednesday, I have to wait, do nothing because there's nothing on the LMS. I don't think it's okay in a classroom environment on campus. I certainly don't think it flies online. (SME5)

So, it is not just teaching at that one allocated time but how the lecturer is present in the asynchronous content that is available as well. SME5 illustrates that in today's world access should be any time that a student is available to engage and that there should be an availability of the material for them on their schedule rather than at a timetabled slot. So, the lecturer is present in person at times and at other times they are present through their online module: their materials, their discussions, and their scaffolded engagement activities. SME5's views are similar with the work carried out in 2004 by Bernard et al. who found that synchronicity in interactions between teacher and student is not a mandatory requirement and student achievement is higher for those that engaged asynchronously or through a combination of both (Bernard et al., 2004). Not only is an asynchronous teaching presence needed due to the student's schedule but also in the context of online learning as a global phenomenon, for the diverse population of students, and there is a need for students to engage from differing time zones. Teaching presence is then in that sense needing to be available to a potential global student cohort on the course. It is for here and now but also for any time and any place. Other SMEs, such as SME1 also speak about their experiences of the variety of differing nationalities, cultures and the time zones of the participants that join their programmes. This globalisation of Higher Education in particular online higher education impacts many aspects of its design and education model. Equally within the extract from SME5, the expectation that education is instantly available to the students at any time almost on demand and that the design and communities formed for the students have a constant teaching presence through all components of the module. Giddens describes this as a "*stretching process*" the increased interconnectivity "*between different social context or regions*" to assist in the visualization of the networks transcending geographic barriers in the present day (Giddens, 2013). The globalisation of higher education and the social change that technology and the internet has brought to individuals' expectations of an on-demand culture are elements which align to a postmodernist view of a knowledge economy. These expectations put a certain pressure on the online education environment and the lecturers within it.

7.5 Theme #4 The working Community

When lecturers discuss communities in more general terms, they refer to the social constructivist idea of needing others to learn. "*Learning doesn't happen in isolation*" is a

phrase that is used when describing the need for others to form a community in which to learn.

> *I certainly don't believe that learning happens in isolation. I do think that as a part of a community or a group setting, one in which students feel comfortable, they feel confident in asking questions sometimes it's such a simple thing. (SME3)*

Students and lecturers should feel comfortable in the community for a flow of conversation to begin and to bring it to a point where sharing of information is possible. This is supported by the idea of trust which is mentioned in McMillan and Chavis' (1986) Community Theory. Several times the mechanics of where the community works best is mentioned by the lecturers, the discussion forum or in an online meeting room setting for example. There are several points made in relation to this with respect to communities in general and they illustrate where the difficulties lie regarding supporting communities in an online setting. Opinions on discussion forums are mixed from them needing to be graded to them being passed over for more immediate communication tools such as zoom rooms. In the case of the former there is a link drawn in relation to freely participating in discussion forms by students and the value proposition being clear to them. The usefulness of community and discussion needs to be evident for students to engage.

> *They won't come in or engage unless there's something in it for them to take out of it. They're not good at sharing just for the sake of sharing. (SME4)*

> *The breakout room function in zoom really took over from discussion forums because it became much more collaborative and better way to build community. It gives an opportunity, to really get to know the student, really engage with them and really pull them into the way you want them to learn. (SME6)*

In the second example, the idea of communities benefiting from more instant communication tools such as Zoom, this is also an example of the importance of social presence and in a discussion forum it can be hidden behind a set of initials, name, or avatar. Whereas in a zoom meeting, assuming that cameras are turned on there is a more engaging social atmosphere created which lends itself to community formation.

Differing uses of the discussion forum can invoke different forms of community. Earlier the reference was made to higher order activities and supporting argument or debate through the use of literature giving rise to a CoI. Lecturers also see the sharing of information

on the discussion forum led by them as a mechanism by which a small community of practice can be formed.

> *When we talk about communities of practice, the discussion thread, invokes a small community of practice, a micro community of practice in one way. (SME2)*

As that community comes together and when it is built around that common interest or profession then the other elements, such as joint enterprise are given a foundation. In this next example it can be seen that when a CoP was formed the members came together and wrote an academic paper which is an example of both shared repertoire and joint enterprise.

> *I can put six students into a breakout room, and they worked on a challenge for an hour and suddenly, you're creating a community of practice. They built their community around that and two students from that class are, doing a paper together around this establishment of a community. Adult learners and educators in a learning environment have that ability to or need to form communities of practice. (SME6)*

What the community forms around can be a variety of different things from the module to the programme or to the industry or profession that the learner is involved in. What it does promote is this sense of collegiality among its members. SME6 is suggesting with some groups that the community, a CoP, simply forms organically around their shared interest in the activity or from their shared professional interest. This is also taken up by SME2 as she describes how she sees communities formed.

> *They're very connected learners. They compare and go back to calibrate, and that has to do with the community that the learner finds themselves in, a community of people within a module, within a program, within a university and within their own industry. (SME2)*

What is happening through the formation of this community is bringing the students together to foster a sense of collegiality, so they are not alone in their studies, and it acts as a way of preventing student isolation. The suggestion here is that with minimal effort given the correct environment a community is forming as a result of the connection between the learners.

The lecturers support the formation of CoP and the accommodation in their modules of tools that will support the community. A number of lecturers specifically name CoP as the model to which they are working. Lecturers and designers work together to design a module or course in the online environment, so they have influence on the community that is

constructed. Communities of Inquiry are also present at an elemental level and function well, but they seem to be less likely to be named by the lecturers even though teacher, social and cognitive presences are described.

7.6 Summary of Lecturers' Experiences

This chapter brings together the findings from the experiences of lecturers from this study through the four thematic areas: - Building Connections, Culture, Influences in Community Formation and the Working Community.

Building Connections

- In essence it's a balance to form and manage the community in a holistic way, to rely on design to engage the students and to make the space as inviting as possible, thus diffusing the coldness, and minimising any perceived barriers or social anxiety.

  Connecting with Others

  - Lecturers' understanding of the differing needs of their students is part of the importance of this student-lecturer connection. Empathy on the part of the lecturer in response to the emotional presence of the student is an integral part of that connection.

  Mutual Engagement

  - Lecturers see themselves at the centre of forming connections with socialisation and early establishment of group relationships which are important to build trust, confidence and motivation of the student and are critical to student persistence.

Culture

- The prevailing culture of the discipline has an impact on how the students engage with the content and also with discussions.
- Lecturers need to be aware of the ability of one culture to overpower another in an online group.
- In considering the community norms in a multicultural group, the language used to communicate can be very important.

Influences on the Community

- Two differing opinions emerged regarding social media. Some say it has no place in education while others rely on it as their community space.

  Teaching Presence

  - Lecturer experiences describe when they are present in person and through their online module: their materials, their discussions, and their scaffolded engagement activities, to support meaningful learning to a diverse population of students.

The Working Community

- Lecturers suggest that with some groups a CoP simply forms organically around their shared interest in the activity or from their shared professional interest.

Chapter 8 Findings 4 Students' Experiences

8.1 Introduction

Five students were interviewed during this study from Ireland, Kuwait, Malaysia and two from the UK. They were all adult learners involved in postgraduate education programmes from a variety of disciplines. This section explores the experiences of the students as they were expressed in relation to the four themes identified. Each theme and subtheme will be considered separately. The first focuses on the students' sense of connection with one another and to their lecturer and whether students' participation in online activities contributed to any sense of community or sense of belonging within the group. Students' sense of connection in a number of cases related to how they engaged and their sharing of information either on the VLE or on social media groups. The second examines the impact of the westernised online education systems on the students' ability to join and contribute to a community in the context of their cultural backgrounds. The third section looks at the key influences in the communities formed, including teacher presence and policies adopted. The lecturer is regarded as an important presence and a reason to participate in terms of clarification of information, immediate access to an authority in the topic area, and the arbitrator of academic standards. Final section explores the students' perceptions of collaboration, communication and how that influences participation in the type of community that they formed or do they identify themselves as being part of a community at all. This section explores the experiences of the students as they were expressed in relation to the four themes identified. All themes and subthemes have been included.

8.2 Theme #1 Building Connections

For students to connect with each other and by extension the learning community, they need to interact through the VLE either asynchronously, (online chat, discussion forum) or synchronously (live online chat such as Zoom breakout room or Teams channel). The student group report a spectrum of opinions on being connected and being part of a community. They come with their own wants and needs; some are very individualistic and are very independent while others are looking for that connection with their peers.

8.2.1 Connecting or not, with others.

On the journey of connecting students to one another, the teacher and the community, the starting point is design, ensuring that there is a place for the connections to be made and supported. Even for those that chose to go outside the University VLE, to Facebook or WhatsApp for example to make those connections they do have to meet their

classmates for the first time within the VLE or other University structures. Students have different reasons for choosing where they will meet and share information informally. Postgraduate students can come from a profession, sector of industry or with one in mind and are motivated initially to undertake their programme through a general interest in the area or for career advancement. Trusting the group to create knowledge that is applicable back in their work environments is an indication of a connection that is collegial, collaborative and that the student is willing to invest in. In addition, students can be connected prior to coming on their course to like-minded communities online through Twitter or LinkedIn. When they come across these individuals on their course, their prior online socialisation assists in establishing a connection with them, in particular if they are participating on a course which is connected to their professional practice.

> *I feel very much part of the group, of a community, I can look at the other people who are involved and be like, "Oh, I've chatted to her on Twitter." We've never studied together before, but I immediately recognized she is on Twitter, that we follow each other because we post in that space about things. (STUG)*

The recognition and prior social interaction allow for the group relationships to form more quickly. STUG recognised prior connections very quickly and the comfort factor of knowing what someone is like, what their opinions might be and that they are aligned to her own facilitates the connection. Student-student connections have meaning, purpose and for STUG when she speaks about enjoying making the connections, through the forums integrated into the VLE so there was a space designed into the course for this purpose. She also speaks about working on the emotional connections "*It's about what you put in*," to others in the group and to the learning journey itself. The language used by STUG contrasts with that of STUJ where the former very clearly has that spirit of membership and emotion where the latter is more transactional. For STUJ due to a number of factors the opportunity did not present itself to become connected in any meaningful way with peers. He spoke of the ever-changing membership of the group and of not finding a way to connect.

> *The chances of collaborating or talking to people was pretty minimal. (STUJ)*

STUJ did not experience student-student connection in the same way as the others that were interviewed. In his case it was not expressed as a loss, and he described the fact that it was missing but only as a "*nice to have*" and it did not impede his progress. He got on with the work needed to complete the course and described the fellow students as "*just an anonymous presence online*." It is difficult to connect in those sets of circumstances and it is apparent that there was a distinct lack of social presence or emotional presence. With STUG,

STUA and also in the next example STUC, the language that they use to describe their connections has more emotion within it.

> *I would have loved to meet them and say hello and then, maybe with one or two build up a long-term relationship, just keeping in touch. There's a WhatsApp group but doesn't seem to be right for me. (STUC)*

There is a sense of looking for connections and forming relationships but the space that is provided for these connections, the WhatsApp group, is not comfortable for STUC, he would prefer to speak in person.

> *With the WhatsApp group, some people are not interested so it's nothing like when, you have a gathering and you say, hello, to each other. The new normal seems to be different. (STUC)*

Emotion and the use of emotional language suggests that connection is important to these students, and they are invested in their opinion on the topic. McMillan and Chavis's (1986) community theory has as one of its elements emotion as part of connection. The CoI model in its original construct does not include emotion or emotional presence however it could be considered as part of social presence (Garrison et al., 2001). Majeski (2018) describe the role of emotional presence in learning as including motivation and self-efficacy.

8.2.2 Mutual Engagement

One way of looking at mutual engagement is in the active and social engagement between students and lecturers to discuss, debate and bring about cognition of the content within the course. It could be considered as being aligned to Bandura's Social Cognitive Theory as well as its place as part of the CoP. In essence mutual engagement is that interaction around the course or connection to materials where learning occurs as part of the dynamic and reciprocal conversations. Some students were eager to connect, while others remained somewhat reserved and held back from the group. The following example shows how a student has engaged with her peers on the course to discuss and compare how prescribing guidelines are used.

> *If you have input on the discussion forum from a pharmacist prescriber, a GP, and others as well some people have more experience than others on how people are using the guidelines, we can share how they are applicable in reality and how people see them. We use the discussion board topics to see more clinical variations.* (STUF)

In this example from STUF she is discussing course content and engaging on the formal discussion forum about her experience and practice. She names the different participants in the group such as a practice nurse, a pharmacist prescriber and GP (General Practitioner/Family Doctor) and describes their discussion on prescribing guidelines. The threshold for participation is such that even though the participants are from differing clinical roles everyone can participate and look to see the guidelines from each other's perspectives. It allows those at the periphery of the community to engage with those who have more experience. Exploring this example then for the other elements of a CoP the prescribing guidelines that they are speaking about are 'shared repertoire' or the common resource that members use to get meaning and facilitate learning within the group. Each one is bringing their own knowledge and sharing that within the group to see the differing perspectives and learn from one another. Interestingly only two elements of CoP are evident in this example, mutual engagement and shared repertoire. The notion of 'joint enterprise,' the third element which describes the focus on a common goal is less apparent, although the learning and creation of knowledge could be considered the common goal. This may not be uncommon as within Wenger's 14 indicators of CoP, Joint enterprise only appears twice, #2 and #7 of the fourteen (Wenger, 1998). In further exploration of the nature of the mutual engagement through Wenger's 14 indicators several are evident from the experience of STUF such as shared ways of engaging in doing things together, knowing what others know, what they can do, how they can contribute and the shared discourse reflecting a certain perspective on the world. Their discussions reflect that they have a certain, mutual perspective on the world when it comes to the topic of these guidelines. As differing clinical views are being put forward the connection between group members is one of trust.

There are a number of Wenger's CoP indicators which relate to how quickly the group can engage and this is important as one of the sentiments expressed by students is that they are time poor and are quite focused on when they will engage and when they see it as not adding value to their learning. STUG is very clear on her experiences of the time to engage.

> *Studying can be a very isolating experience and it can feel at times like it's just you and no one really understands, the fact that there are message boards integrated into the learning environment so you can talk to people quickly, easily and know that there are other people around that is a big thing for me. But if it's a course that I'm trying to just complete, I don't see the value in engaging in a formal discussion, then I won't engage. It's about my interest level and it determines how much I engage in the discussion. (STUG)*

Firstly, of interest here are the two differing types of tools in use, message boards and discussion forums. The message boards are the less formal of the two and tend to have shorter messages or items posted in comparison to the discussion forum which is the more formal place for in-depth discussion. STUG's engagement with the message board is indicative of the mutual engagement indicators described by Wenger as "*rapid flow of information*," "*very quick set up*" and "*short-cuts to communication*." So, while STUG does experience mutual engagement in a style that is indicative of a CoP, she does not always engage and only if it fulfils other criteria for her. When asked about the difference between the discussion forum and the message board STUG explained that the lecturers do not tend to be present on the message boards whereas they do moderate the discussion forums.

8.2.3 Sense of Belonging

Fostering a sense of belonging and sense of identity with the community, programme and university between students is important to their overall success with the programme. Sense of belonging is part of being connected to the community and is probably the final piece of the triad of connection, form a relationship, mutually engage, and ultimately feel a sense of belonging to the community at large. STUF puts it very well when she describes her relationship with the group.

> *I feel part of the group. That's because all of us are adults, so my concept of belonging to a group is what I have so I am okay with it. (STUF)*

STUF takes the perspective of the adult learner and understands where they are in the group, how they relate to others and what they need to succeed in a group or as individuals. She has experienced a sense of belonging as a personal thing and this may not be the same for other students in the group. Even though the phrase "*sense of belonging*" seems clear, there are many descriptions of it in the context of online learning and indeed how STUF has expressed it as something personal to herself is appropriate. The most frequently cited definition from an education perspective in the literature is that of Goodenow & Grady (1993) which describes a sense of belonging as being accepted, valued, encouraged by peers and tutors, being important to the group and supported as an individual. The CoI model also emphasises the importance of a sense of belonging. What it achieves is a dispelling of anxiety and feelings of isolation and it builds connection with the community. As STUA puts it

> *I don't think anybody would be happy to be studying alone. (STUA)*

Institutions put a variety of initiatives in place to support and assist students. For example, STUF feels cared for and uses a phrase that suggests that she feels part of something and belongs.

> *I feel the tutors look out for us. (STUF)*

In contrast STUJ expresses a feeling of isolation from his peers, wanting someone to speak to and someone to care how they were getting on, but it was not available.

> *I think the downside maybe was just the feeling of isolation in terms of when you got to a stage on certain things that you wanted to talk to someone, but they just weren't there. (STUJ)*

From STUJ's perspective if supports were in place, they clearly were not evident to him which resulted in his feeling isolated. STUG explains in one module how she very much felt part of the community and belonged but in the next module that was not the case.

> *It's interesting because when I was studying leadership in education and I didn't feel part of a community, particularly with that module. With the rest of what I was doing, in the wider context of the programme that I was pursuing, I did feel part of a community, but with that particular group, I didn't really feel any connection with them. The reason I'm feeling this community is because I'm studying the space that I'm working in, we're embedded in the practice of what we're studying. (STUG)*

The sense of belonging that STUG feels is linked directly to being part of a community and one that is related to her work environment. Shared practice and repertoire link the individuals together and this appears to be stronger than the connection through the module content. While the absence of a connection and sense of belonging did not prevent STUG from proceeding with her course it did influence her experience of the module in question.

8.3 Theme #2 Culture

The idea of culture in the online learning environment is complex as there is the Cyberculture, the cultural influence in the design and learning models which underpin the programmes and the cultural backgrounds of both Students and Lecturers that occupy the online space. Cyberculture has been described as a culture of flow, unrestricted and supported by the flow of digital information (Breslow & Mousoutzanis, 2012). Online learning environments flow in different ways as the choice of communication methods differs and can

generate cybercultures that are specific to each course or each institution. The free-flowing unrestricted nature of a cyberculture contrasts with the higher education culture which is controlled and highly structured. In the online education setting the challenge is in knowing which cultural norms apply in which contexts. It might be assumed that someone at postgraduate level who is undertaking an online programme is digitally literate, but that may not necessarily be the case.

> *It took me nearly a month and a half to get used to the new approach of learning with technology and being online (STUC)*

This can lead to differences in understanding, uncertainty, and different styles of engagement in online chat and online tutorials which are at the heart of online communities thus giving rise to a cultural melting pot even without the other cultural differences which exist.

America, Australia, Japan, and European countries all have a similar moderate Power Distance Index (PDI) which suggests that they have no difficulty generally in asking questions or giving opinions on matters in an educational or community of practice setting. In this context then STUC sees it as normal that students from other cultures are happy to share knowledge. Regarding PDI, Australia and Japan have a moderate PDI while Malaysia's is high. This may be a reason why STUC, who is Malaysian, shares less than his classmates.

> *There are some in my group from Australia, Japan and from other areas but the majority of us are from Malaysia. The others from Australia and Japan they email into our discussion group and there they put their comments, discuss items, and ask questions from their side and we do get insight into what they are doing. I don't share as much, and I think I have gotten more from my classmates than what I have given out. (STUC)*

Looking at a student cohort where their PDI is roughly equal, they share information freely and also allow for peer-to-peer feedback and correction. It is evident that they are comfortable and feel equal to the others in their group which makes this sharing easier.

> *Within our group, we would feedback on each other's work. So, we would generally say "I really liked that bit. I think that's very good". There were a few times when the Dutch individual he was very open and he made a point of whenever he submitted anything saying, "can you please proofread this and correct it for me? Just do it, don't worry about it". (STUG)*

Here the trust and acceptance which are parts of a solid community formation are seen through the person's acceptance of correction and being open to one's own weakness and to the feedback and correction from others.

When individuals are within their own cultural group, they may respond differently than if they were in a more diverse group. As with many cultural frameworks, life events and other variables can change how people respond to differing situations. This is true of STUA. She recalls that when she studied in Europe, she recognised a culture of collaboration and sharing and was comfortable to do the same but on return to her home country she reverted to its cultural norms.

> *Unfortunately, in our Middle Eastern culture we don't have this way of sharing, especially in learning. But you have it outside because when I studied in Europe, I participated in this sharing and it was very good, but here we don't have it. (STUA)*

STUA who comes from the Middle East speaks about the culture of her region and how it influences how the community shares materials, how they work with the male and female class members and how she views the Lecturer in the online environment.

> *We the people of the Middle East we think a lot about the competition. So, I cannot just go and reveal all my papers about my study. "Hi guys I got this, I read this, what about doing this." We can't because we have this sense of competition between us. Also, there are other cultural things for example I cannot just go and contact Dr A as I am a female, and he is a male just to discuss the material. He will not find it logical, and neither do I. (STUA)*

STUA spoke many times about the cultural differences that are present in the online environment. Even though there is a large cultural mix among the student population on the programme it appears that different nationalities stay largely in the same learning groups, for her it is WhatsApp groups. While the cultural differences expressed by STUA may not affect her completion of the programmes, it does affect her participation in the community and the formation of the community within the group. Interestingly she follows the cultural norms of the country she is in when she is studying and there is no sense that being in an online environment changes that.

The differing cultures that mix in an online environment can be from differing countries, regions, ethnic backgrounds, or it can be the cultural difference of individualism versus collectivism. In individualist cultures the needs and wants of the individual take

precedence over those of the group. Countries that are identified as having individualistic cultures include North America and Western Europe. In the next example STUJ who is from Ireland suggests that he was single-minded in his studies online and interested in doing his course work but not interested in engaging with the wider community online. In the case of his interaction with online learning he shows a more individualistic nature. This may also have been the case if he had studied in a face-to-face mode however he does suggest that having to use social media has made him hesitant to share.

> *I wasn't particularly interested in the wider bit or whatever. I had enough to do on my own course work. I didn't need to share information; I was just interested in doing my own thing. Sharing would have required a different mindset including the use of social media, which I don't normally use. (STUJ)*

STUJ gives an insight into his view of independent learning, as a well-motivated adult learner he did not see the need to share and it wasn't part of the pedagogical approach adopted by the design of the course, so it didn't happen.

8.4 Theme #3 Influences in Community Formation

Before a community can come into existence there needs to be the opportunity, the technology, and the ability to form the community. In this theme the formation and the ongoing support of the community is discussed. Who forms the community and where it is formed? There are two online spaces described as possible locations, one inside the university system where the Lecturer is seen as the one to form the community and support it. The second which is outside the university, on social media where usually lecturers are not involved. The students have differing views of the student-teacher connections within the context of the online community. They wish to be involved in peer-to-peer learning but see the lecturer as the expert and one from whom expert knowledge and feedback is sought.

> *There is an important role for tutors as the expert in the community space, in addition to the benefits of discussing things with your peers in the community. (STUG)*

> *For tutors what concerns me is feedback, their opinion about my performance. (STUA)*

Initially in the context of community formation the lecturer's role is, in conjunction with the designer, to set-up the opportunities for students to engage with the community through breakout rooms or discussion forums. Taking STUG's opinion into this context they are

comfortable with peer-to-peer discussion within such fora but want the input from the lecturer as the expert at the core of that community. In contrast STUA is more removed from the community and it appears to hold the traditional view of the lecturer as the one who grades and gives feedback but not necessarily the one to discuss or debate the elements of the course material with. Communities develop through the activities they collectively engage in. STUA is seeking out the experience and approval of the lecturer to build the knowledge but does not indicate that this is for the purpose of sharing, discussing, or debating with others.

> *Going through a topic you will find a lot of options; you dip into that and read whatever you need. If you want to know if you are right or if you are wrong, you go to the Tutor. (STUA)*

STUA goes on to discuss the formation of groups and collaboration with her peers. From her perspective the lecturer has a strong influence on the community as the supporter or instigator of the discussion. She suggests that if it were left to her or her classmates that they would be slow to form a community. Communities need someone to set-up and organise the hardware which supports them. While they do not necessarily need a leader, they do need a central person within the university if the VLE is used as the meeting space for the community. Interestingly STUA goes on to elaborate that if the lecturer were to form and lead these groups then they would come together. However, given the cultural distance, and as STUA describes, sharing materials, reflections and full participation in the group would not be possible. The difference between STUA and STUC in their experience of community formation is that the former appears to have the mindset that it won't happen whereas the latter believes that it may occur over time and is open to the idea. The conditions, so to speak, for community formation have been provided by the Teacher but an appetite from the students to become involved is also needed. It should be noted that both STUA and STUC are students on the same programme in Health science and they are both Healthcare professionals.

> *Working together and sharing in a community if it is left to us, we will not get close to each other. Everyone has his own responsibilities and the distance it is cultural distance. (STUA)*

> *We are encouraged by the facilitators to try to do discussion and to share our opinions, etc but it is going to be a slow process before we get to that. (STUC)*

In some cases, the students do interact with their own professional CoP to assist them in their learning. They consider this before their newer programme CoP with their online

course. McMillan and Chavis (1986) , in their community theory, speak about the sense of a community being established on trust and emotional connection. The connection experienced by STUC for her previous CoP is different from that to the newer programme related community of learning. This could be related to the time for trust and emotional connection to form. The programme that STUC is engaged with is a one-year postgraduate diploma whereas the medical consultants that he refers to may have known each other for many years. Even though STUC was interviewed three times (at the beginning, middle and end of the programme) this sense of trust in the new community did not seem to change. Time may be a reason, or it may be that the professional relationships that have built up over many years give a more familiar setting through which questions associated with the lack of understanding can be shared.

> *I re-contacted our field consultants, those from the Hospital and I ask them about what can be done, and what do they think about our discussion forum. (STUC)*

The communities described thus far have been those that have a lecturer present and are formed in the university's VLE. A second type of community in which the lecturer is not involved is also described. The formation of this alternative community is by the students themselves when they wish to engage with their fellow students in an alternative location on social media. The lecturers in the main do not engage on these forums with the students. It is evident that the students hold the lecturers in high regard and wish to have settings which are removed from them. The experiences described suggest that there is a cultural dimension in the way in which the lecturer is perceived and the way in which the students work together.

> *We're split into tutor groups and the tutor is present. You could say they are moderated. When I post, I post, but in the back of my head I'm thinking, "Oh, my tutor might see this and they might think I'm stupid.", perhaps. There is a separate space where I can post, theoretically, without the tutor. (STUG)*

> *This is really a new experience for all of us and we prefer to discuss on our private group on WhatsApp. (STUA)*

It appears that they seek a "*private group*" or *"a separate space*" in which to post or chat without the teacher being present. In this second space or alternative community they can discuss with their peers with a greater degree of freedom to make mistakes. Not wanting to appear "*stupid*" to the tutor or be open in an online environment is evidence of a social anxiety which has a direct impact on the students' ability to engage and may lead to isolation.

This anxiety is defined as a fear of being wrong in the presence of peers or teachers and the subsequent negative impression that may be created (Keskin, Sahin, Uluc, & Yurdugul, 2020). Social anxiety among the students can have an impact on their willingness to become involved in the community and openly discuss the materials and course content.

The experiences of the students here illustrate the way in which they interact with their peers and faculty in a community setting. There may be more than one type of community which they interact with, and they share in different ways in these community spaces depending on their cultural background, attitude towards the lecturer and their trust in the community. The time to get to know the other participants on their programmes may have an influence on the level of trust. Of the five students that took part in the study, three were on a one-year postgraduate diploma, STUA, STUC and STUF. The other two, STUG and STUJ were on programmes lasting two to three years. However as is often mentioned "*It is not a one size fits all*" and it can be seen from STUJ that even though he was involved in a relatively long programme his online community involvement was small. He was not comfortable with the communities that were formed in a social media setting and there appeared to be little opportunity to become involved in a community in the university online space.

> *There were people who were talking about things on social media and were comfortable with that, but I'm not. (STUJ)*

Social Media tools like WhatsApp provide an alternative location for the students to meet and discuss their differing views both from a social and an educational perspective. All of the students refer to the existence of social media groups among their peers on the course. For some, STUA, for example this is where all of the conversation with peers occurs but for STUJ he does not engage with social media at all. It varies between students as to their level of comfort with social media. The attitudes of lecturers also vary as to whether they will connect with their students on social media. Some are in favour while others are very much against and wish to stay within the policy and privacy regulated university network.

8.4.1 Teaching Presence

Teaching Presence is one of the three elements defined within Garrison's Community of Inquiry model, the other two being Cognitive Presence and Social Presence. According to Garrison et al. (2000), Teaching Presence is "*the design, facilitation and direction of cognitive and social presence processed for the purpose of realising personally meaningful and educationally worthwhile learning outcomes*". Students in this study see Teacher Presence

in the form of their lecturer/tutor/instructor being available to them as an integral part of their education experience. However, there is an acceptance that the lecturer will have different levels of interaction in the module depending on need and design but if there is an issue, they will be there to resolve it.

> *There are some topics that may be more tutor led because it's the nature of the module. I know that if I have a problem, I can contact the tutor and they will solve it. (STUF)*

They notice the presence of the lecturer in all aspects of the online environment and look to them in places like discussion forums for guidance. They know that they can reach out if needed and that teaching presence is a constant within the online learning environment.

> *I did know that we could reach out to the tutor to intervene, if a group decision hadn't been met. She actually did reiterate her guidance in the forums a couple of times. (STUG)*

Within the modules there is peer to peer learning. However, the lecturer is an integral part of the community and students want their opinion and guidance as well as those of their fellow students. Clearly expressed here is the desire to have both their fellow students and the lecturer in the community.

> *Learning from others is fine but Tutors, they keep reminding you they keep following you up and we need them as well. (STUA)*

The students looked for lecturer presence, support, and nurturing on their learning journey, they do not always open up to the entire group when the lecturer is present, due to aspects of social anxiety. While the community is a trusted space, and the lecturer is part of that community there is still hesitancy in some respects to sharing opinions. Some learners are selective when it comes to sharing their opinions and with whom they share them with.

> *And it's nice to listen to them, give your opinion but don't impose your opinion and just listen, and keep quiet because not all the lecturers are going to be to your liking as well. (STUC)*

STUC's engagement style could be seen as passive, listening, observing and "*keeping quiet."* Teaching presence does not have an impact on students who have passive or active engagement behaviour but has a positive impact of those that have constructive or

interactive engagement behaviour (Zhang, Lin, Zhan, & Ren, 2016). STUC's engagement behaviour contrasts with STUF or STUG who speak about discussing the material with peers and/or with the tutor and are more in the interactive and collaborative engagement mode which experiences a positive impact from teacher presence. What does this mean for STUC? He is not disengaged and does persist with the programme but from an earlier reference STUC reaches back to his own CoP for assistance and discusses the material and asks questions of them to construct knowledge and understanding. For STUC the reason for the passive engagement regarding some lecturers is that they are not to his liking and therefore he does not want to debate or discuss openly with them. Another possible reason for passive behaviours is given by STUJ and in this case, it is to do with technology.

Difficulties with technology can make it challenging for the students and the lecturer at times. In particular where there are connectivity issues or other issues as described by STUJ. He describes the engagement as being "*a little bit false*." A recent study from Purdue University describes the importance of "*being real" in* contrast to having a fake online persona to the sense of community in online learning environments. (Caskurlu, Richardson, Maeda, & Kozan, 2021). The sense of community is supported by the audio and visual cues which allows the environment to present individuals, teachers, and students as real. Issues with technology, cameras and microphones can hinder this significantly causing communications to be stilted. As STUJ puts it "*being false*" or *"the environment being a bit false*" affects teacher presence in the community as it affects the overall community environment and slows the building of trust. It is imperative that lecturers are aware of their presence and its importance, within a supported environment.

8.5 Theme #4 The working community

For students the CoP is spoken about most frequently and within that, mutual engagement appears to be key. It is one of the elements that they have direct influence with, the others being Social Presence, Shared Repertoire and Joint Enterprise and they are uppermost in the descriptions of their experiences. Teaching presence is very important to them and more so than their experience of cognitive presence. Possibly cognitive presence is assumed or is a given and thus not spoken about as frequently as the other elements of the community models.

There are only a few occasions when students speak about the community in general terms as feeling they are part of the community but not expanding their description any further as to the attributes or elements of that community.

I've always felt part of a community. It certainly hasn't felt like me just doing what I need to do to get through the course. I really felt part of a community in this space. (STUG)

The community feel or sense of a community is attributed to the module and the connection with practice or profession they are engaged in at the time. For example, STUG speaks about a leadership in education module in which there was no sense of community and in contrast to a module about online learning which as it was directly related to her role and to the other students a real sense of community was present. She notes that within her programme the same sense of community was not present in all modules. She feels that the community relies upon the class group dynamic and possibly how the module is run to form the community. One of the issues which will be discussed later is the fact that a community which forms associated with one module does not necessarily extend to the next and can be somewhat truncated as the student progresses through a programme unless an overall community is designed and supported.

The reason I'm feeling this community is because I'm studying in my professional space. If I was studying history, I don't know if I would be feeling the same things. Maybe I would. But because, I guess we're embedded in the practice of what we're studying, it really does feel like a community, and it didn't so much in the last module I had. (STUG)

While speaking about their sense of community and feeling a sense of belonging students also speak about the lack of community. Some look at the online learning experience in a transactional way and see community as a nice to have rather than something they need to have in order to succeed as a learner.

The students do not specifically identify a CoP being formed in their course online. However, they do refer to CoP as being part of their professional practice and see the intersection between their professional practice and their online course. Their CoP has caused them to seek out the course that links to their practice and they are marrying the two together in terms of support and engagement. STUG mentions this and also STUC. In the case of the former the community of practice is education and for the latter it is family medicine.

Actually, I found this course through being a general practitioner, it helped me to form my team and I will suggest that they do it too. (STUC)

When looking at the specific component elements of CoP, mutual engagement, shared repertoire, and joint enterprise, the most often mentioned is mutual engagement. They all speak about engaging with their course materials or their online classmates both from a social and a learning perspective. This can be on the VLE or as these next examples illustrate on social media platforms.

> *I think there were other unofficial groupings on Facebook or whatever I wasn't really involved in that. (STUJ)*

> *We have a WhatsApp group, and we do use that for general chat*. (STUA)

> *Discussion Forums are the main way. However, in my first year of study, I did break off and form a WhatsApp group with two others. (STUG)*

There are opportunities to engage with their peers across all of the programmes that the students were involved with. Some chose to be involved to a greater or lesser extent and what is shared differs. Some are not sharing any information as they have chosen not to be involved, others only at a surface level while there are examples of discussion groups forming a shared repertoire.

> *I always go through the discussion forum and put in my answers of what they have asked for. I always make a point to read what others have put there as it gives me insight into the materials and their practice. (STUC)*

There is an interesting difference in how students appear to engage with shared repertoire: some use it but do not add to it while STUC here both contributes to it and uses it. Joint Enterprise is probably the most difficult of the three to see in the student experience as group work is not a component of all programmes. So, the opportunities for building the group to bind the students together around a specific goal other than a group assignment are less obvious. STUG does provide an example of group work and joint enterprise but indicates that if given a choice would choose an individual piece of work over group work due to the extent of the effort required.

> *If I had the choice being honest, I would probably choose the individual piece rather than group work because although I think I got a lot from it - in terms of my head space, it was very demanding. (STUG)*

While taking pride in what was produced through the group work STUG felt the effort was too great for what was achieved. The common thread going through the experience of group work was that getting agreement on the way forward from the group proved difficult and the effort needed could be quite stressful.

> *As stressful as the group project was, I'm actually glad that I did it. Cause I think I learned a lot of stuff and I'm actually quite proud of what we've produced. (STUG)*

The students refer directly to their professional practice and to the elements of communities of practice formed which they are members of, and which support them in their studies either inside the learning environment or external to it.

> *It makes the community group feel more real. And it also has that aspect of perhaps you're a student, but you're also a practitioner. You can integrate and be involved in this environment rather than just being a little passive recipient. It's not like that. It makes it feel different. (STUG)*

Looking at the CoI model there are some commonalities with the CoP model, but it does not appear to be one that the students are as familiar with. In contrast to CoP there are no direct references to CoI directly by name within the student interviews. Looking at the elements of the CoI model, teaching presence, social presence and cognitive presence, teaching presence has been previously discussed and has a large role to play. Students want and seek out the teaching presence to support them in their studies. Social presence and mutual engagement have similar attributes. Students speak about connecting and using the various tools available both within the VLE and external to it, for example the use of video calls through breakout rooms and other applications to connect to their class group and to the lecturer. Experience of cognitive presence is difficult to ascertain from the student participants in this study. Garrison et al. (2001) describe cognitive presence as "*the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry. In other words, cognitive presence reflects higher-order knowledge acquisition and application"*. While examples of activities which support cognitive presence include discussion forums and debates, where thought goes into connecting externally acquired knowledge with that from the course material to formulate responses, the detail given by students on this is limited. STUF does describe an occurrence of participating in a debate which involves critical thinking and analysis of one's point of view.

I think people felt they participated a lot and, in every session, obviously you have the topics for debate, and we put a lot of work into preparing for this and with tutors who act as a facilitator. (STUF)

STUG speaks about the use of a reflection as part of the group assignment which is another example of cognitive presence. Regarding the discussion forums in some cases these are linked to assignments which assists with engagement.

Obviously, we think about papers, but occasionally, for specific assignments it will be. "Discuss this paper in your forum." As part of the assessment, it will be to incorporate some formal quotes. (STUG)

The way that it is phrased in this example, the use of the word "*obviously*" could account for why the use of research and critical thinking is not mentioned more often by the students as they see it as a given at postgraduate level. The smaller number of references to CoI by students may be associated with the inability to set-up this type of community themselves or alternatively it may be as it is embedded as a part of the programme and exists seamlessly, so it is not as obvious to them.

8.6 Summary of Students' Experience

This chapter brings together the findings from the experiences of students from this study through the four thematic areas: - Building Connections, Culture, Influences in Community Formation and the Working Community.

Building Connections

Connecting with Others

- Student-student connections are important, and the students are emotionally invested in them. They are present more so for some than for others and there is a relationship to outside communities and other groups for some students.
- The space for forming connections is important. Both inside and outside the VLE are mentioned but some students are not comfortable joining groups on social media groups not linked to the VLE.

Mutual Engagement

- Students will only engage when there is an added value to them. This can change from module to module. Communities can be transient in one module but not necessarily in the next.

Sense of Belonging

- The role of community and forming a connection with peers is key to the development of a sense of belonging.

Culture

- Culture is important to how students interact in online communities. They adopt the culture of their home country in the online environment. Trust is a significant factor in their engagement with the community.

Influences on the Community

- Social anxiety among the students can be a barrier to participation in a community.
- There can be more than one type of community formed within a programme: one with the lecturer and one without.
- Students' involvement with the community can be interactive or passive.
- Technology can pose a barrier to online interactions being "real". They need to be real to have students engage with them.

Teaching Presence

- The conditions for community formation have to be provided by the Teacher but an appetite from the students to become involved is also needed.

The Working Community

- Students refer directly to the course being related to their professional practice which gives the CoP model an added advantage to it being the community formed within the programme. There is evidence of both CoP and CoI being formed but CoI is more difficult to identify.

8.7 Summary of Findings from across the stakeholder groups.

This chapter and the previous chapters 5, 6 and 7, have presented the findings from the stakeholder groups. The key findings can be summarised for each of the themes and subthemes.

8.7.1 Building Connections

Education models are constructed to support student and lecturer connection to their programmes and to the university. Establishing a presence in the online environment is important. The designer's role is to provide the opportunities for engagement at all levels; however, it is up to the student whether they wish to embrace it. The role of the designer is in building a sense of community and collegiality into the programmes through the use of a variety of tools. The creation and management of the community must strike a balance between minimising perceived barriers and social anxiety and making the environment as warm and inviting as possible.

8.7.1.1 Connecting with Others

Being connected has an emotional component that is part of the community's social presence and speaks to the need to feel associated with and connected to the group, the programme and the university. Where this connection is present student disengagement is less likely to occur. Community structures which designers include in modules and programmes enable multiple joining times and duration of engagement and they differ depending on the needs and preference of the discipline. A design for connecting with others needs to be flexible to accommodate internal, external and extended use and adapt to the needs of the learner.

An important aspect of the value of this student-lecturer relationship is the lecturer's awareness of the various needs of their students. A key component of that connection is the lecturer's empathy in response to the student's emotional presence. Equally student-student connections are important, and many students invest in them. However not all do and also some will retain their connections with outside CoPs. It is crucial to consider the area where connections are made. Some participants do not feel comfortable with social media groups that were not connected to the VLE.

8.7.1.2 Mutual Engagement

Using the technology available to create online learning communities with students and others can give opportunities for broader discussion and knowledge building but this needs to be led through policy. Primary objectives of the communities are those of social learning, constructivism and building knowledge together, but also the opportunities of linking outward to professional and industry communities. An integrated approach to mutual engagement can be accomplished through linking the achievement of learning outcomes to community involvement. Early relationship building, through involvement in communities, is critical to the student persistence with their course. Opportunities for engagement as well as information about what is expected and how the community functions benefit mutual engagement.

Lecturers see themselves at the centre of forming connections with socialisation and early establishment of group relationships which are important to build trust, confidence and motivation and are critical to student persistence. Students will only engage when there is an added value to them. Depending on the module student engagement may vary, communities can work well in one module and not necessarily in another.

8.7.1.3 Sense of Belonging

Managers wish students' sense of belonging to be a priority at all levels of the institution. From a policy perspective it involves programme design, learning analytics and providing support services. The importance of community and connecting with peers is crucial for the growth of a sense of belonging.

8.7.2 Culture

It is necessary within an institution to have policies in place for diversity acceptance, netiquette, and inclusion. Equally important are strategies for establishing cultural parity and involving students from all backgrounds. Barriers to participation can result from cultural background but also student individualism. There is a recognition that while a dominant cyberculture is not formed there is a need for guidance in this area. Cultural awareness and a balance of cultural dimensions is required from designers such that more than one frame of reference is used for problems and accommodations are made for different approaches in student discussion forums. The language and instructions used should be explicit to help those who do not come from a westernised education system. How students interact with online communities is influenced by culture, adopting their native culture in the online environment. Their interactions with the community are significantly influenced by trust. How the students interact with the material and participate in discussions is influenced by the dominant discipline culture. Lecturers need to be aware of the ability of one culture to overpower another in an online group. Within a multicultural community, the language used to communicate can be very important.

8.7.3 Influences on the Community

Within a programme, different kinds of communities—one with the lecturer and one without—can develop and the involvement of students can be active or passive. Participation in a community can be hampered by students' social anxiety. The ability of online interactions to feel "real" can be hindered by technology and for students to interact with them, they must be authentic.

The use of professional social media platforms outside of the VLE but still part of the university system is suggested. In these platforms, a CoP could be formed with the participation of industry leaders, alumni, and students—not necessarily academic staff. There are two opposing views regarding the use of social media outside the university system

as a space to form a community. Some say these have no place in education while others rely on them. The idea of a community is built by designers as they work on engagement and collaboration opportunities in their modules. However, they do not build these in social media spaces outside of the VLE or the university.

8.7.3.1 Teaching Presence

Although teaching presence is valued and significant, training is required in both this and the development of communities. Teaching in small groups can provide the students with a safe space to talk about challenging subjects. The teacher must create the necessary conditions for community formation, but students must also be eager to participate. To support meaningful learning for a diverse population of students in the online environment, lecturers do so through their instructor and social presences. The relationship between the designer and the lecturer, affects how they collaborate and how the community is established.

8.7.4 The Working Community

Participants noted that a community of learning was not adopted across all disciplines, and it was not for all audiences. However, there is evidence that both community model types being developed; one theory is that COP is formed first, then CoI. Each community type's components are obvious, though they are not always formally named. Students make direct references to how the course related to their professional practice giving CoP model an added advantage in being the one formed. It seems more challenging to identify the CoI model. Some groups, according to lecturers develop a CoP naturally out of a shared interest or activity. Designers encourage the development of both models with their designs but are reliant on the lecturer and influenced by university policy.

Chapter 9 Discussion

9.1 Introduction

The purpose of this chapter is to critically discuss and draw conclusions from the experiences of the participants in this study as presented previously. These were organised into themes and subthemes, which have been derived from the labelled experiences obtained through semi-structured interviews to address the research questions. This study looked at four separate stakeholder groups, 1) management within universities, 2) lecturers, 3) designers and 4) students, each of whom had a part to play in the formation of online communities of learning and each having a differing experience and influence on the phenomenon but with a similar goal, the successful completion of a programme of study with the intention of having a 'positive' experience. This discussion will bring together the findings from these groups in the context of the policy and philosophy landscape in which the online learning programmes are placed by the university as it has an impact on the ability to form a community and the community which is formed. It will then go on to discuss the findings in relation to the need to connect and building connections as a forerunner to the community formation. The community of learning models most favoured by the participant groups and their effectiveness, the experience of these communities, their benefits to the learning experience and whether a sense of community was felt by those involved will be discussed.

This chapter is divided into two sections, the first focuses on the areas described by participants arising from the findings. Within this context, I will also consider the underpinning policy and philosophy as expressed by the participants from across the themes. This will be followed by discussion on each of the areas described in the findings: Building connections and connecting with others including barriers to building these connections. Emotional presence and a sense of belonging, Culture and the location of the community for mutual engagement. Influences on the community including teaching presence, the working community and community models adopted will be addressed. The second section revisits the research questions and proposes answers to them in the context of the findings of this study.

9.2 Underpinning policy and philosophy

Looking across the participant groups a number of similarities and differences became apparent in how they experienced the phenomenon of communities in online learning environments and the role of such communities in supporting students. From the experiences described, it became apparent that no one approach, or model has emerged as dominant over the other. The education models, theories, and frameworks, for example the Quality Matters Rubric, Moore's Model, CoI and CoP among others are adopted by the

university management and enabled through their policies to support student-lecturer connections and promote such connectivity through design. A critical moment in this process is the University management determining the platform to be used and the additional technology tools to enhance the platform. These influence the design of the programme in the online environment and guide the designer and lecturer in the preparation of the modules/programmes for the students. The designers and lecturers in this study spoke of their preferences for design models as well as, teaching and learning models and how they use them in the design and during a module in the online learning environment. However, they must work within the platform adopted by the university for example, Canvas, Blackboard, Moodle or Brightspace. From the lecturer's and designer's perspectives it limits what they can achieve individually and collectively as no one platform will provide the perfect environment for the establishment of a community of learning. It is therefore a situation of working with what is available. Across the participant groups there were no bespoke platforms being used and the four referenced above were the only ones to be mentioned. Designers (ID1, ID5) speak about differing faculties approaching their design in different ways, lecturers have their preferences, and the university policy and procurement will also dictate some of what is possible. In theory designers should be able to design the best ways for students to connect and form communities but this is not necessarily the case. They are curtailed by lecturer preference, discipline preference and university policy. So, while the designer can look across the entirety of a programme and should be able to thread similar connection and community approaches in all the modules, the lecturer's approach takes precedence. This balance of power between design, lecturer preference and university policy are particularly evident from the interviews with the designers. The next two sections look specifically at models that were most popular among designers, university management and lecturers and how they relate to communities of learning, and how they illustrate the balance of power in design choice.

9.2.1 Quality Matters Rubric and CoI

One guideline which is mentioned by designers, lecturers and university management from the US, Canada and Australia is the Quality Matters Rubric. In a number of the interviews, it is directly linked to the CoI model. The Quality Matters Rubric is based on instructional design principles and is intended to assure the quality of online and blended programmes through its process guidelines and peer review. The CoI model on the other hand is a model for developing collaborative learning. While the two have similarities, their approach differs: the QM Rubric is an objectivist tool which looks at course design while the CoI model follows a constructivist approach in the implementation of a course (Swan, 2018; Swan, Day, Bogle, & Matthews, 2014). However, when combining the two approaches it

provides a framework which ensures that the community formed is embedded within the learning objectives and assignments of the programme. Within the findings reference was made by designers, in particular ID1 and ID3, to adding value for time poor students and in the approach of combining the QM Rubric and the CoI there is a way in which being part of the community has a clear value-add through the alignment of learning outcomes, assessment, and community. Using a quality standard such as Quality Matters Rubric to guide design offers a benchmarking system which is of benefit as it supports best practice and continuous improvement. While Quality Matters is not the only standard of its kind used in the US, it is the one most frequently referenced both in the literature and by the participants in this study (Baldwin, Ching, & Hsu, 2018). It is international and was referred to by participants from US, Canada, and Australia.

As a quality standard for online course design, Quality Matters Rubric is the only one mentioned by the participants in this study. There are others in the USA, Europe and internationally which are available through collaborative professional organisations such as the Online Learning Consortium which has its "*Five Pillars of Quality Online Education*" (Consortium, 2018) and national agencies such as QQI in Ireland (QQI, 2018), and European Commission white papers. The use of a quality standard in the design of online learning modules can assist in community formation and is another way of building trust which McMillan (1996) speaks about as one of the five elements of a community. Adherence to a quality standard or having a certification of quality can build a general sense of trust in the online learning environment. This initial sense of trust in the University and their online learning programmes and communities builds on their reputation and can influence the members of the new and forming communities of learners giving them a sense of security which will support their integration into the community.

The impact of a quality standard, QM Rubric or any other on the design of the programmes and communities of learning is twofold in my opinion. Firstly, a certification of quality gives assurance to the students that the online programme is of a certain standard which will also be provided by the reputation of the University. It gives a sense of an online environment which can be trusted and as trust is a factor in the formation of community then it provides that. So here we have a quality standard very closely aligned to a community model, the CoI model which provides a trustworthy proposition to the online student. So why then is this not more widely used as the basis for communities in the online learning environment. The reason appears to be the role of the lecturer in designing their modules. ID4 calls this out quite specifically when he speaks about his university adopting the QM rubric but that ultimately the "*university goes with whatever the lecturer feels like. They are assigned to work with an instructional designer, but they develop their own way*." (ID4, Pos.

24). I would argue that therein lies the first of the challenges to creating communities in the online learning environment. When each lecturer's approach can be different and from the lecturers interviewed this is borne out. For example, SME6 and SME2 have opposing views on the use of social media for connecting students, then threading a community in which a student can participate throughout a programme is difficult. The academic independence which each lecturer has to teach as they see fit their subject material in a traditional setting can be independent of the community of learning in that setting as the students have a physical presence and they have opportunities to meet and learn together in an ad hoc way. However, in the online setting the connection and the community are part of the module and ad hoc meetings do not happen, they need to be set up or at a minimum facilitated by the lecturer. The designers need more autonomy to design the connections which are separate to the academic content. Moore's model identifies these connections in the online environment and how they can be structured (Moore, 1993). The designers interviewed in this study spoke about these connections as part of their designs.

9.2.2 Moore's Model of Transactional Distance

The Moore (1993) model of transactional distance identifies three forms of distance: learner-content, learner-teacher, and learner-learner. This is referred to by university management, lecturers, and designers in this study. The designers see part of their role is to provide the opportunities for student-student, student-lecturer, and student-content engagements however it is up to the student whether they wish to embrace it or not. In Moore (1993) these three modes of connection are functions of dialogue, course structure and learner autonomy. In an online learning environment, there needs to be a high proportion of dialogue and a high degree of structure and this in turn will reduce transactional distance which is the psychological distance between students or between student and lecturer (Benson & Samarawickrema, 2009). Alongside transactional distance is the need for transactional control which is described as the choices made by students and lecturers and the dynamics of the interactions (Dron, 2004). An example of this from the interviews I conducted with designers and lecturers was their inclusion of Wikis. In these cases, the structure is created through the dialogue, which initially is lecturer to student but is ultimately between students which creates an environment with high dialogue and high structure. At the same time the learner is exercising autonomy by controlling what is included in the wiki knowing that this will be used to share with the rest of the class group. The challenge then is for the designer to understand the level of transactional distance which will occur, the level of learner autonomy which will be present and to assist the lecturer to take account of these aspects in a collaborative design.

The reference to Moore's model by university managers and its use by designers in this study is linked by them to supporting the formation of community. This is similar to the findings in Rovai's (2002a) work where transactional distance is seen as one of the variables in building a sense of community in the online environment which can purportedly be increased by facilitating dialogue and reducing transactional distance . Learner autonomy, a component of the transactional distance model, is suggested by Lam (2015) for inclusion in the Community of Inquiry model as part of social presence. Designers therefore need to include choice in their designs. The works of both Rovai (2002a) and Lam (2015) then supports the concepts put forward by Moore's model and linking it to CoI. In both Quality Matters and Moore's Model which are referenced by the participants of this study, the community construct begins with design. In this sense there is a bringing together of Quality Matters (a set of quality standards to support design) and Moore's model, an instructional design model to include dialogue, course structure and understanding of learner autonomy.

In the online environment design is more important than in a traditional face to face teaching environment due to lack of flexibility with the learning management system. Access has to be given to the students to elements of the system as required by the content of the module or programme, which are included is the choice of the lecturer and the designer. The designers need more autonomy to design connecting elements into the modules or programmes, the lecturers have their academic independence and there needs to be learner autonomy, what then is the common ground which brings all three together. I suggest that it is the interest in or inquiry into the subject matter which is at the centre of why the three groups are brought together and that the "*process of learning*" should be the dominant among the three. Taking Moore's model each of the three connections are in relation to the inquiry of the subject matter and from CoI model which underpins QM rubric, inquiry is at the centre of teaching, social and cognitive presences. The reason for being together is (1) the designer to facilitate the inquiry, (2) the lecturer to support the inquiry through materials and teaching and (3) the student to understand and learn through inquiry. What has also emerged through the course of this study is that there can be an imbalance between these three regarding power and control. The lecturer is continually described as having a central role in the connections and community formation. As such, teaching presence formed a main theme in this study. However, over reliance on teaching presence can create an imbalance in the community where students become over reliant on the lecturer and neglect their social presence and student-student connections. Additionally, strong teacher presence where materials and discourse are managed does not support the formation of a CoP which needs to be cultivated rather than managed. CoI lends itself more towards communities in modules as the inquiry is subject specific. However, students participate in programmes not just modules and there is an issue as raised by STUG regarding the differences in communities

as associated with different modules, some having a strong sense of community while others having none at all. Building a sense of community around the subject of the inquiry is key to sustaining it throughout the programme. Moving the emphasis from teaching and moving it towards learning in the CoI model may allow for this shift in the dynamic which exists between designer-lecturer and student-lecturer.

In summary Moore's Model of Transactional Distance, as an instructional design model supports the formation of a Community of Inquiry and the QM rubric with the community and connection centred around the topic for inquiry and learning. The difficulty arises in sustaining the community across modules which have differing approaches to connecting students and lecturers to materials. Building supportive environments not only within modules but within programmes requires the designers to step away from module design and engage with programme managers to also incorporate an overall design which sustains the community across the programme. Many of the studies in the literature look at one class group on one module or short course when it comes to looking at communities of learning and very few look at entire programmes and sustaining the community across an extended period of time. I suggest that it is in the extended period of learning involved in a programme that the community becomes less managed and more organic among the students, and it moves from the learning to the practice of the learning and thus evolves towards a CoP.

When I reflect on this aspect of design on online modules/programmes in my own practice I am constantly reminded that many managers, designers, and lecturers begin with what they would have done in a face-to-face mode. This was also reflected by a number of the interviews in this study and then followed up by the statement that, "*that doesn't work the same way online*." So, in choosing the pedagogical and design frameworks to adopt in an online setting the starting point is learning and there needs to be a shift of emphasis from what was done in the past and to focus on learning in the context of the online student and the online community.

9.3 Building supportive environments for connections and mutual engagement.

The student group in this study were clear that student-student connections in their online environment were important and they were emotionally invested in them. Learners have autonomy and so connecting with fellow students is more important for some than for others. They were also selective in their support for communities, some having relationships to outside communities which support their learning. The lecturer's understanding of the

differing needs of their students is part of the importance of the student-lecturer connection. Empathy on the part of the lecturer in response to the emotional presence of the student is an integral part of that connection. There is also an emotional presence in being connected which is part of the social presence of the community and speaks to the need to feel connected and to identify as a learner with the programme. Lecturers in this study see themselves at the centre of forming connections with socialisation and the establishment early on of group relationships was important to build trust, confidence and motivation and viewed as critical to the student persistence. The liberating structures model which is described by SME8 is used for these types of activity. The emotional side of connecting with others is strongly represented among the students, lecturers, and managers groups but not so from the designers. Connecting to others is a choice which students make and is supported by the design and university faculty, services, and policy.

Building connections between students and between the lecturer and the students and reducing the transactional distance between individuals supports community formation and a sense of community. The opposite is also true: barriers to connection and increasing transactional distance hinder community formation. These barriers to connection which were mentioned by participants in this study can be broadly categorised into two groups in the context of the online learning environment, student related and environment related barriers. These are illustrated in Table 9.1

Table 9-1 Barriers to Connection in Communities of Learning

Student related Barriers	Environmental related barriers
Emotional Presence (Social Anxiety)	Location of Community (Within university systems or external to them)
Cultural differences	

9.3.1 Student related Barriers to Connection

9.3.1.1 Emotional Presence

The idea of an emotional presence in online learning has been put forward by Garrison's contemporaries at Athabasca University, in the Cleveland-Innes, and Campbell (2012) paper on the topic. They argue that emotion plays a role in learning and therefore is to be expected in online learning environments. However, while in the original CoI model emotional presence is seen as part of social presence it is not just a response that is presented through social presence but rather the emotional response to the entire online learning experience . Emotions are part of the human experience and therefore the learning

experience and can influence outcomes with positive emotions leading to positive outcomes and negative ones giving rise to stress, anxiety, and anger (Baumeister, DeWall, & Zhang, 2007). While the same could be said of a face-to-face environment however, it is easier to provide support for such students, it is essential in an online environment to overcome the emotions which stand as barriers to learning and cognition (Cleveland-Innes & Campbell, 2012). There are two differing types of anxiety, one which is the anxiety associated with the online learning experience which Cleveland-Innes and Campbell (2012) speaks about and suggests that early intervention and orientation for online learners can be helpful regarding alleviating this anxiety (Abdous, 2019; Conrad, 2002b). The second which is spoken about more often in this study is social anxiety.

Over the course of this study the emotional connection to the online environment, programme of study and the online community was evident among the participants. Students spoke about the fear of being 'wrong' and the anxiety associated with looking stupid to their fellow students and to their lecturer when they post in discussion forums. They also spoke about their frustrations regarding group work when all members of the group did not have the same understanding of the task at hand. There were also examples of positive emotions such as the comfort of having a sense of belonging, recognising someone in the class group from a previous course or having opportunities to virtually meet individuals that they had followed on social media. On a number of occasions, the students interviewed speak about being happy with the course with the online group and in particular STUC speaks about being sad at not being able to meet his fellow classmates face to face. Equally the lecturers spoke about the sense of belonging for their students, providing pastoral care and support for them, and designing to bring joy (SME2) for all concerned so that they have a positive experience of the course. However, they also speak several times about social anxiety in the online space, in particular SME2 who describes it as follows: - "*they're absolutely on their knees with social anxiety*" (SME 2, Pos. 20). Within the university management group, they speak about the anxiety experienced by students as it pertains to online higher education in general which is similar to that which is discussed by Cleveland-Innes and Campbell (2012). Management do reference in particular the facilitation of group work as a source of anxiety at course level. This is similar to the findings of a recent Hilliard, Kear, Donelan, and Heaney (2020) study where they list uncertainty in how to facilitate the group work online as a source of anxiety for learners.

The advent of technology and being able to engage in a programme online should make things easier for students and faculty but it is still considered as new and different. The positive and negative emotions associated with learning are present in the online setting but there are also emotions associated specifically with this setting and social media. There are

positive emotions that are expressed by participants in this study regarding communities and connecting with others; it is the negative ones, such as learning anxiety and social media anxiety, which present barriers. There are a number of examples in this study where the university management, designers and lecturers speak about online orientation and breaking down the barriers to engagement as early as possible. Participants speak about using Padlet, Breakout rooms and ice breakers as ways to begin to build relationships. SME8 provides a good example from her practice as she uses the Liberating structures, Troika consulting system for this very purpose. The general anxiety of learning in an online environment has been lessened for the student participants in this study due to the advent of these orientation and relationship building events which have been included as part of their online programmes and they do not speak of it in any great detail. However, what they do speak about is social anxiety.

On a number of occasions within the findings the presence and effect of social anxiety is highlighted, from the student participant group and also the lecturer group. The fear of being wrong or of appearing stupid to peers or faculty were spoken about along with the issue of trust and the need to "*Be Real*" in the community. In this case "*being real*" can be taken as not to be false or have a persona in the online environment which is not reflective of the student themselves. Social sharing in an online learning environment, posting on discussion forums, being recorded in an online class differs from that of a face-to-face environment because there is a record, written or aural of the post or question, which is visible to the class group and lecturer. The participants in the student group in this study were all studying at postgraduate level as working professionals. Building up trust, becoming familiar with the class group and faculty, are all components of a community model which will assist in reducing social anxiety and indeed to community members being assured that the members are presenting their true selves and being "*real*." There are two interactive situations in the community setting where social anxiety for the learner can arise, learner-learner interactions and learner-lecturer interactions. The levels of social anxiety in these two interaction types can be measured by the Social Anxiety Scale for E-Learning Environments (SASE) (Keskin et al., 2020). The SASE identifies three areas across these interactions which are evidence of social anxiety: negative evaluation, avoidance of interaction and somatic symptoms. While this tool was not used with the participants in this study two of the three areas can be identified from the interviews. They are negative evaluation and avoidance of interaction.

To assist students in overcoming their social anxiety in the online environment (if indeed it can be overcome), takes time and a clear understanding from both students and lecturers as to the expectations and boundaries in the open discussion sessions. This is

where the online etiquette may be of use in setting out examples of how interactions will be monitored and supported. Even to the point of an instruction as to how to remove discussion posts and how to request a recording to be edited before it is posted, or from a lecturer perspective not recording the Q&A sessions at the end of the online sessions as students become familiar with the class group and while the trust is being built-up. The students in this study described their experiences of anxiety in the online setting as both avoidance and negative evaluation. While this group cannot be seen as representing all students the prudent approach would be to make accommodations for social anxiety in the design phase. Here is where I believe that the use of social media platforms, such as Facebook or WhatsApp is problematic as the ability to remove material is not immediately obvious and the general trust in them and what happens to the data posted is not present. On the university LMS there is more control, and it is more secure. Secondly, the design should include a number of non-grade related activities which can support the connection of students but in a way in which no one is excluded. In addition, there should be both public and private chat functions and the ability to post "*anonymously*." The anonymous posting is not fully anonymous as the lecturer will know it is from someone in the class group as they have access to the module and chat function, but they do not need to be named to the entire class group. This is useful in the early stages of the formation of connection and community but as trust builds the need for it should reduce. In the moderation of the sessions the lecturer can then firstly be aware of this anxiety with posting and sharing content and add items to help to alleviate it such as "*the strawman approach*" or group debates. Another example of how this could be achieved was given by ID6 when she described the design of an internal social media space created by the university for its students and faculty as a more social parallel channel to the LMS. Students could be encouraged to meet in such a forum as part of building connections with fellow students. There is a disadvantage to non-grade related activities which is that some students will not partake in them, however attendance marks could be awarded to counteract this, or the activities included as part of a supplemental learning record.

9.3.1.2 Cultural Differences

Cultural background of the students and the cultural setting of the university are important aspects which impact how interactions occur in online communities. While neither cyberculture nor idioculture were prominent in the findings, what did come to the fore were the cultural differences associated with ethnicity and home country. The experience of students in this study was that they adopted the cultural norms of their home country in the online environment. They did not assume another persona in the online setting which in one way supports the idea of being 'real' and trust being an essential component in the community. However, in remaining consistent with the cultural norms of their home countries

the differences in these cultures versus the university from which the programme is being run need consideration as they affect the participation in the online community. The experience is described by the female student participant from the middle east, when she said she would not think it appropriate to discuss topics with her male classmates nor would they consider it appropriate. Also, she mentions that a culture of sharing which she has seen in western education culture is not the norm for her. However, she does describe her earlier education experiences in a different country where she adopted the practice of sharing as was the cultural norm for that environment. The online environment which she experiences is not as immersive as the previous physical one. Another example is where there is the ability of one group to overpower another as they are more used to debating and challenging each other, while others in the group remain silent, SME1 suggested that this may be the case in one of the multicultural groups on his programme. When there are large differences in PDI there is a potential for one group to completely overpower the other to the detriment of the community as a whole. These examples can be broadly categorised into two groups from Hofstede's cultural dimensions, Power-Distance and Masculinity-Femininity (Hofstede, 1980). In the Cultural dimensions learning framework model these are combined in the social relationships group as Equality and Authority (Parrish & Linder-VanBerschot, 2010).

The ability to acknowledge, develop and design for these cultural differences by university management, designers and lecturers is challenging and as was evidenced by the stakeholder groups in this study offering online education to transnational student groups is increasing. Globalisation of higher education through various modes of in country, blended and online has been on the increase for many years (Stewart, 2019; Wilkins, 2016). With the advent of the Coronavirus Pandemic (Covid 19) there has arisen a need for universities to continue their programmes for all types of students in an online environment. In the initial instance this will have been a remote learning approach but as the hesitancy to travel remains for both students and faculty, the need for high quality, culturally appropriate online learning increases. The idea that the online learning environment can become a socially neutral space (Gunawardena, Wilson, & Nolla, 2003) has not been seen in this study and indeed the opposite is true as there is evidence of cultural differences which affect how students interact in the online space.

In considering the community engagement in a multicultural group, the language used to communicate can be very important, the need to be politically correct versus one's true opinion and trust is a big factor in student engagement with the community. Courses are designed to reach a global audience, so designers and management need to be as culturally aware as possible, offering more than one frame of reference for any problem or alternative ways to engage. Designers describe attempting to balance the cultural dimensions that occur

and advise lecturers on being more in the background to allow the discussion to take place between students. Cultural dimensions evident in this study could have an impact on the formation of a community in the way students engage, share materials, debate, and discuss their knowledge. Consideration also needs to be given to the language used and how instructions need to be set out so that they are explicit in order to assist those who do not come from a Westernised education background. There is a recognition that while a dominant cyberculture is not formed there is a need for guidance in this area sometimes described as Netiquette. At a university level there needs to be policies for inclusion, netiquette and embracing diversity in place. It is important that the lecturer and the designer find ways to create a level playing field culturally for all students who participate in their programmes.

While STUA is very clear on her experience of cultural equality and how it affects her interaction with other students in the group, this may not be the same for all students who are quieter in the community setting. Members of communities of practice can participate at different levels. Some will become very involved, and others will only observe the activities of the community. STUC's description of his interaction with his student group is similar to this. In CoPs, this can be interpreted as legitimate peripheral participation, which is a crucial process by which communities offer learning opportunities to those on the periphery (Lave & Wenger, 1991). The alternative possibility is that he may be what Preece, Nonnecke, and Andrews (2004) describe as a silent participant. Reasons for students being silent participants in an online community include the following: do not need to be as browsing the materials and reading is enough, still unsure about the community, have nothing additional to offer or want to remain anonymous. (Preece et al., 2004). The student interactions or lack of interaction with the community in the online setting are complex. Some are cultural, others are more to do with finding their feet in the setting or not seeing the need to comment or post as their external CoPs are providing support to them.

9.3.2 Environmental related Barriers to Connection

9.3.2.1 Virtual Location of the Community

Within the findings there were differing views expressed by participants regarding the location best suited to supporting connections between students and faculty and the location for community formation. This online connection and communication space is spoken about by the students, lecturers, and designers but less so by management. The location is important as choosing the incorrect one can be a barrier to connection. Some students and lecturers are not comfortable joining groups on social networking platforms, such as

Facebook, Twitter, and WhatsApp. Additionally, the lecturers for the most part wish the community space to be within the university systems, except for one who uses WhatsApp as the connecting space. Social media can be a useful tool for staying connected and collaborating with peers that are separated by distance. It is easily used and accessible to anyone who wishes to use it via mobile phone, PC, laptop, or tablet.

There are disadvantages from a university and faculty perspective associated with the use of social media platforms which are described by participants in this study and in the literature including university cultural resistance, pedagogical issues, and institutional constraints (Manca & Ranieri, 2016; Willems, Adachi, Bussey, Doherty, & Huijser, 2018). More generally there are the on-going issues with privacy and the security of data. The hacking of Facebook accounts and the subsequent posting of inappropriate or spurious information is a relatively common occurrence. According to Business Insider in April 2021, millions of Facebook accounts from users in over 100 countries had data taken from them which was subsequently posted on a hacking website for free (Holmes, 2021). So, the reluctance to use such platforms is not without its foundations. There is also the consideration of local and international privacy laws and what is defined in law as being a publication. WhatsApp's links with Facebook and the data sharing between the two platforms has also become a cause for concern. The university management groups in this study did not suggest that they promoted the use of social media platforms as part of the programmes of study. However, it does not stop student groups who wish to set up their own private groups from doing so. Both lecturers and students in this study speak about setting up WhatsApp groups. It works to an extent but can be seen as excluding some individuals in the class group and the lecturer or tutor may or may not be involved. It is often used for social communication rather than coursework as is evidenced by STUA.

One of the designers, ID6, described a novel approach at her university where they have built their own social media platform within the university systems, so it is secure and has appropriate privacy protocols but is separate to the VLE. This allows for the greater freedom afforded by social media with less of the drawbacks. It uses the technology available to create mechanisms to connect students and online learning communities, giving opportunities for learning while still being led through university policy. Primary objectives of connecting students and building communities are those of social learning, constructivism and building knowledge together, but also the opportunities of linking outward to alumni, professional and industry communities. This idea of linking to outside the university is spoken about by university management, in particular PM9, and while the objective of setting up an independent social networking vehicle is different, a similar structure within the university systems is the objective. In summary then the suggestion is to build private social networking

sites that have all the advantages of their commercial counterparts but are more secure as they sit within the university firewall system. It allows for controlled access to alumni, professional groups, and industry in a community of practice framework while also overcoming the issue of access to the commercial social media sites from some countries for example Facebook and WhatsApp are not accessible from China.

The generation of learners that engage in online learning at higher education are culturally diverse from a geographical perspective but also from a popular culture perspective as it relates to social media. So cultural influences can include the environment in which the virtual community is situated. This in turn feeds into the social anxiety experienced by the learners. From my own practice year on year, I see the learner anxiety increase regarding the online environment and with it the need for assurances regarding security of data and their identity. While one might assume that they have the required knowledge to navigate the online environment this is not always the case and that in turn can lead to increased anxiety. Orientation and lead-in are extremely important in reducing this however the time-poor learner does not always attend such events. I would also suggest that a semesterised system does not help this as often the learners are still in that early phase of connection and trust building when the first assessment comes up or is due. While this study did not look specifically at the link between learner anxiety and assessment or yearlong versus semesterised systems, all but one of the participants were in a semesterised system. When I look at design and indeed when the participants of this study looked at design it was at the modular learning environment level but if connections and community is important to retention and success then there is value in looking at a programme level and considering the value of a yearlong calendar. Increasingly the concept of time has become apparent, the need to have more time to gain trust, reduce anxiety, to make connections, embrace the cultural diversity from the class group and form a longer lasting community of learning. The need to give time to learning is at odds with the notion of education as a consumer product and the drive to "*encapsulate*" education into 11-to-12-week blocks where the focus immediately begins with assessment and not with learning. The idea of education as a commodity is a postmodernist one, the need for the qualification outweighing the learning journey (McArdle-Clinton, 2011). This postmodernist view of education and time will be further discussed in section 9.4.

9.3.3 Summary

Connections, student-student, and student-lecturer are a forerunner to community formation. University policy, education model and design policy can support the formation of connections. There are high level decisions to be made such as the appropriate

communication channels and how to support the emotional presence of students in an online learning environment. As universities evolve their online portfolio of programmes more students whose home country is different from that of the university are enrolling which gives rise to a more diverse student population. In the student participants in this study only one was studying with a university in her home country. Knowing the barriers that can exist regarding connecting to a community and working through design and communication mechanisms to alleviate these barriers assists the formation of the community itself. It is also important to consider the timeframe for the online programme to allow sufficient time to build connections, trust, and community.

9.4 The community of learning

Overall, the participants favoured the idea of a community of learning in their online modules and programmes. The types, location and leadership or management of the community differs between the participants for a variety of reasons which will be discussed. Students will only engage with a communication channel or a community if they see a value add to them. The approach to communities of learning differs from university to university with managers encouraging the inclusion of a community structure while understanding that this may not be the preference of lecturers. Lecturer independence can lead to a mixed approach and from the student group STUG refers to this. Communities can be transient, in one module but not necessarily in the next. Where university management is aware of this, they seek to embed the achievement of some of the programme learning outcomes into community involvement which provides for a more integrated approach. Designers are all of a similar voice in their support for communities of learning and they will include them in their designs. However, ID2 and ID3 point out that while they are included in the design, there use is not always adopted by the lecturers. While the lecturers interviewed in this study were all in favour of online communities of learning, the interviews with the designers, students and managers would indicate that this is not representative of all lecturers working in the online environment. Some do not facilitate community engagement instead believing in the independence of the learner to decide such matters for themselves. There is a second factor also involved in lecturer hesitance towards fostering community involvement and that can be due to their own lack of knowledge of the community models on online learning. Both PM9 and PM15 refer to the need for CPD for lecturers in this area, the technology, and the education theory. Lecturers can be subject matter experts in their chosen discipline but not always in the emerging technology and evolving pedagogy associated with online learning.

The prevailing culture of the disciplinary domain has an impact on how the students engage with each other and whether or not a community framework is an integral part of their

modules or programme design. This is not to say that they do not separately form a community, but it is not within the university systems, both designers and managers mention this. Community frameworks are more prevalent in social science, healthcare, and education disciplines and less so in science and engineering from the data gathered in this study. Where there is a history or tradition of forming a community in the workplace it forms more naturally in the learning environment because this is what will be expected in the practical setting. Therefore, I suggest that where communities of practice form with ease in the learning environment it is due to these being the norm in the workplace environment and faculty, management and students are aware of this. In particular when speaking with postgraduate students who are working and attending their online programme at the same time this is evident. STUG is involved in education and speaks about the community formed with others in education, STUC, STUA and STUF are involved in the healthcare sector and again the need for and willingness to participate in community is described by them. In contrast STUJ comes from a business background and as he suggests "*You didn't need to share information, but I suppose, like all these things, you're doing your own thing. In hindsight, it might have been nice to share more, but that would have required having a different mindset*." (STUJ, Pos. 110-112). Therein lies the challenge if the students do not come with the mindset to share and be involved in a community. How do we as educators instil that in them in the time available or should we even try? I suggest that we should because the student will benefit from the learning from others, and the collegiality of being part of a community. Even here with this quote from STUJ, he would have liked to share more. How can this be achieved, again it must come back to giving the time where needed to change the mindset and refocusing the student back to the learning rather than the assessment, final exam, and qualification. It needs to be a decision made by management, programme designers, lecturers, and designers to embed community into the programme at all levels when in the online environment as the casual, chance meetings between students are not possible online.

Designers, lecturers, and managers spoke specifically about building a sense of belonging and a sense of community. They spoke on several occasions about supporting students and giving them opportunities to connect, be part of a community and to identify with the university. There are several descriptions given of the university's online students attending their in-person graduation ceremonies, wishing to speak to their lecturers in person. Indeed, some students travel great distances to attend such events, I can concur with this finding from my own experience as I have seen individuals travel to Ireland to attend their graduation from Canada, South Africa, and China. Peacock et al. (2020) conclude in their study the importance of support services to the sense of belonging for online students. I suggest though that this sense of belonging and sense of community need to be supported

in their formation right through policy and practice in programme design, learning analytics and providing support services. The role of community and forming a connection with peers is key to the development of a sense of belonging for students. This is not always successfully achieved, and experience varies between students. Those that influence the formation, sustaining and support of the community within a module and programme have a leading role in building this sense of belonging. This is approached in a variety of ways by the participants in the study. Some suggest student support personnel, or tutors should be involved while others have a strong opinion that it is down to the lecturer. The impact of Teacher Presence (Lecturer and Designer) which is an element of the CoI model is immense. In addition to this there is the concept of an instructor's social presence which is described as the lecturer "*being there*" for their students throughout the learning journey to support and nurture them (Oyarzun et al., 2018; Pollard et al., 2014).

9.4.1 Influences on the community

The conditions for community formation have to be provided by the lecturer and designed into the module but an appetite from the students to become involved is also needed. Sometimes the lecturers' influence is too strong, and students seek a space without them present. Social anxiety among the students, as previously discussed, can be a barrier to participation in a community or lead to them setting up an alternative group space without the lecturer present. In essence it's a balance to manage the community in a holistic way, to rely on design to engage the students and to make the space as inviting as possible, thus diffusing the coldness, and minimising any perceived barriers. Smaller groups so-called micro-communities, or small group teaching model online, which are subsets of the entire class can be created and facilitated by the lecturer or tutors with the objective of allowing more time and space for the members to interact and gain each other's trust. This is a practice which is employed in their programmes by SME8 and SME2 and which they find useful for breaking down barriers, changing mindsets and giving time to form connections. Designing and embedding within the online module/programme such teaching methods influences the formation of the community.

In the CoI model designers are a part of Teaching Presence and are seen as part of the supporting structure for the model. Regarding the CoP model, it needs to be supported through the design, in particular a suitable space for mutual engagement, sharing of knowledge and materials and working together needs to be created. Due to the diverse nature of the student population as previously discussed, design needs to include both synchronous and asynchronous capabilities for discussion and chat. This will enable those in different time zones to participate in the asynchronous discussion if not available for the

live discussion. The micro-community set-up may also facilitate those from different time zones where they can have a live online discussion with classmates in similar time zones. In the organising of group work then live group discussion can be included. These considerations are not unique to CoP and are also relevant to CoI. The designers should be aware of the more organic nature implied by a CoP as they are cultivated rather than managed (Wenger et al., 2002). While Fiock's (2020) paper specifically speaks about designing for a CoI, many of the instructional design activities could equally be used to support the formation of a CoP, given that as it is online it does need technical and organisational support.

9.4.1.1 Teaching Presence

Teaching presence and the relationship between the designer and lecturer has an influence on how the community is set up. The designers are uniquely placed to bring to the fore teacher presence and its support of the community. Fiock (2020) which expands on Sorensen and Baylen's (2009) seven principles of good practice in online education design are put forward and many of these were mentioned by the participants in this study. Table 9.2 illustrates the examples given by participants in respect to each of Fiock's (2020) principal areas.

Table 9-2 Activity connected with Fiock's (2020) Principal Area as referred to by participants.

Principle	Example of Instructional Activity
Student -Teacher Contact.	Ice breaker exercises at online orientation. Open office sessions with lecturer for one-to-one conversation.
Student-student Contact.	Peer to peer learning. Micro-communities and group work Wikis etc.
Active Learning.	Give grades for discussion forum posts. Encourage debate and discussion.
Communicate High Expectations.	Create multiple areas where students can communication. Share an introduction and expectations document prior to the start of the course.

Principle	Example of Instructional Activity
Respect diverse ways of learning.	Netiquette. Cultural differences to be taken account of. Design in learner choice.

In the CoI model the Teaching presence comprises both the designer and the lecturer as its contributors. In particular Anderson et al. (2001) describes it as "*design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educational worthwhile learning outcomes*" (p. 5). All the activities described in Table 9.2 align with this definition. The role of the designer is clearly articulated but the teacher, as described by the participants in this study, students and lectures, has a further role.

The lecturers and the students, in this study, speak about "*lecturer presence*" in two forms. Firstly, in person at times during their synchronous sessions and live chat and secondly through their materials, their discussions, and their engagement activities. Students value lecturer presence however they want to know how to reach them but due to social anxiety do not want them present in all of their discussions. So, the lecturer presence needs to be balanced and included as part of social presence. According to Richardson and Lowenthal (2017) there are three components of lecturer presence: 1) lecturer persona, 2) course design and 3) communication. Students want to know who the lecturer is and equally the lecturers speak about supporting the students in their study, having open office sessions and being part of the discussion and community. PM8 sums up the lecturer persona when she describes it as "*the perception of value on the part of the students that they're going to be learning from this person who is particularly eminent in the discipline*" (PM8, Pos. 69). This idea of value is linked to the actual presence of the lecturer in the online environment or to use the Richardson and Lowenthal phrase the lecturer being "*rea*l." In communicating with students, the lecturer establishes their social presence and persona which the students look for, particularly in the online environment. The design element then is the incorporation of the opportunity for the lecturer to be present with the students in a way that accommodates the lecturer-student connection across the varying time zones within which they are based.

An obvious but essential dimension is related to 'time' and specifically time is needed for the social presence of the lecturer to become established. This is equally true for the social presence of the student, student-student connections, and student-lecturer connections. Taking the point made earlier regarding the diverse time-poor student

population being in different time zones this increases the time needed to engage and reply. In a semesterised university academic calendar each module duration is approx. 12-15 weeks. Given that the normal duration for discussion forum posts and answers is one to two weeks, the former may not allow sufficient time to get into a deep discussion while the latter does give time but there are a limited number that can be accommodated in a semester (Chih-Hsiung & Corry, 2003). In this timeframe social presence is difficult to establish unless opportunities to engage happen early in the module. However, there are multiple ways to communicate and engage when there is continuity between modules. The link between module and programme design then becomes more important. Policy which supports consistent design philosophy and technology needs to take account of whether the programme is semesterised or yearlong, to assist in the establishment of social presence both for students and lecturers.

Continuing with the concept of time as it affects social presence, in the effort to be available and establish a lecturer presence, the expectations of students need to be managed. The notion of being always available through the advancement of technology is one that is taken up by Giddens (2013) and he terms it the "*stretching process*". Stretching our reach with education through its globalisation has also fed into this on-demand culture and the need for instant feedback and reply. Modernity has, according to Giddens, caused a separation between space and place. While the phenomenon being looked at here is communities of learning in online education settings, it sits within the modern communications phenomenon of "*always on*" and "*anytime, anywhere, any place*" and the globalised and transnational dimension of the online learning environment. Giddens (1990) refers to these as expert systems and describes them as "*systems of technical accomplishment or professional expertise that organise large areas of the material and social environments in which we live today*" (p. 27). These expert systems are disembedding mechanisms removing the need for social relations to have the local context of a restricted time or place (Giddens, 2013). In essence it lifts the social presence, instructor social presence and mutual engagement, the social engagement parts of communities out of their localised time-space and re-organises them across larger time-space distances. This poses challenges to the presence and to the functioning of the online community. Into this modern phenomenon Giddens also highlights the importance of trust, which has also been highlighted by the participants in this study. Trust is related to large time-space distances, not as an opposite to risk but as a need to be able to rely upon others in a community and as "*a device for coping with the freedom of others*" (Gambetta, 2000, p. 220). Being present then in the online community for students and lecturers differs from the traditional face to face model as it is on a time continuum. The student-content relationship is more than a source of knowledge and information, it is also a connection to the teaching presence, the

lecturer being present through the construct of knowledge details, activities, and discussion posts.

9.4.2 Summary

The inclusion of communities in the online learning environment, their position, practical use, and sociability on one level are influenced by the policy and management of the university. The membership of the community and the associated costs of supporting its membership for industry and alumni are policy decisions which are made, and which influence the ongoing nature of that community. There are differing views from the universities as to where the community space should be, and this will inevitably influence its set-up, maintenance, and support and how faculty have influence or not on the community. A student-only community with no lecturer, instructor, or mentor present, may be useful if other communities also exist within the module or programme. It can provide the collegial support students are looking for on a social level. Its technical support and maintenance can be provided by the university if it resides within its systems.

9.5 The Community Model: CoI or CoP?

All participants agreed on the value of a community of learning in their online programme. However, what that community looks like in a module or programme differs. Within this study there have been examples of more than one type of community formed within a programme, one with the lecturer and one without. Students' involvement with the community can be both active or passive and can vary with module content. Technology can pose a barrier to online interactions being "*real*" and they need to be real to have students engage with them. Students who refer directly to the course being related to their professional practice give the CoP model an added advantage to it being the community of choice as they have prior experience of being involved in such a community. There is evidence from the participants of both CoP and CoI being formed, but CoI is more difficult to identify in its totality. While teaching presence and social presence are evident there is less reference by the participants to cognitive presence unless they are specifically speaking about the Quality Matters Rubric or the CoI model. A plausible reason for this is that it is almost assumed to be present as the discussion is in connection with a learning environment and cognitive presence occurs through the discussion of the course materials through communication within the group (Garrison et al., 2001). Almost as if due to the fact, that is the nature of what is happening it is not mentioned. The lecturers suggested that with some groups a CoP simply forms organically around their shared interest in the activity or from their shared professional practice. Designers support the formation of both CoP and CoI within their

designs but are guided by the lecturer and discipline needs. The evidence suggests that when both communities are formed, CoP is formed to begin with then followed by CoI. Elements of each community type are evident, but they are not always named formally. I would like to think that it was an oversight on the part of the participants and they were very involved with the workings of the community at a micro level and felt that it wasn't necessary to name the community type. However, what is more likely is that apart from the designer's group and those managers in USA and Canada that CoI in particular is not very familiar to them, and they refer in more generic terms to social presence and teacher presence. What also supports this is the fact that cognitive presence is not mentioned. Even with the participants who were familiar with the theory of CoI they did not always use it in their design of online modules. Educationalists are slow to change and while online learning and CoI have been around in their current form for more than twenty years they are still quite new. In contrast, because of their use in professional settings, in industry and its earlier discussion in the literature, CoPs are more frequently referred to as a way of engaging and sharing practice. An extract from PM13's interview shows this difficulty with naming and categorising communities "*We're not necessarily following any particular community structure, because we want to ensure that every course has some sort of way that people are* ***collaborating*** *either in a discussion board, in a live session or groups. They're very heavy* ***on group and real-world experiences****. A lot of our faculty are adjuncts, industry people who are industry experts and it's a lot of conversations around real world things, as a community. Rather than looking at something like a specific learning theory because our faculty may not have a significant amount of teaching experience but are more geared towards the industry expert. We don't try to overwhelm them with learning theory. We focus more on* ***teaching presence*** *in community building*" (PM13, Pos. 24). Taking this extract PM13 says they do not follow a particular community model however he describes a community of practice with industry and secondly names specifically teaching presence which is a component of CoI and not CoP. I could suggest that what is present from this description is a hybrid model of community which has the elements of CoP, but which also includes teaching presence. Very noticeable here is social presence, mutual engagement, industry experts sharing their knowledge of work-related examples which is akin to shared repertoire. I could equally make the case that this description is a combination of the two community models and as the emphasis is not as PM13 suggests on being very closely aligned to learning theory not all components of each model are given the same level of importance. The challenge as I see it is with taking the practice which has evolved and trying to match it to a theoretical framework. In particular the issue with the CoP model in an online education environment is that it is more likely to be managed rather than cultivated which is not staying true to Wenger's concept of a CoP.

9.5.1 The Community of Practice Model

The participants in this study had experience of the use of communities of learning in their modules and programmes. However, there was no one trend within a group or region to CoP or CoI alone. In this section I will discuss the experiences of CoP and the challenges associated with its use. None of the participants suggested that there was a programme approach to connection and community, but it was done on a module level. This is the first challenge for any community, consistency, time to form and evolve. The experience for the student then of a learning community is more complex and that each module within a programme may have a different approach. A student may be a member of more than one community as part of a programme, change as they progress through the set of modules and as they require more connection or distance from lecturers or peers.

Lecturers, management, designers, and students that come from a healthcare or education background, as examples, naturally appear to gravitate towards communities of practice. They are familiar with it from their professional life and their workplace and their formal participation in an online postgraduate programme is an extension of their community of practice. They know personally or professionally the other students and even if they do not know them, they already have that shared common experience of healthcare or education. STUA and STUC both speak about their current and previous CoPs as does SME1 and SME6. However, while this makes CoP the community model of choice for these groups it has its issues namely overcoming the cultural barriers which can exist. In this instance, from the findings of this study the CoP does not provide an environment where all participants can freely share and engage and indeed what happens in practice is that there are several smaller CoPs formed within the programme that include subsets of the larger class group. The problem with this approach is that it has the potential to exclude individuals who do not fit the selection criteria for the self-forming smaller groups unless they are formally set up as part of the design of the programme. Take for example as described by STUA the cultural norms from certain regions regarding males and females working together in a community. She describes a situation where the females on the programme have their group and one assumes, that the males have a separate group. From my perspective then as a lecturer or designer I can either let the CoPs form like this, but I believe that this will not support full and open discussion and, I have an issue if I have a small class group. In the online environment it should not matter where you come from, but the reality is it still does. Therefore, the alternative that I suggest is the use of avatars as an online persona for those who wish to move outside their cultural boundaries. STUA says in her interview that she did not conform to her home country's cultural norms when she studied abroad and integrated into the ways of the university, she was studying in. So, then the online CoP needs to take on the norm of the originating university and students who wish to have an avatar which

represents them in the community to allow for increased engagement. These have been suggested in the literature for this purpose (Burgess, Slate, Rojas-LeBouef, & LaPrairie, 2010; Dede, 2005). These are more difficult in the CoP than in CoI due to the prior professional connections but are worthy of consideration.

The second challenge with the CoP model and online learning is teacher presence. Highly valued by students and one of the commonly mentioned requirements of a learning community by participants in this study, teaching presence or someone to learn from when new knowledge and understanding does not exist within the group. The CoP model for me resembles the apprenticeship model with students learning from the 'master craftsperson,' understanding through the practice of theory and sharing the knowledge which is within the community with newcomers as they move from legitimate peripheral participants to full members who in turn will share their knowledge with the next group. Learning CoPs can be described as learning where knowledge is available, but the practice or application is open for discussion (Fischer & Ostwald, 2005). There are two possibilities then. The first is where there is no teaching presence within the CoP and the knowledge to be shared is transferred from elsewhere to the community. The second is that a lecturer is present in the CoP as the master craftsperson and the students are the legitimate peripheral participants. The former indicates that teaching and learning is done elsewhere, and the CoP purpose is for discussion on the application and practice but without a guide or mentor. The latter is more akin to a managed CoP where the Teacher is providing oversight to the community (McDermott & Archibald, 2010). The participation of students in the second type of community may be hindered by social anxiety as mentioned by student participant STUF. The words used by Wenger and Lave to describe the domains within a CoP are by their nature collaborative: joint, shared, mutual, suggesting that while there may be participants on the periphery, they are somehow all on an equal footing and barriers to sharing do not exist. The findings from all of the participant groups in this study suggest that there are barriers to sharing which need to be overcome.

According to Wenger a CoP is cultivated (Wenger et al., 2002). This is similar to some of the experiences described by the participants when they speak about the communities forming organically around a particular topic. These are not designed into the programmes or led by a faculty member. Looking then where the communities described in this study were situated it is possible to determine whether they are cultivated CoPs or managed CoPs. Table 9.3 illustrates the CoPs described within the study and classifies them as cultivated or managed.

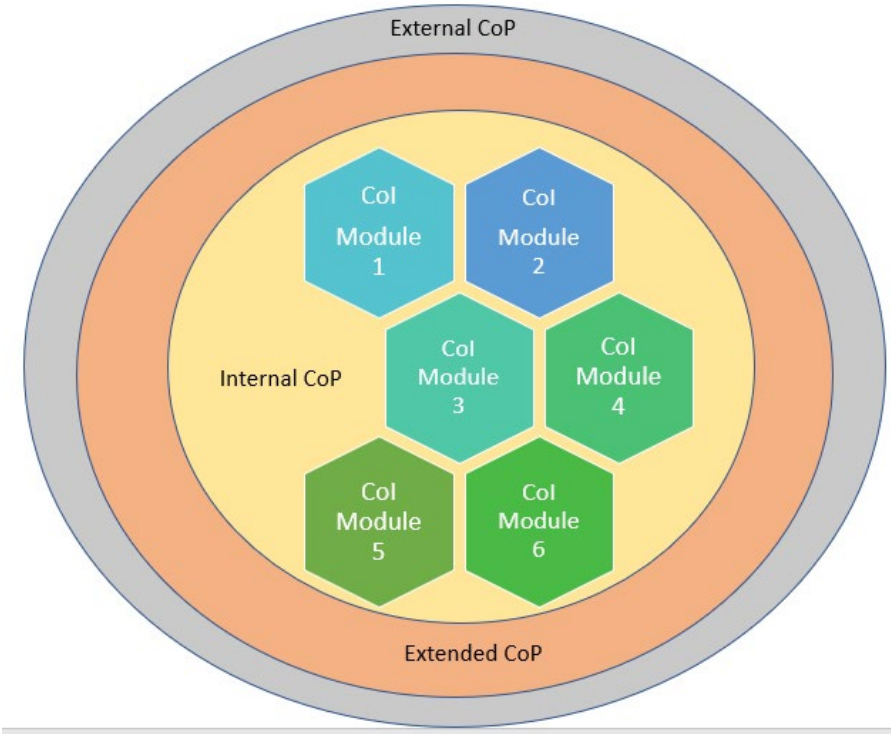
Table 9-3 Cultivated and Managed CoPs

Community Description	Cultivated/Managed
Designed into the programme through discussion forum and monitored chat functions.	Managed
Free space where there are no faculty on the VLE.	Cultivated
Open general discussion spaces within a module on the VLE but no access once the module is complete.	Managed
Discussion space which includes industry representatives, alumni, and current students. Access is for entire programme and beyond.	Cultivated
University online social space outside the VLE.	Cultivated
On WhatsApp, Class Facebook groups, Twitter groups with or without faculty present but not managed by the university and no formal end date.	Cultivated

Wenger et al. (2002) describes the seven principles for cultivating a community of practice which has a goal of supporting the community's own internal direction in particular: "*The principles we developed to do this focus on the dilemmas at the heart of designing communities of practice. What is the role of design for a "human institution" that is, by definition, natural, spontaneous, and self-directed?*" (p. 2). This is where the CoP is at odds with a designed, structured community within a module as it will unlikely be spontaneous and self-directed. Therefore, it is in the less controlled spaces in the online learning environment that CoPs can form. Wenger et al. go on to further elaborate on each of these seven principles: design, open dialogue, levels of participation, focus on value, create a rhythm, and combine familiarity with excitement. In particular they describe the community as being designed on three levels: a core group (10 to 15% of the CoP) that leads the community and moves it along the learning path. The second level, the active group that meet regularly but are not as involved in community discussion as the core group and comprises approximately 20%. The third level are the legitimate peripheral participants, which are the largest group and rarely participate, preferring to watch from the side-lines or they do not have time to make the contributions necessary (Wenger et al., 2002). This description of the phenomenon is similar to that described in the findings by the student group who wish to watch and listen to the activities of the communities. What is clear is that there is a core group not an individual lecturer at the heart of the community. Wenger does also speak of a coordinator of the community whose role is to organise events and connect individuals. This could be considered as the lecturer's role in the CoP however it goes beyond organisation and connecting individuals.

In working through the design principles of a CoP it becomes evident that cultivated CoPs are student spaces with some support from the lecturer but not led by them. The free spontaneous groups which form are more akin to what Wenger is describing as cultivated communities of practice. What are the managed communities then? It is more likely that these resemble more closely Communities of Inquiry than Communities of Practice. So even though they are not directly named as such there are probably more instances in the findings of CoIs than what might be initially described. This then provides the basis for the model of a combination of communities which exist within online higher education, CoIs which are designed and managed within modules by the Teacher and CoPs which are more spontaneous and develop in less controlled spaces.

Figure 9-1 Combined Model of Communities on online higher education.



The combined model illustrated in Figure 9.1 shows three different CoP types being formed within a VLE space but outside the modules, internal, external, and extended. The internal CoP is capable of being the thread which links the modules together, being cultivated and evolving throughout the course of the programme. The internal CoP includes current student cohort only. It includes the lecturers or tutors and the student support office all of which are in a more reserved mentoring capacity. Some students will come to the fore in the organisation of the community and become the core group, setting up meetings, organising materials to be shared etc but with a knowledge that lecturer support is available, if needed. This is similar to what is described by STUG and STUF.

Many of the participants spoke about the inclusion of industry experts and alumni in the community of practice. These are included in the model as the extended CoP. This can be defined as a community which can have multiple origins for its membership from current students to industry experts, faculty, and alumni. This allows for the CoP to be built on an existing network similar to what is found in the case of the healthcare or education professions. This extended CoP has the advantage of extending membership and the trust which is build up over time. It adds to the student experience and supports them on their programme journey. In the findings this was described as situated within the university systems and has lifelong membership for alumni and industry partners. It may also be linked to a professional body membership if one exists for the discipline. For example, students on a pharmaceutical science programme could be working in the industry and members of the ISPE (International society of pharmaceutical professionals). There are two types of external CoP. The first is as described by one of the student participants (STUC) where he speaks about reaching out to his own medical CoP for assistance with the course. He is the only one from the programme that is a member of that CoP, but it provides an opportunity for him to take the knowledge and understanding from that CoP and feed it back to the internal and extended CoPs. The second type of external CoP is the social media CoPs that are external from the university and managed by and for the students.

9.5.2 The Community of Inquiry Model

Fischer & Ostwald (2005) describe a CoI as the community that is looking for knowledge perfectly describes what a postgraduate programme of study community is about. It is interesting then that it is not more prominent in the interviews with the participants in this study. As I have already mentioned this may be due to its relatively recent appearance in the literature and the traditional nature of education frameworks and models, but I believe it is more likely its most valued element teaching presence is also its challenge in application across programmes. Teaching presence is highly valued, but it is also what changes most frequently across a programme of study as there can be a different lecturer for each module. While the design element of teaching presence should provide some continuity, it is evident from this study that the designers have limited power in this regard. They support the pedagogical requirements of the lecturers, and these differ widely between lecturers and the subject matter that they teach. I am not suggesting that each module should be designed in the same way and indeed Fiock (2020) and Sorensen & Baylen's (2009) provide a variety of design options to promote community participation. It is to suggest that the programme needs an overall design which links the community, the modules and on a modular level there is both an inward and outward focus on teaching presence. Within this study those that spoke about the QM rubric were the only group that spoke about the design of programmes as well

as modules and as such I believe it is an area which is overlooked by the CoI model. If CoI is a model which specifically is at the modular level of a programme, then this may also account for why it was mentioned less in the interviews as the questions related to postgraduate programmes rather than specifically asking about modules.

The social presence is spoken about on multiple occasions by study participants. Research question R2.1, sets out to determine if the community formed supported student connectedness, collegiality and engagement and if so, how is this manifested and sustained. This is the essence of social presence as it is mutual engagement. Overcoming the barriers to connection which is essential for social presence is key to a functioning and well adopted CoI. The increasing globalised nature of higher education and the part that online education has to play in that makes the area of cultural norms, worthy of further consideration regarding the CoI model.

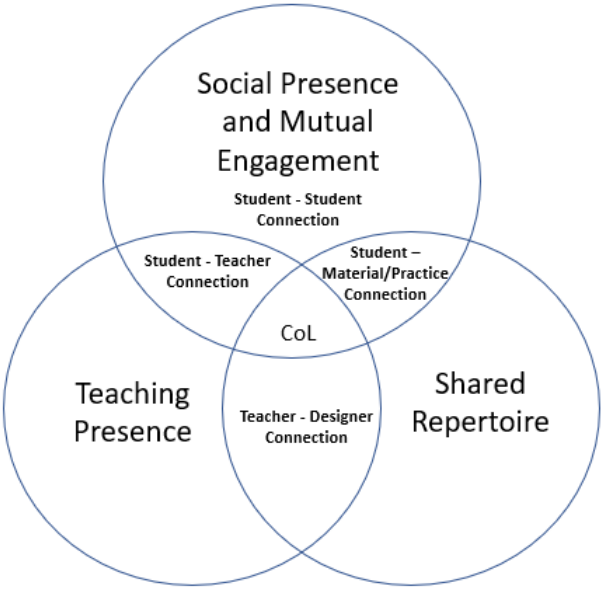
Earlier the cultural barrier to connection in the online community was discussed with particular reference to the experience of STUA. She describes her experience in a different cultural environment and how her attitudes to sharing were different to what they are in the online programme which she is participating in from her home country. When she studied abroad, she speaks about the culture of sharing which she adopted while there as she was immersed in that environment. By contrast and as already noted a cyberculture is not spoken about by any of the participants in this study. She does not experience the same immersive environment in the online setting. Overcoming this barrier as it relates to CoP, a more immersive environment online, one which gives the sensation of a physical environment may be useful. This can be achieved through simulation, virtual reality settings with the use of technology and virtual reality enabled devices. The participant adopts a persona for the online environment and navigates a virtual campus where the classrooms and lecture halls are virtual spaces and one can see the avatars of the others present. The environments are image rich and persistent. The advantage of such environments is that they can increase engagement, support conversation flow and collaboration (Dede, 2005). While not new these immersive environment models have been used in gamification both for leisure and education purposes. A study carried out in the US 2010 with graduate students where all three components of the CoI model were shown to be supported by a "*Second Learning*" multiuser immersive environment, in particular social presence was enhanced by its use (Burgess et al., 2010). While using immersive environments can support collaboration and social presence it does require the use of avatars which are not "*real*" representations of a student, or a lecturer and their use is contrary to the needed truth in the modernised environment.

The nature of online learning generally implies that learners have a degree of independence and self-motivation. However, whether from a lecturer, or university management viewpoint they wish the students to complete the programme and have a positive learning experience which is supported by the university policy through a positive sense of belonging and community. Consequently, being connected and belonging can have a positive impact on these learners' academic success. The students speak about connecting and being part of the learners' group. Designers speak about building a sense of community with the lecturers for the students and university management act in a supporting role as enablers. Teaching presence and instructor social presence is what the students repeatedly refer to as being important to them as part of their experience. Connection and communication channels alone are not sufficient as the feeling of belonging to something richer is needed. They express the need to reach out to their fellow students to seek assistance, to learn from others and to belong to something where the whole is greater than the sum of the parts.

The element of CoI which is least spoken about is Cognitive Presence. Whether this is because it is assumed to be there and therefore does not come up for discussion or that it is of a lower priority than the other two as it is seen as the purpose of the community itself, constructing meaning from the material, teaching presence and the conversation, social presence. No questions explicitly mentioning cognition were asked but that was also true of teaching presence and social presence. What was spoken about by all participant groups was reflection and the use of reflective journals and the time needed to reflect. It could be suggested then that this reflection is indicative of making meaning of the material and the conversations in the community, however it is a private reflection and not a collective reflection. The topic of a group cognition is not mentioned. So, while I acknowledge that possibility of group cognition and the entire community having a shared understanding of a module or content, none of the participants shared their experiences of this.

In the previous section a combined model of communities in an online higher education programme of study was put forward in Fig 9.1. This incorporates the notion of a CoI specifically dedicated to each individual module. There is also the possibility of a hybrid model which is in essence what was described in the quotation from PM13 earlier. He suggests that no one model is followed and that of greater importance is collaboration, group and real-world experience and teaching presence. His description is echoed by other participants which suggests that the current models CoP and CoI are seen as applicable in his context. Taking his key points there is support then for a hybrid model which can be applied in an online setting. Building upon this and the themes which emerged through the experiences shared, I suggest following as a hybrid model.

Figure 9-2 Hybrid Model of Community of Learning in online higher education



My suggested hybrid model combines the Moore's model of transactional distance with the CoP and CoI models. Social Presence, Mutual engagement and student-student connection are combined thereby portraying the communication between students and their mutual engagement with the module and the programme. As the most mentioned among the participants, teacher presence remains with one slight alteration to be called teaching presence to encompass all those involved as the meaning makers, teachers, the sources of new knowledge with the intersection between it and social presence being the student-teacher connection. The third section being the shared repertoire of materials, discussion, understanding, application, and practice. The intersection between Teacher presence and shared repertoire being the teacher-designer connection to bring the materials, discussions, understandings, and chat to a place where it is suitable to be considered, shared, and held in common. Finally, the intersection between social presence/mutual engagement and shared repertoire being the space where students connect with the material and practice to evolve their own understanding before sharing it with the community. As the student moves from module to module the Shared repertoire will grow and even though the lecturers may change the inclusion of the designer in the module is to ensure consistency between them and how the shared repertoire is created. The idea that this needs to be included at a programme level still exists as does the requirement for time to form the community but the designer plays a more central role to ensuring consistency of the model across and within modules. From the management perspective their role in this is twofold. One to include the model of choice in policy to provide direction to faculty and designers. Secondly, to provide

opportunities for faculty both tenured and adjunct to engage in CPD regarding the university policy and learning theory associated with online learning.

9.5.3 Summary

This section of the discussion brings together the qualitative findings from the four stakeholder groups interviewed during this study to provide a comprehensive exploration of their experiences, as they relate to online learning communities specifically CoP and CoI. University Managers, Lecturers and Designers identified several policies and frameworks which underpin the pedagogical and design strategies adopted by them in the online space. Building connection is the first step to forming a community and the stakeholders identified both enablers and barriers to supporting connection between students-students and student-lecturers. Barriers such as emotional presence, cultural norms and technology need to be considered such that through new advances (for example immersive environments), enhanced design and overall consistency of approach connection and community involvement can be improved. Time and space in the modern globalised environment have an influence on the teacher presence and community involvement. The always on era requires teaching presence not just in person but also through materials and posts to the VLE. The time needed to become comfortable with the community members and to become a functioning community may be assisted by threading the CoP model throughout a programme rather than siloed in each module. The findings suggest that one community model is not favoured over another and that both CoP and CoI are in use. CoP lacks a defined teaching role as to have one would constitute a managed approach which is not supported by Wenger's theory of a CoP. The CoI model which includes social, cognitive, and teaching presence has less of an external industry collaborative option which could enhance the learning experience. Finally, the semesterised system favoured by most universities with which the participants were associated may not provide the time for a community to develop sufficiently to be useful in the promotion of collegiality and the support of students. Instead, the yearlong model should be considered at the programme design level when it is being designed for an online environment.

9.6 Research Questions Revisited

The conclusions can be drawn from how the stakeholders experience communities of learning in an online higher education setting, which have been presented and discussed as they relate to the themes identified. The research questions set out to look at the phenomenon of online communities of learning and the findings of this study can put forward

answers to these questions. In this section the research questions will be revisited in light of the findings of this study.

R1: What constitutes, i.e., the characteristics of, an online community in the context of postgraduate higher education with specific reference to collegiality and persistence of a diverse student population?

In the course of this study participants were interviewed from a variety of English-speaking universities from, Europe, North America, Canada, Australia, Asia and Africa. The concept of an online community of learning was familiar to them all. Of the two models described, they were more familiar with the Community of Practice model than the Community of Inquiry model. However, this may have been terminology related as they described aspects of the CoI model such as Teaching Presence and Social Presence. The experiences of the participants, in each of the stakeholder groups was that the teaching presence is the most important characteristic of the community. This was closely followed by instructor social presence as key components in what constitutes a community of learning. Secondly for the community to be collegial and for there to be opportunities for sharing, discussing and debating knowledge the community has to be designed into the module and programme. Community structures need the support of the university and the access to tools and technology to enable them to function appropriately. Not only does the community need university support for technology but also needs policy support for its design and pedagogical approach.

Emotional presence while not an identified component part of either the CoP or the CoI models is a necessary constituent of a community of learning. Social anxiety as experienced by students was evident from the findings of this study. To alleviate this the community needs time to build trust and the sense of being real in the online learning environment. Within the community setting a sense of collegiality which includes trusted relationships, belonging, mutual engagement and connecting can be fostered for the shared goal of learning together. This sense of collegiality brings with it a supported group of peers which can assist with sustaining student persistence. The student participants in this study suggested that such relationships were important to them but needed to see a clear added value to participate and this could change from module to module on a programme. There is a need therefore to design community engagement opportunities into both modules and programmes and for there to be time within the academic calendar for these relationships to develop.

R1.1 How, if at all, is the community affected by the cultural diversity of the students' background?

Online learning is a global phenomenon capable of “transcending national, political, and geographical boundaries” (Gunawardena, 2013). Within this capability comes the potential for educational institutions to reach students from a variety of regional and cultural backgrounds. Firstly, universities’ own regional and cultural biases need to be recognised in the design and provision of the programmes online. Secondly, understanding the cultures of students who participate in these programmes is an important step in bridging the gap between cultures as they interact within online courses. Personal testimony as to how cultural norms impact on participation in communities online was given by a number of participants in this study. In these cases, the students may back away and form sub-groups or become more silent participants in the community. There was no evidence of the formation of an idioculture or a cyberculture among the participants in this study. However, a more immersive environment that can balance the need to be “real” in the community with the anonymity which an online persona could bring may be one way to overcome the effect of cultural norms on the community. As universities extent their reach globally and with the recent issues associated with the pandemic affecting student and lecturer travel there is a need to look more closely at how to include cultural diversity into communities of learning. Online learning needs thoughtful designers and faculty supported by university management to explore the culturally inclusive communities to enable mutual engagement. While the participants in this study and the situations described did not suggest that cultural diversity was a cause for students to drop out of their programmes it was suggested that it may be the cause of fragmentation in class groups.

R2: Are the communities formed within the context of a programme in online higher education Communities of Practice, Communities of Inquiry, or a hybrid of the two?

This study revealed a multitude of approaches to communities of learning, from where they should be situated, to what type of community and who is really responsible for them. The value and benefit of a community of learning was recognised and recommended as a support for students and was something that students themselves saw as important. It related specifically to peer support, online access to peers and (when needed the lecturer), a shared understanding of the focus of the community to build knowledge, a way to establish a sense of belonging and ultimately as an aid to learning and overall success in the programme. The stakeholders in this study did experience community formation and saw it as a positive experience.

From this study it was apparent that there were examples of CoP and CoI and also a hybrid model. Where the need arose both models were used within the university depending

on lecturer and discipline. The more fluid nature of the CoP model and in staying true to Wenger's intention for it to be cultivated and not managed provides challenges for its planned inclusion in online learning. The importance of teacher presence was evident and as such then students need someone to assist them with their learning. If they cultivate the community among themselves, who do they learn from or where is the authentic course of knowledge. Hence the proposed hybrid model where there is teacher presence or alternatively an extended CoP which has either previous students of the module, alumni and/or industry experts to learn from. The difference between CoPs and CoIs, as put forward by Fischer and Ostwald (2005), suggest that as the former is learning where knowledge is available, but the practice or application is open for discussion and the latter the community is looking for knowledge. As such then the findings of this study and the description as put forward by Fischer and Ostwald (2005) suggests that for learning and for applications in practice a hybrid model is required. In practice while the set-up, maintenance and support of each community type individually is different, they also bring different aspects to the construction of knowledge and support of learning. Two models are suggested one illustrates linking between modules, within programmes and to the outer practice community, the other focuses on the need for teacher presence in the modern learning environment and the need to make connections that last. The designers speak about building a sense of belonging and sense of community as the important criteria and they will use whichever model, CoP, CoI or hybrid to achieve these goals.

There are limitations to both community models in the online learning context. In regard to CoP, a cultivated community takes time to establish and become embedded in a programme. Module duration being short can cause challenges unless the community is sustained across the duration of the programme. With CoI a number of papers have suggested the addition of other presences and this study supports consideration for the inclusion of emotional presence, instructor social presence and cultural presence as these have an impact on the student participation in the community.

R2.1 Does the community formed (if any) support student connectedness, collegiality and engagement? If so, how is this manifested and sustained?

In this study, the community of learning formed has been found to support the connectedness, collegiality and engagement of students through the provision of an online meeting space for brainstorming and discussion. Additionally, they were seen as providing access to the lecturer for guidance and feedback, sharing of relevant sources of information, opportunities to work together and provided knowledge in support of both individual and group understandings. Students provide examples of how and when they have engaged with

their peers and formed connections through the community meeting spaces provided. Designers and Lecturers work together with the guidance from university management to provide opportunities for connection. The technology and tools included in the module design are chosen to support sharing of information (breakout rooms and chat sessions), discussion (discussion forums and zoom rooms), working together (Google Docs and Wikis) and lecturer guidance and feedback (open office sessions, discussion forum). There were examples of communities being set-up within the universities systems e.g., VLE and also on WhatsApp. There was a difference of opinion in regard to the use of external social media such as WhatsApp with some suggesting it had no place in education.

On more than one occasion it was mentioned that there needs to be choice for the student as there are barriers to connection due to emotional presence, cultural differences and the environment the community is set in (within the university setting or on social media) which cause hesitancy and reluctance. The student-student connections within a community are supportive of a sense of belonging and collegiality. However not all students are interested in participating in the community and are less connected than their peers. Students that choose to study online with regard to this study do so by choice and programme availability. They were all working professionals with constraints on their time and as such learner autonomy is a factor in their interaction with the online learning environment. There can be unstructured learning initiated from an individuals' independent drive to communicate and explore learning opportunities in order to achieve learning objectives. While a community is made available for them to engage with, they may choose a different way to connect with their class group or to connect with others outside of it.

Time in modernity, separated as it is from place according to Giddens (2013) has a direct impact on the experience of a community and the teacher presence, in person, via email or discussion post or via materials and activities in the community. The globalisation of higher education is such that students on a programme may be engaging from many time zones. This can pose logistical challenges for live online classes, ensuring that every student has an opportunity to directly engage with the community and it also brings challenges for the sustainability of the community in general. Design is a key factor in working with community members that are disparate time wise from each other and a variety of mechanisms are required to facilitate their engagement.

R2.2 What effect do these communities have on students' sense of belonging as a learner?

This question proved the most difficult to answer and requires further investigation. This study did find that connection was important to the students' sense of belonging as

learners. Whether this is sufficient without a community being formed is open for further inquiry. There are a number of reasons for this. The first is time – for time poor students, the postgraduate programme construct is relatively short, 12 to 18 months and if there is no thread or linkage between modular communities then each community is every short lived (12- 15 weeks). Some of the student participants felt that they experienced a sense of belonging, collegiality and connectedness but as to why that was the case it is not possible to attribute it solely to being part of a community.

Equally the nature of online learning implies that students will be to some degree independent learners. However, what this study does illustrate through the described experiences of lecturers, designers, and university management is that they are aware of their role in ensuring students do not feel isolated, and that students developed a positive sense of community, collegiality and belonging. Learning communities had however a direct effect on the number and types of opportunities that learners had to connect, integrate and form a trust between the members of the class group which leads to a sense of belonging being created.

As enrolments to online postgraduate programmes are still growing and of interest to university policy makers, lecturers, and designers, the impact of learner sense of belonging on learning community involvement is important. Much research has been done in this area but as the enrolment from a diverse population of students continues, each study provides a new and interesting experiences of the phenomenon.

9.7 Chapter Summary

This chapter was presented in two sections. The first set out to discuss the qualitative findings from the four stakeholder groups interviewed during this study. Their experiences of the phenomenon of online learning communities were presented in chapters 5-8 and these experiences have been explored via the four main themes of Building Connections, Culture, influences on the Community and the Working Community as they relate to online learning communities specifically CoP and CoI. In the context of these findings and themes, the second section of this chapter revisits and addresses the research questions. The phenomenological approach used to gather experiences of those that are involved with communities of learning in postgraduate online higher education. These experiences grouped as they have been into themes have provided insight to address the research questions proposed at the beginning of this study.

Chapter 10 Conclusions, Reflections and Recommendations

10.1 Introduction

This study set out to explore the use of communities of learning, CoP and CoI, in online postgraduate higher education. The research questions were constructed to look at this phenomenon of online communities of learning. Exploring the descriptions of the participants' experience which contribute to their understanding and their making meaning of the phenomenon of communities of learning is my contribution to the greater understanding of online learning communities in particular the models of CoP and CoI, and their relationship with culture, collegiality, and student persistence in online postgraduate higher education. This chapter draws conclusions based on the findings and discussion of this study followed by critical reflections. Finally, limitations of the study along with suggestions for future research, practice and policy are presented.

10.2 Key Research Conclusions

This study revealed a multitude of experiences and approaches to communities of learning, from where they should be situated, to what type of community and who is really responsible for them. The value and benefit of a community of learning was recognised and recommended as a valuable support for students and was something that students themselves also saw value in. The value related to peer support, online access to peers and when needed the lecturer, a shared understanding of the focus of the community to build knowledge, a way to have a sense of belonging and ultimately as an aid to learning and overall success in the programme. The participants in this study shared their experiences of community formation and saw it as adding value to the overall learning experience.

The study identified four main themes. The first theme; 'Building Connection' demonstrated how individuals described their experience connecting in the online learning environment, how and with whom connections are made and the experience of belonging, to a group, to a programme and to the university. Within this experience of building connection is positioned the second theme of Culture. More specifically the experience of building connections or not in an environment of differing cultures. Participants described how the norms of their cultures are manifested in the online environment and their experiences of not only their own but of the culture of others. Implications of this along with policy, procedure and preference of lecturers, designers and university managers gives rise to the third theme Influences on Community formation. The final theme: 'The working community' demonstrated how individuals connected to others, how they described this

experience of community, whether directly or indirectly they identified this as a CoP, CoI or as something different, a hybrid or combination.

The synthesis of these lived experiences of online learning communities revealed aspects of the phenomenon not found in the research literature previously. In particular and related to my first research question, what constitutes an online community of learning, in this study two models emerged. Firstly, a combination model where both CoP and CoI co-exist within an online programme and the second a combined model bringing together components of both CoP and CoI. The more fluid nature of the CoP model and in staying true to Wenger's description for it as cultivated and not managed provides challenges for its planned inclusion in online learning. The other consideration is that in a group of students who are coming to learn and if they cultivate a community, who do they learn from or where is the authentic source of knowledge. The difference between CoPs and CoIs, as put forward by Fischer and Ostwald in 2005, as the former is learning where knowledge is available, but the practice or application is open for discussion and in the latter the community is looking for the knowledge. This supports the notion of a combined model. The hybrid model acknowledges the presence of components of both models that exist within modules and programmes. The designers speak about building a sense of belonging and sense of community but not always the type of community as a CoP or CoI that is important to them. As such the outcome is more important than the process by which it is achieved, and it is about moving the power base towards the students as partners in their education journey.

There are limitations to the individual community models in the online learning context. Regarding CoP, a cultivated community takes time to establish and become embedded in a programme. Module duration being short can cause challenges unless the community is sustained across the duration of the programme. With CoI several papers have suggested the addition of other presences and this study supports consideration for the inclusion of emotional presence, instructor social presence and cultural presence as these have an impact on the student participation in the community. Individually then there are elements missing from both which are needed in an online learning context however in combination either as a hybrid or in parallel increases the opportunities afforded to the student to connect.

My research presents the participant's descriptions of their experiences of forming a community of learning which involves connectedness, collegiality, and engagement through the provision of an online meeting space for brainstorming and discussion, access to lecturers for guidance and feedback, sharing of relevant sources of information, opportunities to work together and knowledge in support of individual and group understandings. Students

provide examples of how and when they have engaged with their peers and formed connections both within the university systems and on social media. Designers and lecturers work together with the guidance from university management to provide opportunities for connection. The technology and tools included in the module design are chosen to support sharing of information (breakout rooms and chat sessions), discussion (discussion forums and zoom rooms), working together (Google Docs and Wikis) and lecturer guidance and feedback (open office sessions, discussion forum).

On more than one occasion the need for choice was described as there can be barriers to connection due to emotional presence, cultural differences, and the environment the community is set in (within the university setting or on social media) which can cause hesitancy and reluctance. Without the connection of students, (student-student, student-lecturer, and student-content) they may still be successful with the programme but there is less collegiality. Students who described their experiences for this study choose to learn in an online environment. They were all working professionals with constraints on their time. Learner autonomy is a factor in their interaction with the online learning environment, the unstructured learning initiated from individuals' independent drive to communication and exploration of learning opportunities in order to achieve learning objectives. While a community is made available for them to engage with, they also described choosing separate ways to connect with their class group or to connect with others outside of it.

Time in modernity, separated as it is from place according to Giddens (2013) has a direct impact on the experience of a community and the teacher presence, in person, via email, discussion post or via materials and activities in the community. The globalisation of higher education is such that students on a programme may be engaging from any time zone. This can pose logistical challenges for live online classes, ensuring that every student has an opportunity to directly engage with the community and for the sustaining of the community in general. Design is a key factor in working with community members that are disparate time wise from each other. The way that programmes are designed either in semesterised or longitudinal mode has a direct impact on whether sufficient time is available for the students to grow comfortable with their environment in order to engage and relate to others in a community.

If the true essence of a community is the sense of belonging of its members, then descriptions from the participants of this study indicate that they experienced connection, and some describe a sense of belonging as learners. Both lecturers and designers work to foster this sense of belonging in their online communities. Certain community members assist in building this with the students including subject tutors, administrative support

members, external individuals from business/industry, however, the lecturer is a key influence in the community the learners wish to belong too. They value the student-lecturer connection over their connections with the university provided support mechanisms. This lecturer effort created more connection to their studies, their peers and was the first port of call when they needed assistance. The sense of belonging was created then by the care and attention shown by the lecturers, through their instructor social presence and the practice of small group teaching in the learning environment and in the community. Whether this is sufficient without a community being formed is open for further inquiry. Some of the student participants felt that they experienced a sense of belonging but as to why that was the case it is not possible to attribute it to them being part of a community as it may be simply their connection with their lecturer and their student cohort.

Online learning is becoming a global phenomenon capable of "*transcending national, political, and geographical boundaries*" (Gunawardena, 2013). Within this capability comes the potential for educational institutions to reach students from a variety of regional and cultural backgrounds. Firstly, universities' own regional and cultural biases need to be recognised in the design and provision of the programmes online. Secondly, understanding the cultures of students who participate in these programmes is a key step in bridging the gap between cultures as they interact within online courses. Personal testament to how cultural norms impact on participation in communities online was given by several student participants in this study. In these cases, the students back away and form sub-groups or become more silent participants in the community. There was no evidence of the formation of an idioculture or a cyberculture among the participants. However, a more immersive environment that can balance the need to be "*rea*l" in the community, with the anonymity of an online persona, could be one way to overcome the effect of cultural norms on the community. As universities expand their reach globally and with the recent issues associated with the pandemic affecting student and lecturer travel there is a need to look more closely at how to include cultural diversity into communities of learning. Online learning needs thoughtful designers and lecturers supported by university management to explore the culturally inclusive communities to enable mutual engagement. While the student participants in this study and the situations described by the lecturers and university management did not suggest that the cultural diversity was a cause for students to drop out of their programmes, it did cause a fragmented class group.

10.3 Critical reflections

The aim of this section is to reflect upon and share my experiences that helped to shape and inform this research. This journey was conceived as a search for improvement, a

need to understand the phenomenon through its widest participants' experiences to understand its essence and build upon it. Throughout this study which involved examining the literature, identifying participants, interviewing participants, becoming emersed in their lived experience of online communities of learning, bracketing my own knowledge, opinions and bias, reflection was imperative. I acknowledge that while I have tried to eliminate bias and bracket off my own knowledge, opinions, and experiences, as I am a part of the study, I cannot be completely removed from it. I hope that the inclusion of the many voices of the four separate participant groups has reduced bias. Additionally, journaling has allowed me to identify my own ideas and opinions in order to set them aside while conducting this study (Peoples, 2020).

As I reflect on this study it is evident that the phenomenon of online learning in postgraduate education that is experienced is remarkably similar across the regions. Across the participant groups of lecturers, designers and management, there is still a newness regarding online learning environments and practitioners are still all trying to devise ways to make the experience better for the student. The participants being as they were directly involved with online learning understood its challenges. I suggest that learnings during the pandemic and as we emerge to a post pandemic world will again cause practitioners to look at this area and to seek to learn from experience and make improvements to practise.

The recruitment of participants in particular students proved problematic. I would have liked to have had more of the student voice in this study, but it proved difficult to get them to engage. Hence the redesign of the study when insufficient student participants were recruited, to a broader look at communities in the online space including all stakeholders. As I look back now on this it may have been fortuitous as the experiences of the participants suggest that students tend to work within the constraints of the university in how they engage with their lecturers or in some cases their fellow students. It was useful in exploring the phenomenon to see all sides to fully understand what was occurring and why. Going forward third level institutions need to look at why students are reluctant to take part in education research as while many speak of listening to the student voice and that is what we strive to do, it needs to be audible in order to hear it. It may be the case that we are over surveying our students with more general surveys and that they are fatigued with it. The students that did participate in this study however gave very generously of their time for which I am grateful.

Finally, the forty approx. one-hour semi-structured interviews produced a wealth of data far more than I imagined before I started. The data set became quite large and without the benefit of MAXQDA for storage, organisation and retrieval would have been quite difficult. Developing a working knowledge of a software package, as such as this is a learning in itself

and one which I can now use to help other colleagues as they begin their research journey. Although I probably have not used all of its functionality during this study, I hope to further explore this in the future.

10.4 Recommendations for Policy, Practice and Further Study

At the outset of this study the aim was to explore the use of communities of learning, CoP and CoI, in online postgraduate higher education. The research questions looked to address what constitutes an online community in this context with specific reference to collegiality and persistence of a diverse student population, including student connectedness, engagement and sense of belonging. Connections and communities are one mechanism by which this can be accomplished. There are recommendations from this study for policy and practice at a university level, at a designer/lecturer level and recommendations for further study.

For any university that is involved in online learning there should be a clear and defined policy on how the online learning community is to be supported and sustained. This would provide a high-level framework on which to build out the functioning community which supports collegiality and takes account of the cultural differences of staff and students. At this policy level then introduction of the concept of community early through orientation and explain how it will support the student, how it is integrated into the modules and linked throughout the programme. Including more than one place for the community to be active within a module and programme and outside of it so that others, alumni, previous students, and like-minded others can come together to share and discuss the application of knowledge. In other words, provide an opportunity for a CoP to be formed which is supported but not managed by faculty and designers. Two participants mentioned going to do this or recently starting to do this. Further research could look at how this has been developed and compare the two instances as they were from different settings.

If universities are seriously considering the inclusion of communities in their online learning environments, then they need to take a step back and look at the totality of the programme in its online setting. It is not merely a question of moving what was once done in a traditional environment online with some addition of technological tools. It needs to have been designed at a programme level so that the additional time which is needed in the online environment to become familiar with the class and form a community can be allowed for. Twelve weeks as a semester length is short in particular for the first semester where there are many things a student has to contend with. So, policy at university level should consider a more flexible length of time for semesters or even in some cases move towards a

longitudinal model. If communities will support collegiality and persistence, then policy needs to give them time to be effective. Continuing on the need for time, university policy should consider the transnational nature of the online student population and the time at which they wish to engage with the community. While I am not suggesting that there is a twenty-four-hour presence by the university personnel online it is an area that needs further research on how we support our students at the times they need our support rather than on a traditional nine to five.

At design and lecturer level or practice level, a better understanding is needed as to how transnational student populations integrate into communities. What can be done either through exploring immersive environments or other means to minimise the effect of cultural norms which preclude engagement in communities while supporting the diversity and richness of having differing cultures present in discussion and debate. While this study looked in particular at cultural aspects of community membership it is recommended that care is taken in the design of any community to facilitate the membership of all students regardless of age, gender, cultural background, or technical ability. Future research could also consider the emotional presence of the students and lecturers in the community and look at ways to reduce barriers in this area. This study supports further investigation into a number of additional presences to the CoI model namely: emotional presence, instructor social presence and cultural presence.

When this study was originally conceived, I had intended to concentrate on the student journey through a programme with a community of learning and look at the experiences from the student perspective. Unfortunately, while this was not possible, I did follow three students through their programme journey. What this highlighted was the fact that they have little control or input into the design of a community and capacity to change the way the community is integrated into the programme. The inclusion of the four stakeholder groups has given a rounded view of the phenomenon of online learning communities and it highlights the need for inclusion of student feedback at the end of a programme in particular regarding communities. Speaking to them about their experiences and requesting their input on the design could prove a valuable insight into how they want to use the online community.

No one university, designer or lecturer believes they have the perfect model and there was no one widely adopted approach to online communities of learning. There was however general agreement that they were worthwhile and should be included in online learning programmes.

10.5 Limitations of the Study

As with all qualitative research there are limitations which are associated with research design, sampling, and sample size. There is still a risk of researcher bias due to the nature of the research process. I would hope however that it is as described by Hammersley and Gomm (1997) a positive bias, in that this research aims to bring to the fore aspects of the phenomenon which may otherwise be hidden. In so far as this study aimed to look at the online learning community as a whole and not just from one perspective, in one location or in one module within the search for the essence of the phenomenon, the participants' accounts were freely given and independent (Hammersley & Gomm, 1997), but it could be argued that those who agreed to participate were positively disposed to the phenomenon. The issue was also address through reflection, my use of a reflective journal and the continuous reading and re-reading of the transcripts throughout the research process. As previously discussed, bracketing was used as part of the research methodology which allowed for setting aside my own opinions as part of the process (Husserl, 1969).

Other limitations include the sample size for students, as it was small with five participants. Students were all enrolled in an online postgraduate course which, except for one student, was linked to their profession. As such, all but one student would have already been linked to or familiar with communities of practice within their professions of healthcare and education and may have been predisposed to this model. They may also have been influenced by their cultural background regarding pointing out issues with their programme of study.

While among the participants there were students, lecturers, designers, and university managers from the same university they were not all involved with the same programme at the one time. This can be considered as a limitation to this study as to have the 360-degree view on one programme would provide additional insights into the communities of learning and this may present an opportunity for further research.

10.6 Conclusion

This qualitative phenomenological study of communities of learning in online postgraduate higher education programmes has been conducted through the generation of forty semi-structured interviews with four stakeholder groups, students, designers, lecturers, and university management, across eleven countries. It was carried out in a pre-Covid environment of online learning. Much has changed in online education at all levels since this study began. Such is the way of progress - change occurs more rapidly when the need is

greatest. This study does provide a snapshot of the communities of learning in online higher education, the models that are employed, how they are employed and their impact on student experience. There is room for more research in this area, in particular looking at full programmes through the 360-degree lens. Challenges exist in supporting students in an online environment and particularly in the transnational populations which enrol in online programmes.

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Appendices

Appendix A Consent form

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

PARTICIPANT INFORMATION SHEET

Title of Project: **The Investigation of Communities of Practice, Communities of Inquiry and Collegiality in Student engagement and persistence in Online Higher Education**

The Study:

I am a doctoral (D. Ed) student in the School of Education, Trinity College Dublin, Ireland. As part of my work, I am carrying out research in the area of communities of practice and communities of inquiry and how they help to support collegiality and persistence among online higher education students.

More specifically I am investigating the opinions and experiences of students and practitioners in respect of these communities and how effective the establishment and running of them is within an online setting. The overall objective is to determine if there are ways in which communities of learning, whether practice or inquiry, can be used to enhance the online education experience for students so that they are engaged throughout their course and that they persist with it. Of particular interest is whether that experience of collegiality which is familiar in face-to-face settings can be transposed to some degree in an online environment. Please note that this study is not funded by any third party. I am independent of your education institution. Your role within the study will be to provide information on your experience in an online higher education setting. There may be others from your education institution and other education institutions also involved.

Participation information: If you agree to take part in this study, you will be asked to take.

part in an audio and video recorded interview. The interview will take no more than 40 - 50 minutes and will be scheduled at a time that is suitable to you. Typical questions that maybe posed during these interviews include how communications are facilitated between students online, what types of topics are shared or discussed, do students communicate outside of what is required by the lecturer, is there a sense of a group being formed within a class and are these communications within the class group important.

I can foresee no risks for your participation in the study, beyond those experienced in everyday life. The information gathered will be treated with privacy and anonymity. No information regarding you will be revealed in the research. Information will be stored safely with access only available to the research team and examiners and it will all be destroyed after 10 years. All electronic information will be coded and secured using a

password protected file system. The anonymised results from the study will be included in a thesis and may be discussed at conferences or published in a book or a journal. Please note that this study has been approved by Trinity College Dublin ethics committee.

The transcribed recordings of the interviews will be offered to you for review to ensure that they are an accurate record of your views.

You can withdraw from studying at any time, without saying why. If you have any questions or if you don't understand something, just ask and I will explain it for you.

If you agree to take part in the study please email me, Miriam O'Donoghue at odonogmi@tcd.ie with a signed copy of the attached consent form. I will then contact you directly to arrange the online interview using zoom my online conferencing tool.

Finally, thank you for taking time to read this.

Researcher Contact Details: - Miriam O'Donoghue odonogmi@tcd.ie

Supervisor Contact Details: - Dr Andrew Loxley loxleya@tcd.ie

Participant Consent Form

Title of Project: **The Investigation of Communities of Practice, Communities of Inquiry and Collegiality in Student engagement and persistence in Online Higher Education**

You are under **no** obligation to participate in this study. If you agree to participate, but at a later stage feel the need to withdraw, you are free to do so.

Please answer all of the following (tick the appropriate box):

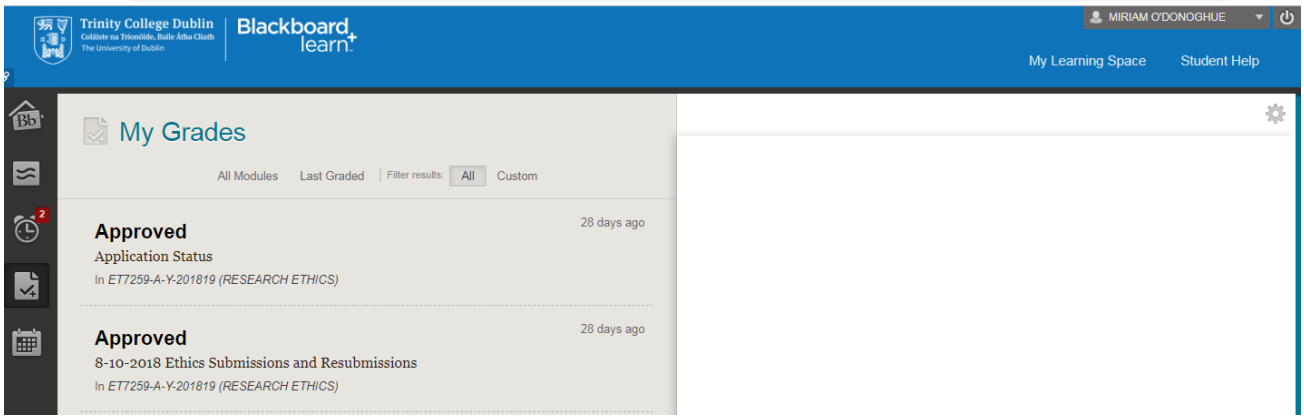
	YES	**NO**
I have read and understood the information sheet.		
I understand what the study is about, and what the results will be used for		
I am fully aware of the procedures involved and of any risks and benefits associated with the study.		
I know that my participation is voluntary and that I can withdraw from the study at any stage without giving any reason		
I am aware that my results will be kept anonymous		

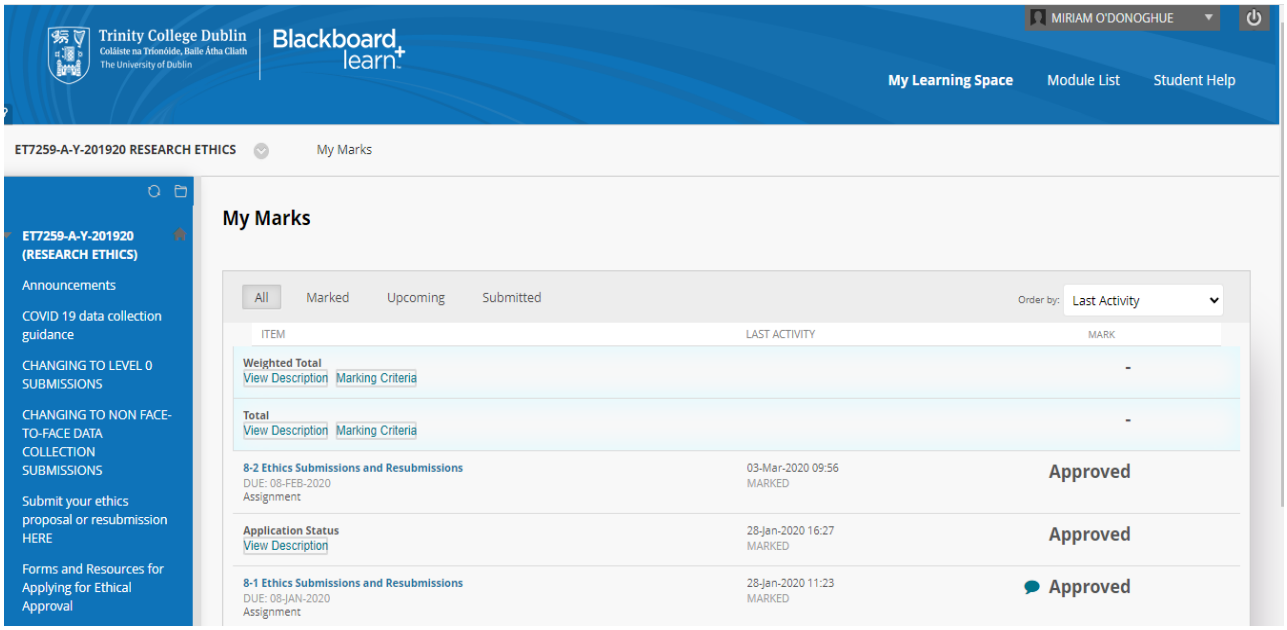
I agree to participate in the above study:

Signature of Participant Date

Signature of Researcher Date

Appendix B Ethics Approval





Appendix C Interview Question Sets

Interview Questions Set 1 Students

1. Introductions ….
2. Can you tell me a little about yourself, your background and why you chose this online course?
3. What do you like the way that it is delivered, the tools and the technology?
4. Tell me about what you would like to achieve on this course.
5. Tell me about any previous experience you have had with online learning?
6. How often to you interact with the LMS and with your class group?
7. Have you had an opportunity to meet (virtually) others in your group outside of the structured online tutorials?
8. Have you had occasion to work with others in your class?
9. How do you use communication tools such as discussion forums or other social media tools?
10. How do you share information with your class from your own work (practice)?
11. How do you work together to help each other with course work?
12. How do you feel as part of the group?
13. What could be done to help with forming a better class group?
14. Think of a time when you had a situation on the course where you needed answers or solutions or could not understand something what did you do? Who did you speak to? How did you approach the others in your class?
15. If you could change one thing about your experience with online learning what would that be? (Not grade or tutor)
16. Is there anything else about your involvement with the class group on this course that you would like to tell me about?
17. How do you think forming a group/community of learning on your course could help your engagement with the course?

Interview Questions Set 2 Students

1. Introductions ….
2. How has your course been going?
3. Have you had an opportunity to meet (virtually) others in your group outside of the structured online tutorials?
4. Have you had occasion to work with others in your class?
5. What happens when you or others fall behind the class group how do you catch up?
6. What happens when you or others have a difficulty grasping a new piece of knowledge or an instruction?
7. Tell me about any class groups that you are involved with?
8. How has the experience of online learning been for you?
9. Have you seen a change in how do you use communication tools such as discussion forums or other social media tools as the course has progressed?
10. Have you seen a change in how you share information with your class from your own work (practice) as you have gotten to know your group better?
11. Have you seen a change in how you work together as the course has progressed?
12. Think of a time when you had a situation on the course where you needed answers or solutions or couldn't understand something what did you do? Who did you speak to? How did you approach the others in your class?
13. If you could change one thing about your experience with online learning what would that be? (Not grade or tutor)
14. Is there anything else about your involvement with the class group on this course that you would like to tell me about?
15. How do you think forming a group/community of learning on your course could help your engagement with the course?

Interview Questions Participants other than students

1. Can you tell me a little about your institution's involvement with online learning?
2. What do you like about this form of education and engagement with students, the tools, and the technology?
3. How important are online learning environments to your organisation/ to your company?
4. How well accepted is the online learning environment to faculties within your institution or other institutions that you deal with?
5. Has the advent of online learning caused any positive or negative impact to your policies and procedures?
6. Has it changed how your institution approaches the more traditional modes of learning i.e., face to face in a classroom setting?
7. Tell me about what you aim to achieve for the students who study online.
8. How often do your students interact with the LMS and with their class group?
9. Do your students have an opportunity to meet (virtually) the students in their group, outside of the structured online tutorials or events?
10. Do you encourage your student groups to work with others in their class? If so, how to you achieve this.
11. How do you use communication tools such as discussion forums or other social media tools?
12. How do you share information with your students, and do you encourage them to share information with each other?
13. How do your students work together to help each other with course work?
14. How do your students feel about being part of a part of the group?
15. What could be done to help with forming a better class group?
16. Think of a time when your students had a situation on the course where they needed answers or solutions or couldn't understand something what did they do? Who did they speak to? How did they approach the others in their class?

17. If you could change one thing about a student's experience with online learning what would that be?
18. Is there anything else about your involvement with students in an online learning environment that you would like to tell me about?
19. How do you think forming a group/community of learning with a class group could help their engagement with their course?
20. Where do you think the responsibility of starting a community of learning lies with the designers, co-ordinators, tutors, or students themselves?
21. Do you think that communities of practice/inquiry are important to students in online learning? Why?
22. What are your thoughts on collegiality in online learning? Is it important?
23. When students are silent in an online environment what tends to happen?
24. Do you feel that some people are competitive in the class and what effects does this have on their collaboration with others?
25. Do you think that collaboration and communities should be modelled by designers/co-ordinators/tutors?
26. What factors do you think are important in online communities?
27. How do you set the climate for engagement between students within a course?
28. How does your institution set up courses so that there is student engagement?
29. How important is the Tutor within the online course?
30. Do face to face workshops at some point in a course feature in institution's online learning model and what effect do they have?

Mapping of Questions to Theoretical areas

No	Question	Topic Area
2	What do you like about this form of education and engagement with students, the tools, and the technology?	Philosophy/ Model /Pedagogy
3	How important are online learning environments to your organisation/ to your company?	Philosophy/ Model /Pedagogy
4	How well accepted is the online learning environment to faculties within your institution or other institutions that you deal with?	Philosophy/ Model /Pedagogy
5	Has the advent of online learning caused any positive or negative impact to your policies and procedures?	Philosophy/ Model /Pedagogy
6	Has it changed how your institution approaches the more traditional modes of learning i.e., face to face in a classroom setting?	Philosophy/ Model /Pedagogy
7	Tell me about what you aim to achieve for the students who study online	Philosophy/ Model /Pedagogy
8	How often do your students interact with the LMS and with their class group?	Group /Group Work
9	Do your students have an opportunity to meet (virtually) the students in their group, outside of the structured online tutorials or events?	Group /Group Work
10	Do you encourage your student groups to work with others in their class? If so, how to you achieve this	Group /Group Work
11	How do you use communication tools such as discussion forums or other social media tools?	Communication /Discussion Forums
12	How do you share information with your students, and do you encourage them to share information with each other?	Communication
13	How do your students work together to help each other with course work?	Communication
14	How do your students feel about being part of a part of the group?	Group /Group Work /Identity
15	What could be done to help with forming a better class group?	Group/Group Work
16	Think of a time when your students had a situation on the course where they needed answers or solutions or couldn't understand something what did they do? Who did they speak to? How did they approach the others in their class?	Communication / Support
17	If you could change one thing about a student's experience with online learning what would that be?	Culture/ Identity
18	Is there anything else about your involvement with students in an online learning environment that you would like to tell me about?	Philosophy/ Model /Pedagogy
19	How do you think forming a group/community of learning with a class group could help their engagement with their course?	Community/Collegiality

No	Question	Topic Area
20	Where do you think the responsibility of starting a community of learning lies with the designers, co-ordinators, tutors, or students themselves?	Tutor/ Tools
21	Do you think that communities of practice/inquiry are important to students in online learning? Why?	Community/Collegiality
22	What are your thoughts on collegiality in online learning? Is it important?	Collegiality /Community
23	When students are silent in an online environment what tends to happen?	Silent Student /Culture
24	Do you feel that some people are competitive in the class and what effects does this have on their collaboration with others?	Culture
25	Do you think that collaboration and communities should be modelled by designers/co-ordinators/tutors?	Tutor /Tools Community/Collegiality
26	What factors do you think are important in online communities?	Tutor/Tools Identity
27	How do you set the climate for engagement between students within a course?	Tutor/Tools Identity
28	How does your institution set up courses so that there is student engagement?	Tutor/Tools Identity
29	How important is the Tutor within the online course?	Tutor/Tools
30	Do face to face workshops at some point in a course feature in institution's online learning model and what effect do they have?	Philosophy/Model /Pedagogy

Appendix D Participants

Overall

	IRE	UK	USA	Canada	Australia	Europe	Africa	Asia	
Policy Makers	7	2	2	2	1	2	1		17
SME	5	0	1		1		1		8
Students	1	2						2	5
IDs		2	2	2					6
	13	7	5	4	2	2	2	2	36

Managers/Policy Makers

Title	Country	Interview 1	Codes	Name in MAXQDA
Head of Online Learning	IRE	25-Feb 20	226	PM1
Academic Dean	IRE	28 Feb-20 10am	114	PM2
Head of Technology Enhanced learning	IRE	3 March- 20 3.30pm	200	PM3
Director National Forum for Teaching and Learning	IRE	13 March-20 2pm	91	PM5
Forum Head of Learning Design at The Open University	UK	9 March- 20 2pm	194	PM6
Senior Vice President, Online Learning and President of	USA	3 March-20 9pm	235	PM4
Head of Teaching Enhancement Unit	IRE	5 June- 20 2pm	160	PM7
Education Consultant	UK	12 June-20 2pm	145	PM8
Director of Online	IRE	23 July -20 10.30am	172	PM9
Vice President (Online Development)	IRE	28 Jul-20 11.30	112	PM10
Educational Consultant	SA	28 Jul- 20 7am	194	PM11
Educational Consultant	Netherlands	28 July- 20 2pm	187	PM12
Director of Online Education	USA	31 July-20 17.30	161	PM13
Associate Director of Online Education	AUS	3rd Aug-20 9am	170	PM14
Manager, Teaching and Learning Centre	CA	11th Aug - 20 5pm	222	PM15
Director of Digital Learning	CA	Sept 20	172	PM16
Online Learning and Development Coordinator	Swiss	16 Sept-20 2pm	144	PM17

Students

Country	Interview 1	Interview 2	Interview 3	Codes	Name in MAXQDA
Kuwait	Jul-19			101	STU_A
Kuwait		Dec-19		83	
Malaysia	Jul-19			60	STU_C
Malaysia		Dec-19		79	
Malaysia			Aug-20	82	
UK	12-Feb-20			79	STU_F
UK	Feb-20			227	STU_G
UK		Aug-20		159	
IRE	Jan-20			118	STU_J

Subject Matter Experts Lecturers

Country	Interview 1	Codes	Name in MAXQDA
IRE	05-Feb-20	275	SME_1
IRE	2 July 20 10am	268	SME_2
IRE	23 June 20 11am	267	SME_3
IRE	4th Aug 20 11.30am	170	SME_4
AUZ	10th Aug 20 7am	230	SME_5
IRE	8th Sept 20 5pm	188	SME_6
US	Sept 20	206	SME_7
AFR	Sept 20	247	SME_8

Instructional Designers

Country	Interview 1	Codes	Name in MAXQDA
UK	04-Feb-20	292	ID2
USA	21 July- 20 8pm	172	ID3
CA	2 Aug-20 5pm	155	ID4
CA	18 Sept- 20 9pm	135	ID1
UK	10 Sept-20 11am	137	ID5
USA	18th Sept-20 7pm	183	ID6

Appendix E Label book MaxQDA

Label book

Communities.mx20

29/12/2021

Label System

13 Theoretical Framework	0
13.1 CoI	114
13.1.1 Cognitive Presence	28
13.1.2 Social Presence	84
13.1.3 Teaching Presence	92
13.2 CoP	321
13.2.1 Joint Enterprise	66
13.2.2 Mutual Eng.	144
13.2.3 Shared Repertoire	80
13.3 Connectedness	221
13.3.1 Sharing	0
13.3.2 Connection	0
13.3.3 Influence	0
13.3.4 Membership	0
13.3.5 Trust	0
13.4 Culture	143
14 Analytical Code	0
14.1 Student sense of belonging	124
14.1.1 Isolation	36
14.1.1.1.1 Anxiety	9
14.1.1.2 Alone	5
14.1.1.3 Disconnected	27
14.1.1.4 Excluded	5
14.1.1.5 Withdrawing	12
14.1.2 Motivation	38
14.1.3 Persistence	56
14.1.4 Behaviour	17
14.1.5 Collegiality	79
14.1.6 Student Comfort Zone	32
14.1.7 Student Wellbeing	37
14.1.8 Student Experience	126
14.2 Ecosystem	2
14.2.1 Networking	25
14.2.1.1 Netiquette	19
14.2.1.2 social media	96

14.2.1.3 Social Networks	38
14.2.2 Identity	70
14.2.3 Learner Analytics	57
14.2.4 Policy	107
14.2.5 Tools and Tech	325
14.2.6 Institutional Support	169
14.2.7 Flexibility	35
14.2.8 Time and Timing	27
14.3 CoL	217
14.3.1 Accessibility	78
14.3.2 Diversity and Inclusion	78
14.3.3 Collaboration and sharing	147
14.3.4 Small group teaching	34
14.3.5 Building Community	151
14.3.6 Community Structure	31
14.3.6.1 Organised	20
14.3.6.2 Self Organised Communities	9
14.3.7 Engagement	327
14.3.8 Outside connections	30
14.3.9 Professional Experience	35
14.4 Group Rel.	251
14.4.1 Relationships	0
14.4.1.1 Continuing on	17
14.4.1.2 Supportive	0
14.4.1.3 Emotional Presence	1
14.4.2 Group Work	91
14.4.2.1 Conflict in Groups	6
14.4.2.2 Proud of Group work	2
14.4.2.3 Negative impact of group work	8
14.4.3 Connecting People	0
14.4.4 Group Dynamic	19
14.5 The Student	1
14.5.1 Empathy	17
14.5.2 Reserved	23
14.5.3 Proactive approach	30
14.5.4 Individualism	55
14.5.5 Transactional	35

14.5.6 Adult Learners	77
14.5.7 Undergrad	24
14.5.8 Professional Students	73
14.5.9 International Students	28
14.6 Teacher	384
14.6.1 Coaching and Mentoring	13
14.6.2 Tutor Assistance	16
14.7 Learning Environment	10
14.7.1 Learning Env.	58
14.7.1.1 Connection at Module level not course level	10
14.7.1.2 Design	222
14.7.1.2.1 dynamic design	5
14.7.1.3 Discipline specific	78
14.7.1.4 Integrated Practice and Learning Environment	59
14.7.1.5 Scaffolding	37
14.7.2 Communication	126
14.7.2.1 Online chat	11
14.7.3 Meeting up Face to Face	49
14.7.4 Meeting Virtually	67
14.7.5 Learning Experience	101
14.7.6 Teaching techniques	65
14.7.7 Learning Journey	34
14.7.8 Active Learning	27
14.7.9 Reflection	29
14.7.10 Peer to Peer Learning	94
14.7.11 Tutorials	24
14.7.12 Discussion	236
14.7.13 Feedback	32
14.7.13.1 Tutor Feedback to Students	14
14.7.13.2 Peer Feedback	28
14.7.14 Connected Activities and Assignments	60
14.7.15 Recourses Online	33
14.7.16 Meeting Spaces	47
14.7.17 Social Learning	43
14.7.18 Asynchronous	78
14.7.19 Live Online	78

Appendix F Label Clouds by Participant Group

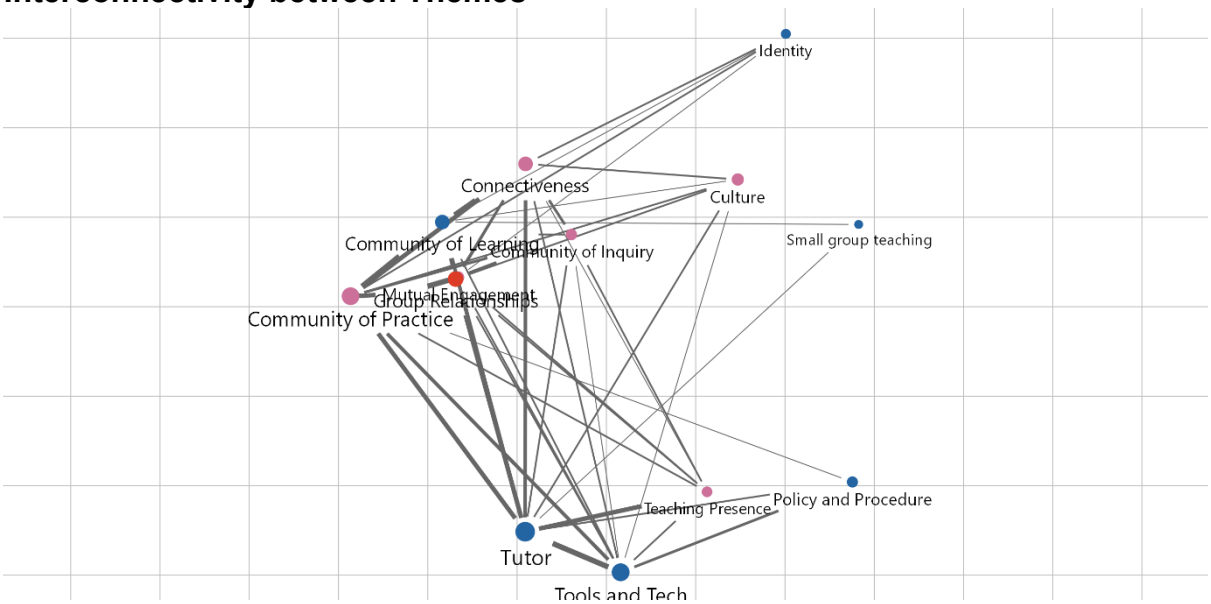
Students

SME

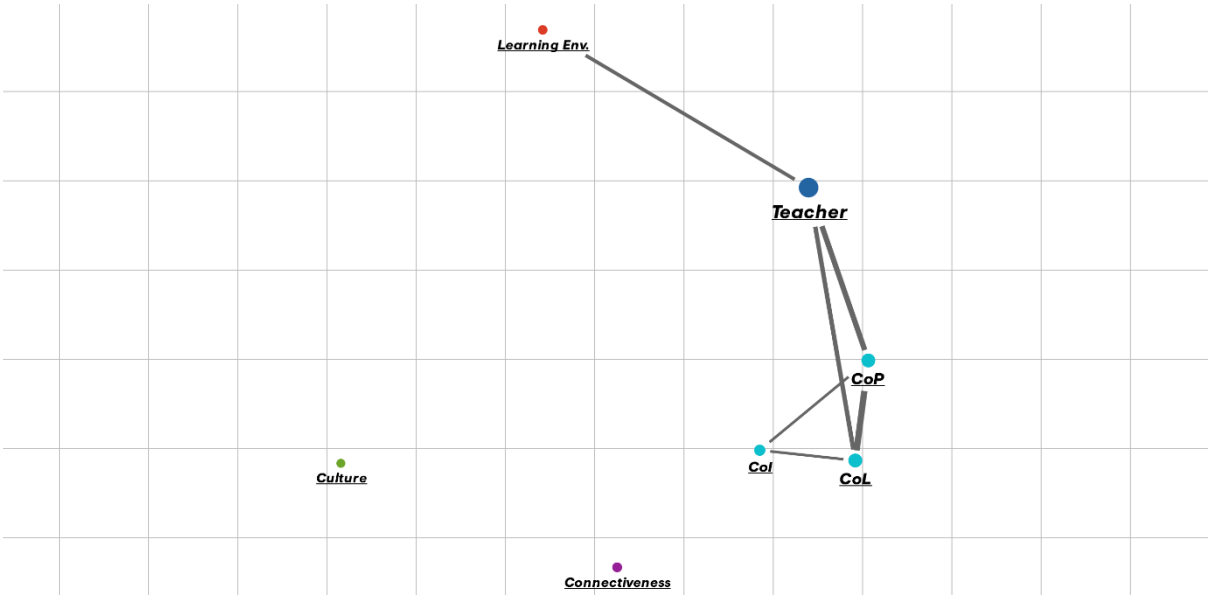
ID

Managers/Policy Makers

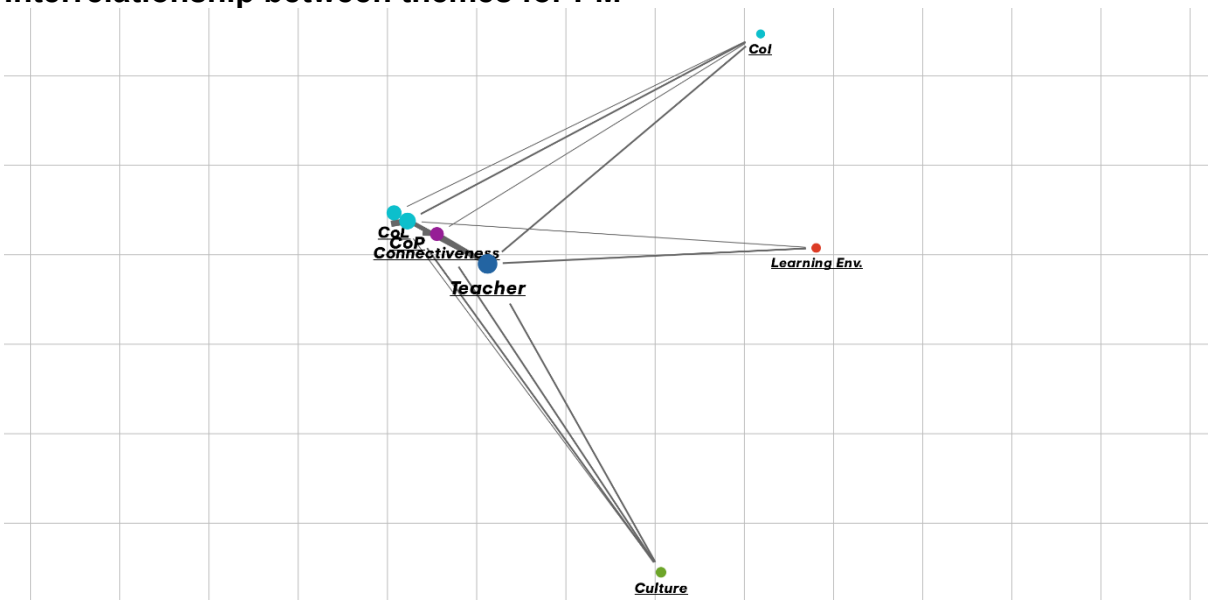
Interconnectivity between Themes



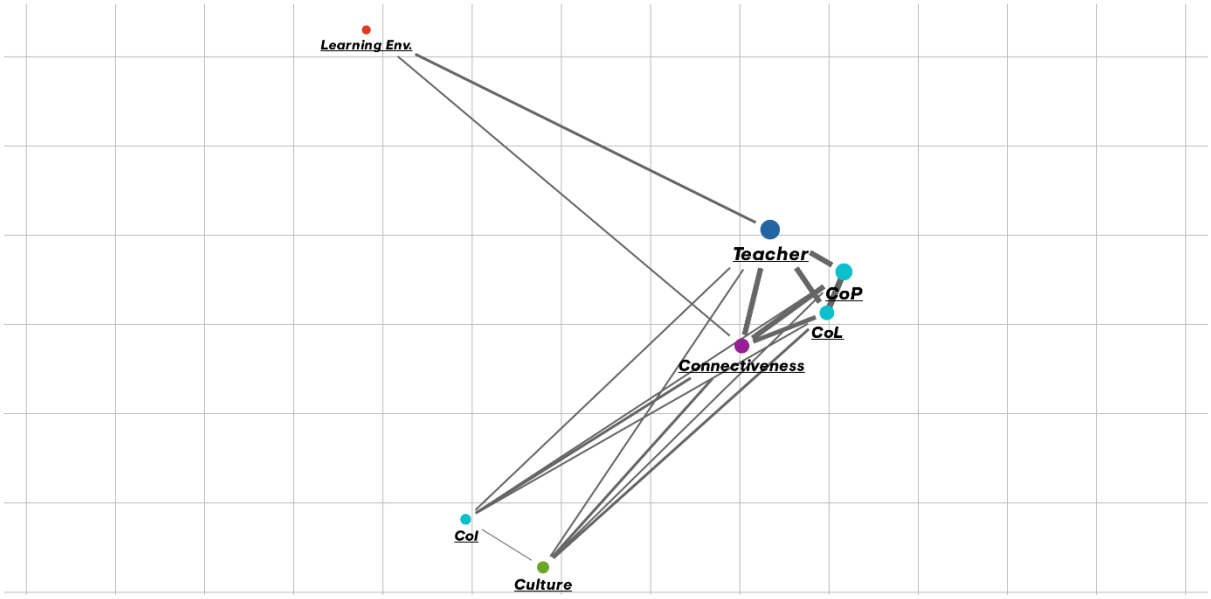
Interrelationship between themes for Designers



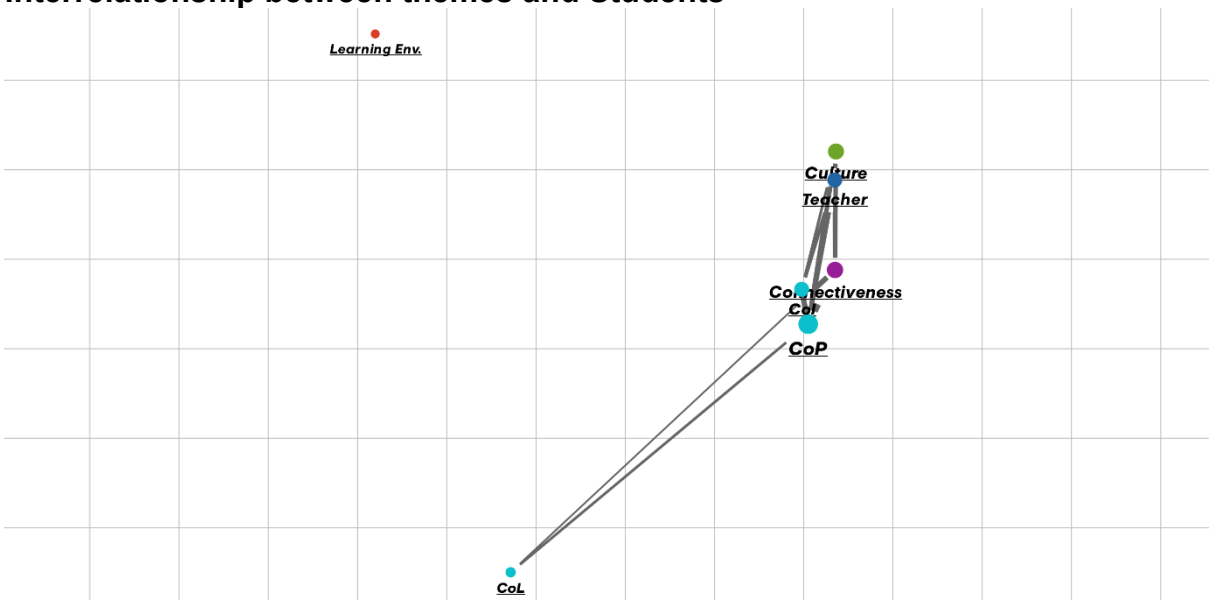
Interrelationship between themes for PM



Interrelationship between themes and SME



Interrelationship between themes and Students



Appendix G Themes

Research Question	Research Sub questions	Interview Question topics	Theoretical Framework and Theories	Data generated themes	Themes
Are the communities formed within the context of a programme in online higher education, Communities of Practice, Communities of Inquiry, or a hybrid of the two?	Does the community formed support student connectedness, collegiality, and engagement? If so, how is this manifest and sustained?	Philosophy and Model, Pedagogy. Discussion Forums, Group Work, Communication Community Collegiality	CoP CoI Connectedness	Ecosystem Community of Learning, Learning Environment, The Tutor	The Teacher and the community Connecting and Identifying with the community Belonging to the community The community formed. Learning Environment Culture and the Community
	What affect do these communities have on students' sense of belonging as learners?	Silent Student, Identity, Community	Connectedness	The student, Groups, Ecosystem	
What constitutes an online community in the context of higher education with specific reference to cross cultural participants?	How, if at all, is the community affected by the cultural background of the students?	Culture, UDL, Access and Inclusion	Culture	Diversity and Inclusion Accessibility	

Appendix H How themes evolved.

Initial Themes

Theme No	Name of Theme	Description of Theme	Sub-Themes
#1	The Teacher and the community	The role of the teacher (Tutor, Lecturer, Professor, etc) in the online community. Setting up, sustaining, and supporting the community	• Teaching presence • Small group Teaching
#2	Connecting and Identifying with the community	The connection the students experienced and whether they identified with the institution as their community or through their programme/module community of learning	• Mutual Engagement • Groups Relationships
#3	Learning Environment	The support mechanisms, other than the Teacher and how they help to develop and sustain the community	• Policy and Procedure • Ecosystem
#4	The Community formed	The community that forms in the online higher education setting, if one was formed, and how they see it; Community of Practice, Community of Inquiry, or a mix of both	• CoP • CoI • Community of Learning
#5	Culture and the Community	The effect of differing cultures on the formation and sustainability of the community.	• Diversity and Inclusion • Accessibility • International Students
#6	Belonging to the community	The effect that communities have on students' sense of belonging as a learner	• Social Learning • Peer to Peer Learning • Student experience

Final Themes

Theme	Theme Description	Subthemes		
Building Connections	How and with whom are connections made and do the students feel a sense that they belong. *I feel part of the group. That's because all of us are adults, so my concept of belonging to a group is*	Connecting with others	Mutual engagement	Sense of Belonging

Theme	Theme Description	Subthemes		
	what I have so I am okay with it. (STUF)			
Culture	Dimensions of culture and western educational norms that influence community involvement. *I think culturally the students are different, but I don't tend to morph my style with them. (SME 1)*	Cultural Dimensions of the community		
Influences in Community formation	Lecturers / Designer's influence on the set-up and management of the community and where it is formed. *Communities should be formal ones on the VLE. Informal ones I have a particular issue with. WhatsApp and Facebook groups have no place in education. (SME 2)*	Teaching Presence		
The working Community	The experience of the communities which are formed or designed into the virtual learning environment. *The reason I'm feeling this community is because I'm studying the space (STUG).*			