

Exploring higher education professionals' use of Twitter for learning.

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Declaration

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

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Abstract

This study draws on the responses of seven higher education professionals working in various roles in higher education in Ireland. Individual case studies illustrate participants' use of the social networking service, Twitter, for professional learning. Cross-case analysis is used to highlight similarities and differences among cases.

There are increasing pressures in higher education to professionalise teaching to provide excellent teaching to students. Opportunities for formal learning exist for those who teach and support teaching but recently online social networks have emerged as ways of accessing informal professional learning opportunities through sharing and discussing practice online. However this study calls into question the widely accepted notion that Twitter inherently enables social learning and thus enables professional learning. Wenger's (1998) community of practice model, which proposes that learning occurs in relationships between people and that mutually negotiated activities contribute to identity construction, was used to problematise how professionals used Twitter for learning. White and Le Cornu's (2011) Visitor and Resident typology helped identify online engagement of participants on Twitter and highlighted differences in social presence and participation.

While all participants recognised Twitter as valuable for informal learning, what was most interesting about findings was that Visitor participants experienced barriers inhibiting them from establishing social presence and participating in social activities on Twitter. These factors included the capacity to participate in social networking activities, issues of confidence and vulnerability, and absence of belonging in online spaces. These findings have implications for those who advocate online social networks for learning and professional development and this study argues that support is needed for higher education professionals in using public online social spaces, such as Twitter. Such support should include critical thinking and dialogue about the complexity of online social spaces coupled with identity development work, while building digital capabilities of professionals.

Table of Contents

Acknowledgments	iii
Abstract	iv
Table of Contents.....	v
List of Tables	ix
List of Figures.....	x
Glossary of terminology	xi
Reflection on Learning	xiv
Chapter 1 Introduction and Rationale.....	1
1.1 Introduction	1
1.2 Professionalisation of teaching within higher education	1
1.3 Flexible opportunities for professional learning	3
1.4 My professional context.....	4
1.5 Social networks and Twitter for learning	6
1.6 Research focus	7
1.7 Concepts underpinning this study	8
1.8 Summary and thesis structure.....	9
Chapter 2 Engaging with relevant literature	11
2.1 Introduction	11
2.2 Engaging with the literature	11
2.3 Exploring professionalism.....	12
2.4 What is teaching professionalism in contemporary higher education?.....	13
2.5 Professionalism and accountability.....	15
2.6 New ways of working in higher education.....	15
2.7 Developing teaching professionalism in higher education.....	16
2.8 Becoming a professional	17
2.9 Learning professionals	19
2.10 Professionals in a digital age.....	20
2.11 Online social networking in HE - not yet fully understood.....	22
2.12 Social networking for professional learning	25
2.13 Attentive professionalism on online social networks	28
2.14 Social Networks: developing capabilities.....	30
2.14.1 Developing networked professional identities	31
2.15 Conclusion	33
Chapter 3 Learning as a professional in digital times: theories and concepts	35
3.1 Introduction	35
3.2 Learning and professional practice	35
3.3 Professional learning as informal learning	37
3.4 Social learning	38
3.5 An approach to social learning: Communities of Practice (CoP)	39
3.5.1 Participation, belonging and identity in social learning	41
3.6 Social learning in online spaces.....	43
3.7 Modes of online participation: Visitors and Residents	47
3.8 Conclusion	48
Chapter 4 Research design	50
4.1 Introduction	50

4.2	Aims and rationale	50
4.2.1	Research questions	50
4.3	Research Approach.....	51
4.3.1	Considering the research design	51
4.3.2	Strength of the case study approach	53
4.4	Researcher perspectives	54
4.4.1	Social constructivist and interpretivist research	54
4.4.2	Taking a critical approach.....	55
4.5	Selection of participants	56
4.6	Data Collection.....	58
4.6.1	Twitter Data Collection.....	60
4.6.2	Interviews.....	60
4.6.3	Memoing researcher reflections	62
4.7	Ethical considerations.....	62
4.7.1	Research ethics and the Internet	63
4.7.2	Responsibility to the participants.....	64
4.7.3	Formal consent	64
4.7.4	Power relationships.....	65
4.7.5	Anonymity and confidentiality.....	66
4.8	Ensuring accountability and transparency of bias	67
4.8.1	Storing information and data	67
4.9	Limitations, reliability, and validity	68
4.9.1	Small-scale research	68
4.9.2	Limitations with Internet data.....	68
4.10	Data analysis.....	69
4.11	Twitter analysis	69
4.11.1	Data checking	70
4.11.2	Conference backchannel tweets	70
4.12	Interview analysis	70
4.13	Case descriptions.....	71
4.13.1	Comparing case descriptions	72
4.14	Conclusion	72
Chapter 5	Presentation and analysis of the data	73
5.1	Introduction	73
5.1.1	Mapping the cases to the Visitor and Resident continuum.....	73
5.2	Presentation of themes of ‘ <i>Visitor</i> ’ participants	74
5.2.1	Views on professional learning.....	77
5.3	Information gathering from Twitter contributes to practice.....	78
5.3.1	Paul: “finding out new stuff”	78
5.3.2	Denise: “an information finder”	78
5.3.3	Carol: “time-saving techniques”	79
5.3.4	Tweets contribute to “a challenge to understanding”	79
5.4	Social presence and participation on Twitter	80
5.5	Factors hindering participation on Twitter	82
5.5.1	Time	82
5.5.2	Vulnerability versus risk taking.....	83
5.5.3	A critical incident prompts caution.....	83

5.5.4	Unknown audiences.....	84
5.5.5	Not ready yet	85
5.5.6	More knowledgeable others.....	86
5.6	Capacity to participate in social network activities.....	87
5.6.1	Conference backchannel participation: “ <i>Swingy Chairs</i> ”	87
5.7	Reviewing the themes from Visitor participants	88
5.8	Presentation of themes from Visitor-Resident participants	91
5.8.1	Gathering information contributing to practice.....	93
5.8.2	Making connections (participation).....	94
5.9	Factors contributing to participation and non-participation on Twitter	99
5.9.1	Confidence	99
5.9.2	Capacity to participate	100
5.9.3	Summary of themes from Matt and Louise	101
5.10	Presentation of themes of Resident participants.....	102
5.10.1	Information gathering contributing to practice	104
5.10.2	Participation: community, connections and conversations.....	105
5.10.3	Twitter at conferences.....	107
5.10.4	Participation and voice on social networks.....	108
5.10.5	Capacity to participate	114
5.11	Summary of themes from Maurice and Ben	115
5.12	Further observations	118
5.13	Conclusion	120
Chapter 6	Discussion	121
6.1	Introduction	121
6.2	Outline of study.....	121
6.3	Professional learning and Twitter	122
6.4	Capacity to participate in online public social networks	124
6.4.1	Visitors to Twitter: peripheral participation.....	125
6.4.2	Shortcomings of peripheral participation on Twitter	126
6.4.3	Online participation and reification.....	127
6.4.4	Marginalised professionals.....	128
6.4.5	Evolving modes of participation	130
6.5	Belonging and affinity with others	131
6.6	Confidence.....	135
6.6.1	More knowledgeable others.....	136
6.6.2	Vulnerability	138
6.7	Factors supporting participation on Twitter	141
6.7.1	Time	141
6.7.2	Playful participation	142
6.7.3	Online socialisation.....	144
6.7.4	Capacity for online academic debate	145
6.8	Informing practice.....	146
6.8.1	Reflections on theories and concepts.....	150
Chapter 7	Conclusion	152
7.1.1	Introduction.....	152
7.2	Learning from the research.....	152

7.2.1	Participation in online networks supports identity development	154
7.2.2	Duty of care.....	155
7.2.3	How can academic developers support the use of SNS like Twitter?	156
7.3	Contributions to the field	158
7.3.1	Issues affecting participation on Twitter	158
7.3.2	Confidence	158
7.3.3	Digital identity development.....	159
7.4	Contribution to theory.....	159
7.5	Dissemination of findings.....	160
7.6	Study Limitations	160
7.7	Conclusion	161
	References	163
	Appendix 1 - Participant information and consent.....	184
	Appendix 2 - Twitter codes	186
	Appendix 3 - Checking Twitter codes.....	195
	Appendix 4 - Sample of backchannel tweets.....	197
	Appendix 5 - Participant confirmation of case descriptions	200
	Appendix 6a - Case descriptions – Ben: Resident participant.....	203
	Appendix 6b - Denise: Visitor participant.....	216
	Appendix 7 - Case ordered display tables.....	225

List of Tables

Table 1 - Schedule of research activities	59
Table 2 - Visitor participant details	75
Table 3 - Visitor participants' activities on Twitter.....	77
Table 4 - Visitor/Resident participant details	92
Table 5 - Matt's and Louise's activities on Twitter.....	101
Table 6 - Resident participant details.....	103
Table 7 - Summary of themes for Maurice and Ben	116

List of Figures

Figure 1 - Concepts characterising professional learning	36
Figure 2 - Wenger's CoP concepts	43
Figure 3 - Factors for informal learning (Eraut, 2004).....	46
Figure 4 - Diagram of conceptual framework	47
Figure 5 - Visitor Resident typology and CoP modes of participation.....	47
Figure 6 - Respondents suitable for participation in the research.....	58
Figure 7 - Participant cases mapped to the Visitor-Resident continuum.....	73
Figure 8 - Backchannel conference tweets	88
Figure 9 - Visitors' activities on Twitter.	89
Figure 10 - Inhibiting factors for Visitor Participants	90
Figure 11 - Louise and Matt's position on the Visitor-Resident continuum.....	91
Figure 12 - Louise's Twitter activities	93
Figure 13 - Louise conference tweets	95
Figure 14 - Matt's activities on Twitter	97
Figure 15 - Examples of Matt's Twitter social commentary	98
Figure 16 - Ben's activities on Twitter	105
Figure 17 - Maurice's activities on Twitter	108
Figure 18 - Maurice: examples of Twitter social comments.....	110
Figure 19 - Overview of Maurice and Ben's Twitter use	117
Figure 20 - Visitor participants - Inhibiting factors	118
Figure 21 - Resident participants - Enablers to participation	119
Figure 22 - Summary of enabling/inhibiting factors for Visitor and Resident participants.....	120

Glossary of terminology

This glossary provides a list of words, phrases and acronyms mentioned in this dissertation with explanations.

@ – Symbolises talking publicly to another person, “@” are termed as replies as they facilitate a reply to another person’s tweet.

App – An app is a type of software that allows you to perform specific tasks. Applications for mobile devices are called mobile apps.

Backchannel – See Twitter Conference Backchannel

Blog – Originally came from the word “weblog” or a “web log”. A Blog is an online journal or diary that can be used to contribute discourse in areas such as online journalism and scholarly writing.

Blogger – Someone who blogs, or writes content for a blog.

Bloggng – The act of writing a post for a blog.

Bookmarking – Recording the address of (a website, file, etc.) to enable quick access in future.

CPD – Continued professional development.

Curating – In this study curating means to archive or save data by saving it to a document, using social bookmarking or retweeting so that it can be accessed again.

Cyberspace – The notional environment in which communication over computer networks occurs.

Followers – On Twitter, “*following*” someone (by choosing *Follow*) means you will see their tweets (Twitter updates) in your personal timeline. Followers are people who receive other people’s Twitter updates.

Google Plus – Google Plus is an Internet based social networking service that enables connections between participant members. Members can create private or public groups allowing participation in online forums.

Hashtags (symbol ‘#’) – Hashtags are used on Twitter for various purposes and are generally determined naturally by users. For example, a conference might use a ‘#’ (i.e. #altc) to create a virtual space for interaction among conference delegates to share information about conference events. People use the ‘#’ symbol before a relevant keyword or phrase in their Tweet to categorise those Tweets and help them show more easily in Twitter Search. Clicking on a ‘#’ in any message shows you all other Tweets marked with that keyword. (See more information from <https://support.twitter.com/articles/49309?lang=en>)

Higher Education Authority (HEA) leads the strategic development of the Irish HE and research system. Retrieved from <http://www.heai.ie>

Higher education professionals (HE professionals) – In this study HE professionals refer to those who work in higher education and fulfil roles of

lecturers, learning support staff, librarians, educational developers, learning technologists, technicians, and access officers.

iPad – A touch screen tablet computing device.

Joint Information Systems Committee (JISC) – A UK organisation providing leadership in the use of information and communications technology (ICT) in learning, teaching, research and administration.

Just-in-time learning – Provides a learning solution when it is actually needed.

LinkedIn – A social networking site designed specifically for the business community.

Lurker – Typically a member of an online community who observes, but does not actively participate.

Microblogging – A web service that allows the subscriber to broadcast short messages to other subscribers of the service. Twitter is a microblogging service.

MOOCs – Massive open online courses provide courses of study made available over the Internet without charge to a very large number of people.

Netiquette – Respecting other users' views and displaying common courtesy when posting your views to online discussion groups.

NVivo – Qualitative research software that helps researchers to manage, classify, analyse, sort, and identify themes and to make sense of unstructured information.

Open online spaces – A phrase used to signify the public open nature of the web

Participatory web – The participatory web (Costa 2013) is equivalent to the term 'Web 2.0' which refers to interactivity, collaboration, and more pervasive network connectivity among users of the Internet.

RT – "Repeating a tweet" is shortened to retweet and represented by RT. RT-ing is used to highlight another person's tweet to indicate that it may be worth attention.

Social media – Websites and applications that enable users to create and share content or to participate in social networking.

Social networking profile – A description of an individual user's characteristics that identify them on social media platforms such as Twitter, LinkedIn, and Facebook.

Social networking sites – Web-based platforms that provide means for users to interact over the Internet, such as e-mail, instant messaging, and other communication tools enabling information, photo and video sharing, blogging, and microblogging (e.g. Twitter).

Social presence – The ability of learners to project their personal characteristics into the community, thereby presenting themselves as 'real people.'

Tweet – A posting made on the social media website Twitter.

Tweeter – A person who posts on the social media website Twitter.

Tweeting – The action of making a post on the social media website Twitter

Twitter – Established in 2006, Twitter is an online social networking service that enables users to send and read short 140-character messages called "tweets". Twitter is also known as a microblogging tool that facilitates sharing and communication among users.

Twitter chats (or Tweetchats) – Is a public Twitter conversation around one unique hashtag (#). This hashtag allows people to follow the discussion and participate. Twitter chats are usually recurring and on specific topics to regularly connect people with these interests.

Twitter Conference Backchannel – The backchannel at a conference is a Twitter facilitated virtual space that allows conference delegates to share conference activities and to start a dialogue or ask questions about a topic at the conference. People not physically attending conferences commonly read the backchannel tweets as a means to listen in on events at the conference.

Twittersphere – Collective postings made on the social media website Twitter.

Twitterstream – The homepage timeline displaying a stream or a list of Tweets from Twitter accounts the user has followed.

Reflection on Learning

Introduction

“We are inclined to think of reflection as something quiet and personal. My argument here is that reflection is action-oriented, social and political. Its ‘product’ is praxis (informed, committed action), the most eloquent and socially significant form of human action.” (Kemmis, Boud, Keogh, & Walker, 1985, p. 141)

In this reflection, I capture my overall experience and learning journey, and describe how the Educational Doctorate (EdD) provided me with a framework for significant personal and professional development. I recall the modules which enabled deeper and more sophisticated understanding of contemporary education. I reflect on the institutional focussed study (IFS), the process and writing of the IFS research, and how feedback from the IFS informed my EdD research.

Here, I will mention the professional challenges I faced within this five-year period of study and how, through those experiences and my study for the EdD, I came to a greater understanding of the wider politics that have impacted my professional life. I started this programme to learn more about education, knowing that I would be tested intellectually, but I did not imagine the transformation of my professional self that transpired. I have lived with struggle and frustration throughout this process, both as a professional and as a scholar, and what I have learned has helped me live a richer, more critically informed professional life.

Why a professional doctorate?

Having completed my Masters, I began to work in the area of technology enhanced learning within higher education. I was fortunate with job opportunities, and I fulfilled various roles as eLearning developer, eLearning project coordinator, academic developer, and lecturer. I commenced the EdD programme in 2011 to enhance my practice as lecturer in the field of academic development, to deepen my knowledge and understanding of education while supporting student learning, and to develop my ability to think critically about local and global practices and innovation within education.

The EdD journey

Initially, within the EdD programme I embarked on a questioning of my professional self, my role and my position within higher education. I wanted to '*be professional*' by engaging in critical and constructive analysis of professional practice, identity and values (Nixon, 2008). I identified local and global factors contributing to the expansion of higher education, and the tensions that impact and inhibit events in higher education. Through this process, I gained insights into the reasons behind the precarious conditions of casualised work in higher education, which have directly affected my employment conditions (Lees, 2016) (Courtois & O'Keefe, 2015).

The modules introducing research were robust explorations into the building blocks of social science research (Grix, 2002). Assignments for the initial modules helped establish and foster my writing practice, and subsequent feedback guided and assisted my critical thinking and writing. The IFS enabled an action research study on my teaching practices where I implemented changes to pedagogical practice to enhance student learning experience and outcomes. A major benefit of this approach was that I engaged in critical reflection about myself as a teacher. I investigated the notion of being a '*living contradiction*' (Whitehead & McNiff, 2010) by exploring my values as an educator so that I could acknowledge and discern what was of value to myself and work towards leading a more fulfilled professional life (Palmer, 1998). I learned that I value my role as an educator enabling a dialogical attitude towards the world (Biesta, 2013) while helping others to reach their highest potential (Richards, 2010).

The IFS process was thought-provoking, and writing up the final report was equally challenging. The feedback I received on my IFS strongly encouraged me to review the literature more critically and to provide improved transparency on the research process. Thus, undertaking the IFS before embarking on the research for my final dissertation helped focus my studies.

When I completed the IFS and as I was preparing my thesis proposal, funding for my role as a lecturer ended. Subsequently I fulfilled two short-term contracts within the private education sector in non-teaching roles before attaining

another short-term contract in higher education. This period of professional turbulence contributed to the deterioration of previous research opportunities and which limited the research I could carry out for my EdD studies. During this time I reflected on academic development work I had completed, I chatted to former students and realised that my previous work which integrated social networking sites into learning activities continued to influence their practices and learning as professionals. I gained confidence that I could explore the area about social networking and informal professional learning for thesis research.

My practice

I had a keen desire to research my own teaching practices to improve them and to demonstrate and validate my professional expertise (Vanassche & Kelchtermans, 2015). In my previous teaching role, I became very interested in how social network technologies, particularly Twitter, were commonly referred to as learning tools (Hart, 2015). I recognised the benefit of Twitter in keeping me abreast of professional knowledge while also helping me connect and share information with other professionals (Krutk & Carpenter, 2014). As a consequence, I encouraged my former students to use Twitter and other online social networks as an informal means for professional learning.

At that time I taught in the best way that I knew how, but my doctoral research opened up opportunities to question my teaching practices and widened my awareness of the “I who teaches” (Bruce Ferguson, 2015). Through the doctoral process, I was alerted to my own naivety (Bruce Ferguson, 2015) and to problems that I had not previously understood (Vanassche & Kelchtermans, 2015). I had advocated the use of Twitter for learning without comprehensive critical thought on the contemporary context of education (Biesta, 2013) (Barnett, 2011), new cultures of learning (Seely Brown & Thomas, 2011) and the political implications of its use (Selwyn & Facer, 2013). I became more aware of the weaknesses of this approach and realised that I might have placed my students ‘*in the gap*’ (Stewart, 2016). As an academic developer, I am now cautious of advocating the use of open online social tools and in future contexts I will invite students into critical discussion about the personal and political implications of use.

The thesis journey

Research and writing of my EdD dissertation has been the most enjoyable and stimulating part of the Doctoral journey. I identified a problem originating in my professional area of work which was as yet under-researched and I adopted an exploratory case study approach (Yin, 2014) to investigate the use of Twitter for professional learning. Initially the research process was messy, I felt confused and while reading broadly about *learning* I did not identify a specific conceptual framework to hinge my research upon. Nonetheless, during this time I realised that writing and rewriting were crucial to the process of analysis, interpretation and generating findings (Charmaz, 2006). I began to trust the ambiguous process of qualitative and interpretive research. As one of my peers asserted, ‘research is not plug and play’. Rather the research process is about moving continuously forward with a question, to which there is no right answer and that continual engagement will help with making sense of the findings.

Furthermore, I revisited my epistemological beliefs about knowledge to understand my ‘*conceptions of learning*’ (Wenger, 1998). I considered learning to be a social phenomenon reflected deeply in the social nature of human beings, one that occurs through a lived experience of participation achieved by connecting and interacting with others (ibid). I had initially dismissed Wenger’s (ibid) model of community of practice, having encountered it years earlier, but I returned to Wenger for further investigation, having read that “issues of identity are an integral aspect of social learning theory” (Wenger, 1998, p. 145). Prior to recognising the significance of identity to this research, I had struggled to constructively analyse the data, but from that point on I was able to make better sense of the data and how research participants were using Twitter for learning. Other useful ideas from Eraut (1994) helped determine the importance of learning to professionalism. Also recent literature on connected learning and networked spaces helped analyse the data (Hayes & Gee, 2010; Ito, et al., 2013; Siemens, 2006; Stewart , 2016).

The research has not left my mind in the past two years and I have been fortunate to have engaged in writing almost daily. I consider that writing has been highly

important in my learning process. Indeed, engaging in the practice of writing during the EdD has changed the mode of my writing from one that is technical and instructional to one that is more critical and reflective. However, this was not easy, I compare Doctoral research to long-distance running¹: it involves practice, endurance, stamina and a commitment to the process.

I have presented my research ideas and findings at conferences (SRHE, EdTech, DRHA) and at the Institute of Education Doctoral conference (2015, 2016). I have also blogged (O’Keeffe, 2016) about the research process and findings. Presenting my research both online (via Twitter and my blog²) and at conferences opened up opportunities “to share, reflect upon, critique, improve, validate, and otherwise develop” (Veletsianos & Kimmons, 2012, p. 768) my scholarship in a participatory networked approach.

My development as a scholar and as a professional

I am profoundly grateful for the opportunity to take the EdD journey. Completing an EdD has been as much a social experience and cognitively challenging one as an emotive one (Illeris, 2003). My research topic opened the gates to an academic community sharing mutual interests on online-networked spaces in education (Bell, 2016) (Cronin, 2016). I was welcomed into a caring space of discourse where a network of scholars stimulated my reflections on debates emerging in this field of inquiry, consequently impacting on my interpretations and findings. As my own professional confidence grows, I hope to participate more readily. Looking at the bigger picture, this journey has been transformative (Mezirow, 1991), and I now see and live my life and educational practices with a different perspective.

The EdD has been an identity journey allowing me to better understand myself and to become critically aware of my position within societal, cultural and political legacies (Brookfield, 1995). While the research process began with vagueness (Dowling & Brown, 2010), having completed my thesis, I am now in a

¹ Metaphor from <https://thesiswhisperer.com/2010/10/26/the-loneliness-of-the-long-distance-thesis-writer/>

² I occasionally write blog posts on <https://openuplearning.wordpress.com/>

position to better understand and influence activities in higher education and in the field of academic development. Through the EdD I found and nurtured my voice and I can contribute to critical and strategic discussion. For example, I am sometimes requested to provide technical training to academics on the technical functions of social media. However as a result of my research I am keen that a holistic view of developing capacity in social media is taken which leads to building professional and digital identity foremost. Furthermore I very much look forward to influencing future pathways for professional development through work as an academic developer within higher education.

The EdD has challenged and expanded my thinking and supplied the motivation to continue learning and working in higher education. As an academic developer, I pledge to support those who teach and support teaching in higher education not only on their voyage of reflection on practice and on actions that enhance teaching but also by involving them in discussions of what it means to provide education in a digital age (Beetham, 2015) and in a world with competing global and local priorities. To this end I will continue a life-long process of learning and inquiry through educational research as I believe that a state of perfection is unattainable (Bruce Ferguson, 2015).

Not till we are lost, in other words, not till we have lost the world, do we begin to find ourselves, and realize where we are and the infinite extent of our relations.
(Thoreau, 1854)

Chapter 1 Introduction and Rationale

1.1 Introduction

In recent years, the focus on teaching as a function and professional responsibility of higher education has come under the spotlight (Barnett & Coate, 2005; Boyer, 1990; Ramsden, 2003). A variety of factors have influenced this move including: ensuring the quality of education (Gibbs, 2013; Watts, 2000), economic importance of graduates (Baran, Correia, & Thompson, 2011); rise of student numbers (Fitzmaurice, 2013; Morley, 2003); change of focus to a student centred approach to learning (Biggs & Tang, 2007); and technological changes which have broadened the scope of access to HE. To this end European and Irish reports declare the importance of professional development for staff with teaching responsibilities within HE. Nonetheless the Irish National Strategy for Higher Education highlights the lack of professional teaching qualifications of Irish academic staff (Hunt, 2011) and recommendations from the European Commission urge that the professional development of teaching academics “must become the norm” (European Commission, 2014, p. 11). More recently it has been argued that teaching necessitates rethinking (Johnson, Becker, Cummins, Estrada, & Freeman, 2015) as those in teaching roles are increasingly expected to be adept at a variety of digital based and other flexible learning approaches. It is against this backdrop that initiatives to professionalise teaching within HE in Ireland originally commenced (Higgs & McCarthy, 2008; O’Farrell & Farrell, 2013).

1.2 Professionalisation of teaching within higher education

The professionalisation of teaching is considered as essential for enhancing the quality of student learning (Gibbs, 2013; Greenbank, 2006; Marshall, McMillan, November, Sylvester, Daniels, & Bozalek, 2014; Ho, 2000). Additionally from a social and economic viewpoint, HE is under pressure to employ teachers who can prepare learners for the challenges of work and other social environments in an increasingly uncertain and complex world where the maintenance of knowledge and skills through learning is perceived to be crucial to employability (Biesta, 2012; Dearing, 1997; Yorke, 2004; Raggatt, Edwards, & Small, 2013). Consequently

strategies for the professionalisation of teaching are considered to enrich teaching practice (Boud & Brew, 2013; Sword, 2014) thus enhancing students' learning in HE, and have been implemented both internationally and locally (Gibbs, 2013; Gosling, 2009; O'Farrell & Farrell, 2013).

Learning lies at the heart of becoming a professional (Eraut, 1994; (Evans, 2008) and formal opportunities for the professional development of teaching have become more common in the last forty years (Gibbs, 2013; Kandlbinder & Peseta, 2009; O'Farrell & Farrell, 2013). Indeed formal professional development is often coupled with research into pedagogical practice, collaboration with colleagues and formations of communities so that practice and research can be shared (Becher & Trowler, 2001; Gibbs, 2013; Gosling, 2009; Potter & O'Farrell, 2009).

Numerous schemes to improve the quality of teaching and learning in HE in Ireland have emerged, including the formation of centres for teaching and learning, and the provision of academic development programmes, workshops and conferences (National Forum, 2015c; Slowey, Kozina, & Tan, 2014). However recent consultation by the National Forum for the Enhancement of Teaching and Learning in Higher Education (National Forum, 2015c) recognises the amplifying pressures on those involved in teaching roles as student numbers have swelled, staff numbers decreased, and intensified workloads have led to diminished time for learning about practice (Trevitt & Perera, 2009). Thus time-poor professionals have been unable to wholly partake in formal opportunities for professional learning as a result of economic crisis, dwindling resources, and increasing responsibilities. Indeed a recent survey of academics working in Irish HE indicated that openings for informal peer-exchange and more non-formal approaches should complement formal methodologies (Slowey, Kozina, & Tan, 2014). Other research reveals that development offerings should address individual and collective needs of professionals in HE (Wood, et al., 2011) (Wilson, 2012). Therefore alternative and more flexible offerings for professional learning that recognise the significance of informal learning to professional learning are called for (Mårtensson & Roxå, 2015; Slowey, Kozina, & Tan, 2014) and have prompted this research.

1.3 Flexible opportunities for professional learning

For the purposes of this research I define professional learning as happening informally and socially through the exchange of tacitly held knowledge (Eraut, 1994; Marsick & Watkins, 1990), often driven by professionals' intrinsic motivation (Day & Sachs, 2004), occurring in socially mediated ways around everyday practices, and in situations such as the workplace and in other contexts such as socially networked online environments (Wenger, 1998).

Learning opportunities are no longer perceived to be exclusive or restricted to formal contexts (Eraut, 2004; Campana, 2014; Loads & Campbell, 2015). Indeed Palmer (1998) urges for more time spent talking to others about teaching and to this end opportunities for social learning (Ito, et al., 2013; Siemens, 2006; Thomas & Seely Brown, 2011) presented by emerging technologies and the Internet are worth investigating. Technology has profoundly changed how learning opportunities can be accessed and harnessed by individuals (Ito, et al., 2013) with a recognition that learning can happen anywhere, at anytime, and by anyone (Johnson et al., 2015). Digitally supported opportunities for professional learning include blended approaches, online education, massive open online courses (MOOCs) and many free and open resources that can be exploited by those with Internet access.

Conventional wisdom claims that social networking sites (SNS) such as Twitter can support informal learning among professionals (Beckingham, 2015; Hart, 2015) and have gained increasing attention in academic discourse. Ideas such as public pedagogy (Hayes & Gee, 2010), connectivism (Siemens, 2006), and connected learning (Ito, et al., 2013), networked learning (Garrison & Anderson, 2003) are topical discussions among networked scholars (Costa, 2014; Stewart, 2014, 2015, 2015b, 2016; Veletsianos, 2012; Weller, 2011).

However there appears to be a lack of scholarly knowledge about professional learning in informal online spaces. Some Internet based guides and blogs exist on how to use social networks such as Twitter (Beckingham, 2015a; Mollett, Moran, & Dunleavy, 2011; Webster, 2014) but at present a gap exists in literature underpinned by research on how SNS are used for professional learning within

the HE setting. Additionally some criticisms exist that much of the emerging research on use of SNS for learning is situated among those who are positively disposed towards online spaces and technologies (Selwyn, 2012; Skyring, 2013). Therefore, it seems timely, to explore and capture how one such site, Twitter, is used by HE professionals for learning purposes. Findings from this exploration are intended to contribute to the growing scholarly discourse in this area and influence how SNS might support professional learning within HE. It is this gap that this thesis investigates thus constitutes its claim to new knowledge.

1.4 My professional context

I work in the growing professional area of *academic development* within HE, which provides professional development activities for HE professionals to enhance teaching practices and promote student learning (Boon, Matthew, & Sheward, 2010; Clegg, 2009; Higgs & McCarthy, 2008; Linder & Felten, 2015). As an academic developer I am concerned with how HE professionals learn and develop practices for teaching. Also I acknowledge the varied roles that support teaching in HE and I refer to people in these roles as *HE professionals*. HE professionals who contribute to teaching include not only lecturers, but also those who support teaching such as educational developers, learning technologists, librarians, administrators, technicians, and access officers.

A belief underpinning this study is that teaching is a complex activity (Price & Kirkwood, 2014; Biesta, 2012; Ramsden, 2003) and that those who are involved in teaching roles benefit from learning and development activities to support professional practice, thus supporting successful student learning (Rienties & Hosein, 2015). Additionally I recognise that for those who teach, it is experienced as an “on-going process of identity construction and deconstruction in the negotiation of a professional identity in regard to their various roles” (ibid, p. 614).

Viewed in this way, enhancing teaching stems from exploration into “the self that teaches” (Palmer, 1998) and is part of developing a teaching identity. To support this process, educators must acknowledge values and beliefs about education to enable understanding of the purposes of education (Biesta, 2012; Nixon, 2008).

Academic development efforts are identity development work whereby academic developers support the progression of academic and teaching identities with staff in HE (Fitzmaurice, 2013; Higgs & McCarthy, 2008). Moreover academic development activities enable the dissemination of practice and knowledge to the wider academic community through scholarly research (McKinney, 2003). Therefore as an academic developer my primary responsibility is to create professional learning opportunities so that teaching professionals enhance pedagogical practices coupled with promoting critically reflective perspectives on education, while supporting identity development.

Certainly many challenges exist in the current climate of HE and thus it seems that flexible opportunities for professional learning are increasingly necessary (Richmond, 2014; Slowey, Kozina, & Tan, 2014; Wilson, 2012; Gibbs, 2013). Moreover in the past decade, the emergence of social networking technologies has enabled virtual networks where people can have discussions about professional practice; indeed some describe these activities as supporting professional learning (Gerstein, 2011; Hart, 2015; Richmond, 2014). Twitter is one SNS that supports these activities (Carpenter & Krutka, 2014; Pearce, Weller, Scanlon, & Kinsley, 2010; Veletsianos, 2012). As part of my role as a lecturer in academic development, I encouraged students (the majority of whom were HE professionals) to engage with online networks for learning purposes. I incorporated SNS into learning activities where students evaluated information and connected with other professionals. I wanted students to initiate and potentially grow their personal learning networks (Cormier, 2010; Couros, 2010; Dabbagha & Kitsantas, 2012; Downes, 2013), directing their learning for their specific and individual needs. In this way learning would expand outwards from the core curriculum to potential vast knowledge held in networked spaces (Siemens, 2006). I noticed that some students continued to use these SNS outside of formal learning activities and I became curious about their reasons for doing so.

I scheduled some preliminary conversations with two former students who described Twitter as essential in their “professional learning toolkit”³. The online space of Twitter had connected them to other educators and opened up new ways of learning about practice. These conversations, coupled with emergent thinking and research in the area, sparked my curiosity about the use of Twitter for learning purposes.

I decided to further investigate existing research literature about the merits of using social technologies for learning purposes. While I felt learning was a potential outcome of social networks, I began to question the depth of claims about how social networks were used for learning purposes. Consequently I designed a research project to explore how HE professionals were using Twitter for learning.

1.5 Social networks and Twitter for learning

In the past decade the World Wide Web has evolved from being a place for information retrieval to a space where people share and upload content. Web 2.0 (O’Reilly, 2005) or the participatory web (Costa, 2014) has become synonymous with sharing and uploading of user-generated content and is supported by SNS. Professionals are using SNS for various reasons such as research, networking and learning and are experimented with in a range of ways in HE (Costa, 2014; Lupton, 2014; Pasquini, 2015; Veletsianos, 2012). Additionally the development of a digital identity is seen as beneficial for a range of academic purposes (Veletsianos & Kimmons, 2012b; Stewart, 2015b).

Twitter, is one such SNS, enabling users to write brief text updates of one hundred and forty characters publicly on the web. Twitter’s social infrastructure⁴ has been adapted for the purpose of learning with some studies asserting that it facilitates personalised and just-in-time forms of learning (Carpenter & Krutka, 2014; Veletsianos, 2012).

³ Two exploratory conversations held in 2014 with graduates of an academic development programme described their use of Twitter for professional learning purposes.

⁴ What is Twitter: <https://support.twitter.com/articles/13920>

There are varied assumptions about the motivation for using platforms such as Twitter and their usefulness for learning. Some research findings consider Twitter not fit for academic purposes (Fransman, 2013) while others perceive Twitter as a marketing tool (Rinaldo, Tapp, & Laverie, 2011). Moreover in the main Twitters' usefulness has been endorsed for professional learning (Beckingham, 2015; Hart, 2015; Gerstein, 2011) and there has been an emergence of practical support for using Twitter in professional contexts (Beckingham, 2015a; Mollett, Moran, & Dunleavy, 2011). However, critical consideration of Twitter's potential and limitations for learning is lacking, an opinion consolidated by Selwyn (2012) who urges for deeper and more politically astute research in the area of technology and education. Moreover calls have been made to produce greater evidence and richer descriptions to support claims that social networks benefit HE professionals' activities (Lupton, 2014; Richmond, 2014; Veletsianos & Kimmons, 2012a).

Currently there is a lack of critical discussion on how professionals are using social networks for learning and my aim is to question the anecdotal and under-researched view that Twitter inherently creates opportunities for learning for professionals.

1.6 Research focus

This research explores how a selected group of HE professionals use Twitter for learning purposes. The activities of HE professionals on Twitter were captured and analysed during a specific period of time in 2014 and follow-up interviews further explored how these activities assisted learning. The research also explored enabling and inhibiting factors experienced by professionals using Twitter.

I identified a group of HE professionals, consisting of lecturers, managers and learning technologists, who claimed they used Twitter for learning. However within this group I noticed that each professional engaged with Twitter to varying extents. Thus I began to question whether Twitter was used as an inherently social space for learning by all participants.

The purpose of this research, captured through case studies, is to provide a better understanding of how professionals use Twitter for learning. My intention is to inform academic developers and other professionals in HE about the use of SNS, particularly Twitter, for professional learning. Rather than limit the research to the level of the tool itself, I want to look at the particular affordances experienced by professionals in using this public online social network for learning and the benefits and challenges associated with that use. I believe this research will interest those with similar professional interests in academic development. Beyond this limited audience, however, my findings should speak to anyone interested in professional, social and informal learning in an increasingly online and connected world.

The research is inspired by an overarching research aim:

To explore the activities of HE professionals on Twitter, capture how these activities assist their professional learning and examine any barriers and enablers that may affect this activity.

Questions arising from this aim are discussed in more detail in Chapter Four.

1.7 Concepts underpinning this study

A key assumption underpinning the design of this study is that professional learning happens informally and socially through the exchange of tacitly held knowledge (Eraut, 1994; Marsick & Watkins, 1990). Much of the literature on professional learning acknowledges its social nature where common understanding of practice is negotiated as members of similar groups or communities work together on particular issues to improve their practices (Wenger, 1998). This enterprise also involves identity formation involving fluctuating modes of participation and belonging within communities (Wenger, 1998). For this purpose educators join networks and communities to discuss practice and to share with and learn from peers, potentially changing the pedagogical approaches they use with learners (Loads & Campbell, 2015; Pataraiia, Margaryan, Falconer , & Littlejohn, 2015; Sharpe, 2004). Indeed some argue that online social networks can open up entry points to informal and social learning

opportunities (Ito, et al., 2013; Gee, 2005; Garrison & Anderson, 2003; Siemens, 2006).

Furthermore Eraut (2004) emphasised that professionals continually learn from experience of practice and should be responsible for their own learning. His work highlighted various factors significant to enabling professional informal learning and emphasised that confidence of professionals was important to enable engagement in professional learning.

In conclusion it is timely to explore how professionals in HE use Twitter for learning. As I suggested earlier, proponents advocate Twitter as a platform for social learning; thus I wish to investigate if Twitter supports professional learning with a view to contributing to a growing academic discourse in this area.

1.8 Summary and thesis structure

To summarise, the focus of this research is to use case studies to explore and help understand how professionals use Twitter for learning. In this chapter I have introduced how demands for professionalisation of teaching have gained significance and conversations around enhancing teaching, a core function of academic activity, are constantly progressing (Boud & Brew, 2013; Gibbs, 2013). While formal structures of academic development endeavouring to professionalise teaching are well established and continuously evolving, there is also a need to acknowledge methods that can informally support professional learning. Online social networks such as Twitter are suggested to support communities of learners connecting informally to share and discuss practice (Carpenter & Krutka, 2014; Gerstein, 2011; Skyring, 2013). This research explores how professionals use Twitter for learning and investigates the benefits and challenges experienced by participants of this research.

Chapter Two discusses the literature associated with professionalism, how learning is key to professionalism, and how academic development contributes to the professionalisation of teaching. I identify gaps in current literature and propose alternatives for professional learning that can be supported by social networking sites such as Twitter.

Following the exploration of literature Chapter Three illustrates the conceptual framework for this study and outlines assumptions about professional learning in an online era.

Chapter Four describes the research design, justifies the case study approach, and explains the process of data collection and analysis. Each participant represented a case; comparison of themes from each case facilitated the grouping of similar cases thus enabling cross-case analysis. A critical discussion of the themes in conjunction with current literature follows in Chapter Six.

The concluding chapter considers how findings from this study contribute to knowledge. Limitations of this small-scale research are discussed and finally implications for professional practice are highlighted and areas for further research are revealed.

Chapter 2 Engaging with relevant literature

2.1 Introduction

The purpose of this research is to understand how higher education professionals use Twitter for professional learning. My intention in presenting this research is to inform academic developers and other professionals in HE about the use of social networking sites, particularly Twitter, for professional learning. The research is inspired by an overarching aim of exploring the activities of a selected group of HE professionals on Twitter and capturing how these activities assist their professional learning for the practices of teaching, while also exploring barriers and enablers experienced in using Twitter for that purpose.

In light of this aim this chapter discusses the notion of professionalism underpinning this study with particular reference to teaching in HE. I consider the emerging and evolving professionalisation of teaching and learning practices in HE and I suggest how learning supports the development of the professional while considering the options available for professional learning. I reflect on the demands on HE professionals to pursue and engage in learning and development opportunities in an increasingly demanding HE environment and I propose that creative and alternative approaches are necessary to fulfil the development needs of HE professionals. Assertions that online SNS are a means for professional learning have incentivised this study (Carpenter & Krutka, 2014; Hart, 2015; Gerstein, 2011; Veletsianos, 2012); thus I explore how SNS, such as Twitter, might potentially provide opportunities for informal and social learning for busy HE professionals. Following this, Chapter Three will highlight the theories and concepts that underpin professional learning and provide a framework to answer the research questions.

2.2 Engaging with the literature

To justify my research into this area (Cronin, Ryan, & Coughlan, 2008) I critiqued literature and established existing gaps regarding the topic of study. I recognised the importance of carrying out a relevant literature search for completed research or research in progress (Hart, 2001) in the area so that I could investigate the

merit and depth of the use of social networking in HE and for professional learning.

I intended to discover literature in a structured way by performing keyword searches (Cronin, Ryan, & Coughlan, 2008) relating to professionalism, professional learning, workplace learning, informal learning, social learning, identity, social networking, communities of practice and HE via library databases, peer-reviewed journals, conference proceedings, and academically respected websites (Hart, 2001). Additionally I exploited SNS such as Twitter, blogs and Massive Open Online Courses (MOOCs)⁵ to capture the latest thinking and research in this area.

The review of literature enabled me to:

- Provide a background on professionalism in HE,
- Investigate theories and frameworks of professional learning,
- Explore the uses of social networking in HE and in learning contexts,
- Formulate concepts and propositions that framed the research questions (Mertz & Anfara, 2015).

2.3 Exploring professionalism

Before discussing the potentials of social network technology for professional learning in the second half of this chapter, I first critically review the conditions that frame professionalism of teaching within HE.

Education, compared with traditional professions of law and medicine, is regarded as a relatively new profession (Crook, 2008) and within this context views of professionalism are centred on social practice of education and learning (Boud & Brew, 2013; Eraut, 1994). Generally in the literature professionalism is a contested concept and is perceived as difficult to define and describe (Bowman, 2013; Evans, 2008; Noordegraaf, 2007), indeed discussions of what it is to be a professional in HE environments are prevalent (Barnett, 2001; Boyer, 1990) and have evolved over the years. Therefore the terms professional and

⁵ I engaged with a MOOC (Networked Scholars MOOC <https://learn.canvas.net/courses/413>) to connect and learn from other scholars.

professionalism have been understood and used in more than one way (Evans, 2008).

Traditionally the ideology of professionalism was attached to the disciplines of law and medicine, whose members held powerful positions in society and controlled their own work according to certain codes (Crook, 2008; Eraut, 1994). However this notion of professionalism where professions retained control over knowledge and service has been criticised as being out-dated (Eraut, 1994) originating in pre-industrial times (Noordegraaf, 2007) and as establishing a sense of elitism (Etzioni, 1969). It was also supposed that certain professionals such as teachers and nurses had less power in society than traditional professions (Eraut, 1994). However in the last decade the notion of professionalism has evolved to become more inclusive and has moved away from original hierarchical constructs (Crook, 2008). Those once considered para-professionals, such as teachers and nurses, now engage in wide-scale endeavours to enhance practice, knowledge, and skills thereby defining and identifying themselves as professionals (ibid). Within this modern context Sachs (2003) argues that new professionals, teachers, be politically active and work towards improvement of education at macro and micro levels of practice. On the other hand Evans (2008) argues that pressures from externally set public sector quality initiatives place teaching professionals under pressure to adhere to service level requirements rather than being empowered to learn and inform their own professional codes, values and practices.

2.4 What is teaching professionalism in contemporary higher education?

Boyer's (1990) influential notion viewing teaching as a core professional activity of academic work sparked curiosity and inquiry into teaching as professional activity in HE (Kandlbinder & Peseta, 2009). Since then, the production and dissemination of knowledge about teaching demonstrate that teaching has been recognised as a valued scholarly activity in HE requiring high levels of disciplinary and pedagogical proficiency (Chalmers, 2011; Devlin & Samarawickrema, 2010; Patariaia, Margaryan, Falconer, & Littlejohn, 2015; Trigwell & Shale, 2004).

In the professions a combination of initial knowledge acquisition combined with apprenticeship learning from others in the workplace was the basis for learning about professional practice (Eraut, 1994; Wenger, 1998). However until recently becoming a teacher and developing teaching practices in HE was largely unsupported with some regarding it as an isolating experience (Gourlay, 2011). In the last forty years however, activities to support and develop teaching practices within HE have become more commonplace (Gibbs, 2013; Kandlbinder & Peseta, 2009) and teaching has been proposed as a legitimate professional constituent of academic work (Boud & Brew, 2013; Kandlbinder & Peseta, 2009). Furthermore systematic maintenance (Morley, 2003) or continuing professional development (CPD) for teaching is increasingly expected as HE professionals take responsibility for deepening their knowledge and skills and staying abreast of important developments for improvement in practice (Day & Sachs, 2004; Eraut, 1994; Gibbs, 2013; National Forum, 2015c).

Although professionalism in education encompasses the purpose of improving the provision of teaching so that student learning and outcomes can be enhanced (Sachs, 2003) many writers provide varying interpretations of professionalism (Evans, 2008). Hoyle explains professionalism as the “enhancement of the quality of service” (Hoyle, 2001, p. 148) where a professional knowledge base combined with the ideal of service constitutes a professional (Etzioni, 1969). Similarly Schön’s (1983) reference to the notion of service argued that professionals use their acquired knowledge and experience to help solve real-world problems. For others, professionalism in education, at its core, is about reflecting deeply on the social nature of teaching and learning and how teaching impacts the learning of students (Bowman, 2013; Palmer, 1998). Indeed professionalism of this kind moves beyond an instrumental perspective of education to a perspective that questions how education can best serve society (Biesta, 2013) and is guided by an ethical code underpinning practices (Evans, 2008). Thus, in interpreting these viewpoints, the definition of professionalism in this research encompasses the notion of the responsible professional who takes a critical approach to the service of education, acknowledging that it is more than an acquisition of

knowledge and skills, but rather, a reflection on knowledge and experiences in critical and ethical ways for the betterment of educational service.

2.5 Professionalism and accountability

Evans claimed that the “renovation of professionalisms” (2008, p. 2) was leading to increased control and accountability from outside the professions (Enders, 2000; Hargreaves & Shirley, 2009). Indeed an “instrumental managerialism” (Hoyle & Wallace, 2005, p. 102) has been promoted by a range of issues including demands from funders demanding accountability of professionals (Barnett, 2011) and the perception that learners in HE are consumers (Barnett, 2011; Becher & Trowler, 2001; Biesta, 2013; Chalmers, 2011; Martin & Ramsden, 2000; Morley, 2003; Power, 2008; Ramsden, 2003). Thus accountability has become increasingly common (Evans, 2008) requiring that activities within HE be measurable. Examples of this are the United Kingdom’s incoming Teaching Excellence Framework (HM Government, 2016) and the existing Research Excellence Framework which many HE staff devote a great deal of effort to performing highly in (Levin & Greenwood, 2008).

Thus the audit culture increasingly places pressure on professionals to meet externally set standards. However Hargreaves & Shirley (2009) argue that responsibility must come before accountability, urging professionals to understand the significance of exploring values and moral codes that underpin their professional practices. Furthermore, others such as Bowman (2013) and Nixon (2008) argue that professionalism must be less about activity and performance but more a matter of exploration of professional identity within their professional grouping so that continuous improvement is made towards the good of the profession and those whom are serviced by educational professionals.

2.6 New ways of working in higher education

In recent years globalisation, competition, shifting and widened territories of HE have imposed changes to work practices (Barnett, 2011; Trowler, Saunders, & Bamber, 2012). Furthermore new ways of working as a result of scientific and technological advances (Hoyle & Wallace, 2005) have appeared where boundaries

between academic professional staff and non-academic staff have become blurred. Increasingly, teams of people, often with mixed identities, come together within an institution to work in project teams (Whitchurch, 2008). Furthermore teaching-related work has become progressively diverse with various roles participating in the design of teaching (Skelton, 2012). Team-based approaches to curriculum planning provide one example, whereby educational developers and other HE professionals such as learning technologists, information professionals, and lecturers each play a role in the curriculum design process (Burrell, Cavanagh, Young, & Carter, 2015; Dempster, Benfield, & Francis, 2012; Gibbs, 2013; O'Neill, Donnelly, & Fitzmaurice, 2014). This new way of working across boundaries urges a rethinking of professional roles in HE (Whitchurch & Gordon, 2010). So it seems that teaching is not only the responsibility of those with direct teaching duties but is a responsibility of others who support teaching in HE.

2.7 Developing teaching professionalism in higher education

As has been previously suggested being and becoming a professional is a complex process marked with questioning of values and reasons for belonging to a profession (Barnett, 2008). It is about knowing oneself through self-audit and exploration from within, reflecting on how internal codes and values are mapped to the service of one's professional role (Nixon, 2008). A respect for other people's values is essential and this requires listening to others in peer-professional discussion (Lunt, 2008) to facilitate the expression of a shared set of values and the drawing up of a professional vision (Barnett, 2008). Ethical professionalism is not a once-off activity and must be continually developed with peers through joint problem solving (Lunt, 2008). Viewed in this way, it seems that professionalism within HE should be underpinned by the responsibility of the individual to perform regular reflection on the self and in conjunction with professional colleagues while also paying attention to broader political and ethical issues impacting on the profession so that the purposes of education can be fulfilled at macro and micro level (Sachs, 2003).

To this end learning is a key activity in developing professional values, codes and practices (Evans, 2008). Academic practitioners are learning professionals (Nixon,

2008) and HE institutions should be involved in cultivating learning environments for professional development (Trevitt & Perera, 2009). Moreover professionals need to be creative, agile, aware and astute; therefore learning and continuous development have become central to the formation of the identity of the professional (Evans, 2008).

Evans explains professional development simply as “the process whereby people’s professionalism and/or professionalism may be considered to be enhanced” (2008, p. 30). Certainly in HE many activities and strategies that contribute to the development of the teaching professional have been established (Kandlbinder & Peseta, 2009). Formal accredited programmes of study providing qualifications in education are available to develop teaching identities and practices in HE (McCarthy & Higgs, 2005; O’Farrell & Farrell, 2013). Furthermore strategies such as peer-professional discussion, joint problem solving, and opportunities that offer professionals a chance to engage in networks, partnerships and learning communities which can offer occasions of reflection and learning on practice are offered (Gibbs, 2013; Loads & Campbell, 2015; Lunt, 2008; Patariaia et al., 2015; Sharpe, 2004).

2.8 Becoming a professional

While improvement of functional work related practices through learning is important (Evans, 2008), learning as a professional is greater than just enhancing work-related habits (Nixon, 2008). Kennedy (2005) identified two reasons underpinning professional development of teachers: a technical training purpose of development with a ‘transmission’ view, and a ‘transformative’ view of professional development supporting educators in contributing to and shaping educational policy and practice. Likewise Evans (2008) discussed notions of demanded or enacted professionalism, with demanded professionalism contributing to functional development adhering to service agreements with enacted professionalism enabling a deeper reflective and intellectual process combined with attitudinal development of the professional (Thompson & Pascal, 2012). For Evans (2008) attitudinal change is an important constituent of

professional development where intellectual and motivational development of the professional occurs.

Others writers echo that the professionalisation of teaching needs to support an exploration and consideration of the knowledge, values, competences, concerns, and motivations that underpin teaching (Fuller, 1969; Nixon, 2008; Ramsden, 2003; Sharpe, 2004). This exploration becomes a transitional and transformative journey (Cranton, 2006; Griffiths, Thompson, & Hryniewicz, 2014) involving an emotional struggle and cognitive transformation as a person becomes a professional (Fitzmaurice, 2013) and searches for new identities are fuelled (Noordegraaf, 2007). Within this perspective professionalism is enacted (Evans, 2008), professionals are activists (Sachs, 2003) empowered to seek and shape understanding of themselves, of societal needs, and political contexts in which they practice. At the root of this philosophy of learning and development of educational professionals is the capacity to attend to questions of humanness, of virtues (Nixon, 2008) while holding space for dialogue on the broader purposes of education (Biesta, 2013).

Thus professionalism is underpinned by identity construction (Sachs, 2003) involving change and evolution (Etzioni, 1969) while actively seeking meaning as part of the struggle to establish one's identity (Nixon, 2008). Also professionals have multiple responsibilities and roles (Skelton, 2012) contributing to transient and less easily definable identities. Within changing and unpredictable contexts "issues of identification and negotiability are then heightened" (Wenger, 1998, p. 221).

Overall an individual committed to the process of professionalism will have developed awareness of the self, understand the contexts within which they practice, and appreciate local and global forces enabling them to make the best possible professional decisions. This process is "not an object but a constant becoming" (Wenger, 1998, p. 154).

Indeed a study with teachers (Day, et al., 2006) highlighted that identity, as a construct, was fundamentally necessary to the development of the professional, and that professional identity positively or negatively affected an individual's

effectiveness and capacity for fulfilling professional duties. Moreover Eraut's (2007) study of professionals prominently found that confidence was overwhelmingly important towards mid-career learning. So rather than relying solely on incremental learning to acquire knowledge and skills, developing professionalism is more an issue of identity and is as much a cognitive, as an experiential and a participatory, process (Fitzmaurice, 2013; O'Farrell, 2008; Wenger, 1998). This raises questions about the need for different creative approaches and provisions for learning catering for multiple types of professionals who have teaching responsibilities.

2.9 Learning professionals

Some suggest that formal learning is inadequate to meet professional needs (Bennett, 2012) (Slowey, Kozina, & Tan, 2014) and that informal learning coupled with formal learning is more suitable for the development of academics' teaching practices (Mårtensson & Roxå, 2015). While teaching professionals can learn informally through the practice of work, time should also be deliberately set aside so that learning may be integrated into general practice (Eraut, 2004). Indeed others emphasise the need to develop hybrid forms of learning recognising and promoting both formal and informal learning activities (Vaessen, Van Den Beemt, & de Laat, 2014). Within HE, where resources are tight and academics time-poor, new flexible and informal opportunities for professional development have been demanded (Hunt, 2011; National Forum, 2015c; Slowey, Kozina, & Tan, 2014; Trevitt & Perera, 2009). While formal approaches to professional development are provided in HE in Ireland, there appears to be a lack of practical support and scholarly knowledge about professional learning occurring in informal ways. In this context, emerging technologies and social networking tools such as Twitter merit further investigation.

Social and informal supports are crucial in enhancing professional practice and performance at work (Eraut, 2004; Felstead, et al., 2004). Indeed dialogue and collegial discourse to share practice among practitioners is said to be an important activity in the learning of teaching professionals (Palmer, 1998; Thomson, 2015; Wenger, 1998). Searching for solutions to issues encountered in

practice through involvement in professional communities has proven helpful for professionals (Eraut, 2007; Heinrich, 2015; Nussbaum-Beach & Ritter Hall, 2012) (Patarai et al., 2015) and learning from other educators and extending to outer networks beyond immediately available peers enables ‘informal support from people on the spot’ (McNally, 2006, p. 82).

For this purpose research-informed practice and dissemination of research evidence on teaching has become more prevalent. Thus teaching practitioners can access literature and publications extending new knowledge about practice and contribute to critical debate (Badley, 2009) enabling professionals to shape and re-shape themselves and their practices.

However while some deem the scholarship of teaching and learning useful and beneficial to improvement of practice, others warn educational practitioners to be aware of the philosophical foundations of research (Biesta, 2007). In the same way some regard an over-emphasis on scholarship arising from pressures of quality (Chalmers, 2011) as leading to the “loss of focus on the affect and the lack of acknowledgement of the roles of passion, fear and pride in teaching” (Gibbs, 2013, p. 12). Furthermore Gibbs (ibid) warns that research-informed practice in combination with other academic development initiatives might become oppressive managerialist tools. This raises the question if an over emphasis on research informed scholarship and demands of quality assurance could be counter intuitive to creative and relational forms of teaching (Biesta, 2013).

2.10 Professionals in a digital age

The literature review to this point has highlighted key issues pertaining to teacher professionalism in the context of HE; now I move to explore what online social networking might offer in further developing professionalism in teaching in HE.

In today’s society traditional notions of professionalism are problematic due to the almost ubiquitous access to knowledge through progression of technology. This democratisation of knowledge (Keen, 2007; McPherson, Budge, & Lemon, 2015; Weller, 2011) where communities can build from the bottom up (Ito, et al.,

2013) has disrupted traditional perceptions of the knowledgeable professional contributing to change in the consideration of professionalism. Thus the notion of banked knowledge of professionals, acquired through initial study, has become an outmoded concept (Morley, 2003). In contemporary times knowledge is more dynamic and available than ever before to many people outside traditional professional walls who can now access information and knowledge just-in-time for specific and necessary purposes (Castells, 2009; Hayes & Gee, 2010; Seely Brown & Thomas, 2011; Siemens, 2006; Wenger, White, & Smith, 2009).

Not only has accessing information and knowledge become easier, but also conventional forms of hierarchy and divisions between HE professional roles have lessened (McPherson, Budge, & Lemon, 2015; Whitchurch, 2008) leading to unprecedented opportunities for expression and circulation of ideas (Ito, et al., 2013). Furthermore, in HE settings, McPherson, Budge, & Lemon (2015) claim that Twitter enables a fluidity of informal learning across disciplines, in turn helping academic developers engage with HE staff in more open and collegial ways.

Professional learning is acknowledged to occur largely informally and socially among professionals (Engeström, 2001; Eraut, 1994; Marsick & Watkins, 1990; Wenger, 1998) (See Chapter Three for more in depth discussion on professional learning). Indeed learning about practice is said to occur within relationships between people (Lave & Wenger, 1991) whereby co-construction of knowledge can influence professional knowledge and ultimately become embedded in teaching practice (Patarraia et al., 2015). In the last decade, with the rise of the social web, there have been several interesting ideas and concepts about how online social networks contribute to expanding opportunities for informal and social learning (Gee, 2005; Ito, et al., 2013; Seely Brown & Thomas, 2011; Siemens, 2006). Some have argued that the participatory web (Costa, 2014) expands the capacity to learn from a greater audience and offers access to information and to knowledge communities, supporting adults to learn informally (Bennett, 2012). Indeed recent studies have highlighted that personal networks play a part in academics' professional learning and impact on teaching practices (Patarraia et al., 2015). So it seems that twenty-first century networking technologies facilitate and

stimulate online communities providing environments for sharing knowledge and practice leading to learning (Ito, et al., 2013; Gee, 2005; Rheingold, 2014; Siemens, 2006; Veletsianos, 2012; Weller, 2011). However, explicit and deep research findings are needed to ascertain the implications of using Twitter professionally (Lupton, 2014) and especially to explore how professionals use Twitter for learning (O'Keeffe, 2014). It is this gap that my current research seeks to explore and contribute to.

Nonetheless criticisms exist indicating the over-emphasis and exaggerated benefits of technology for learning (Oliver, 2012) and the over-reliance on and continuing trust in social-constructivist approaches to learning (Selwyn & Facer, 2013). Indeed Ito et al. (2013) claim the dominant focus in political and managerial discussions of technology and learning have been towards cost saving and time optimisation reasons rather than researching the holistic and deeper learning and implications of using technology. Furthermore Selwyn and Facer (2013) condemn the absence of research into the political influences and impacts that technology has on learning and education claiming that research continues to promote the embellished advantages of technology as a social means for learning. They assert that this perspective continues to support a technical view of teaching rather than considering the deeper political implications that education can impose and enforce on society. To this end in this investigation critical thought is needed about the implications of using social technologies for persons, institutions, and societies.

2.11 Online social networking in HE - not yet fully understood

Networked publics, spaces created through the interactions of people via networked technologies offer many possibilities (boyd, 2011). For some, networked spaces offer academic freedom where “people become less defined by the institution to which they belong and more by the network and online identity they establish” (Weller, 2011, p. 4). Indeed there is much debate about the benefits of using SNS such as Twitter in academic life. Some question the radical claims of openness offered by social online technologies as reinforcing idealistic thinking (Gourlay, 2015) and others argue that claims about its use are

predominantly for impression management and political gain (Rheingold, 2010; Selwyn, 2012) rather than for open and democratic scholarly practices (Veletsianos, 2012).

An investigation of studies existing on Twitter practices in academic life (Costa, 2013; Veletsianos & Kimmons, 2013; Fransman, 2013; Ford, Veletsianos, & Resta, 2014; Lupton, 2014) revealed that many studies in the HE context to date have focussed on how scholars use Twitter to complement research duties. Costa (2013) has written about how the participatory web and digital practices assist existing scholarly practices. Networked participatory scholarship (Veletsianos & Kimmons, 2012b) enables academics to digitally disseminate “specialism in a field” (Weller, 2011, p. 5). Others assert that Twitter has potential for changing how research scientists interact with one another and beyond the ivory tower of academia into policy and public arenas (Darling, Shiffman, Côté, & Drew, 2013). Moreover Fransman’s (2013) research concluded that developing a strong digital footprint was important for influencing scholarly networks.

However both Weller (2011) and Goodfellow (2013) have lamented the lack of official recognition for networked scholarly practices and dissemination of research using open digital platforms. Indeed the open web and SNS such as Twitter present immense changes to traditional ways of working within HE. To this end while professionals need to think critically about practices and behaviours in open online spaces, bigger entities such as institutions need to consider the role the open web presents to academic functions and to the role of the university in society (Weller, 2011).

Veletsianos’ (2012) study of forty-six international Twitter users identified seven main activities of academics on Twitter: (1) sharing information, resources, and media relating to their professional practice; (2) sharing information about their classroom and their students; (3) requesting assistance from and offering suggestions to others; (4) engaging in social commentary; (5) engaging in digital identity and impression management; (6) seeking to network and make connections with others; and (7) highlighting participation in online networks other than Twitter (ibid, p.1). Despite identifying these activities, in subsequent

research, Veletsianos (2013) emphasised that use of digital spaces and in particular social networking sites by researchers and educators is as yet poorly understood.

Lupton's (2014) survey findings of 711 academic international Twitter users corresponded with Veletsianos' (2012) conclusions. Additionally her research presented the perceived benefits of SNS relating to connections and developing networks, self-promotion, research, teaching and support. But significantly Lupton (2014) highlighted academics' concerns about issues of privacy, the risk of jeopardising one's career, the quality of content posted, time pressures, excessive self-promotion, plagiarism, the commercialisation of content and copyright issues.

Similarly risks concerning identity have been a concern of Stewart's (2015a) research where online social networking is perceived to contribute to tension between public and private identities. Marwick & boyd (2010) emphasise that "Twitter flattens multiple audiences into one" (ibid, p.9) contributing to a collapse between multiple identities in online contexts. In public online spaces professionals' varying forms of self intersect, a reality that Stewart (2015a) claims should not be taken lightly. Indeed Wenger's (1998) earlier work concerning learning and identity argued that "multi-membership may involve tensions that never quite resolve" (ibid, p.160) showing that identity is not a construct that is easily switched off as we change contexts. Thus the identity related implications of using open social networks such as Twitter are complex and need further investigation.

Another analysis of academics' use of social networks (Jordan, 2014) revealed junior academics as active users of social network sites but that habits differed among academics at different career levels. So it seems that while similarities exist between Veletsianos' (2012) and Lupton's (2014) findings in relation to core activities of social network use, Jordan (2014) discovered that early-career academics occupied more peripheral positions in online networks than mid-career academics. Thus, it is apparent that more exploration is necessary to

uncover other unusual or interesting realities about social network use by professionals in HE.

Finally, I have noted from the existing literature that many of the recent studies exploring social networking use in HE (Costa, 2013; Lupton, 2014; Stewart, 2015) (Veletsianos, 2012), while valuable and informative, have been founded on research with early adopters and supporters of online social networks including Twitter (Skyring, 2013). This raises questions regarding the limitations of their findings and challenges thinking about providing better representation of the variety of professionals who currently use online social networks.

Thus these limitations have inspired the design of this research study that will inquire into the activities of HE professionals, all of whom use Twitter for professional learning but with varying degrees of participation. Through exploration of professionals' authentic activities on Twitter it is intended to generate real-life accounts of Twitter use, while showing the barriers and enablers to use.

2.12 Social networking for professional learning

To date some studies have taken a broad view of social networking activities within HE (Costa, 2014; Veletsianos, 2012; (Weller, 2011) but literature about how Twitter is used for professional learning is at early stages (Ford, Veletsianos, & Resta, 2014). Contemporary ideas referred to as networked learning (Ferreday & Hodgson, 2008; McConnell, Hodgson, & Dirckinck-Holmfeld, 2012), connected learning (Ito, et al., 2013) and connectivism (Siemens, 2006) explain situations of learning in online spaces regardless of place and time. Social networks are said to provide learners with new opportunities to access a wide range of knowledge and resources, and in turn allow for free and accessible self-expression (Ito, et al., 2013). Thus learning is supported by a culture facilitating collaborative and socially connected learning (Seely Brown & Thomas, 2011). It is argued that social connections facilitated by virtual communities can provide informal learning opportunities for professionals (Bennett, 2012; Campana, 2014; Cook & Santos, 2014; Dabbagha & Kitsantas, 2012). Within these virtual communities they can connect with others in their field to share and disseminate relevant and useful

information (Hart, 2015; Gerstein, 2011; Pasquini, 2015). Online communities facilitated by communication tools (Jürgens, 2012) such as Twitter enable the sharing of information with others and connections to other professionals (Veletsianos, 2012). Therefore it is fitting that further research that goes “beyond surveys and using qualitative research to produce thick descriptions of use” (Lupton, 2014, p. 32) of social networking is initiated within the context of HE. Cook & Santos (2014) defend that SNS, used in well-designed ways, can support informal learning while social networking, in particular Twitter, has been commonly assumed as a professional learning tool (Hart, 2015). A short survey of 135 academics, completed by American HE faculty, reported Twitter as useful for learning (Gerstein, 2011). Jenkins, Ito, & boyd (2015) reported on findings from a large-scale longitudinal study arguing that SNS support participatory practices, enabling creative and self-directed learning. Similarly, Ito et al. (2013) in their framework of connected learning portrayed youths motivated to seek out mentorship in online spaces to satisfy their learning needs.

Recent studies indicate that learners enjoy and appreciate the social learning experience afforded by online social networks (Veletsianos & Navarrete, 2012). Within a professional context learning takes place through participation and identity formation by engaging and contributing to networked practices within online social networks (Veletsianos, 2012). Others advocate social media as a means to support personal learning environments (PLEs), which can potentially marry formal and informal learning (Dabbagha & Kitsantas, 2012). Indeed Twitter particularly has been proclaimed as a medium that can sustain professional learning for educators (Holmes, Preston, Shaw, & Buchanan, 2013). Furthermore Costa (2014) indicated that participation in online social networks potentially resulted in a change of both perspective and practice for HE scholars.

In HE Guerin, Carter, and Aitchison’s (2015) case study on blogging encouraged academic developers to engage in social networks to share expertise and experience thus learning within and from overlapping communities of practice. Indeed McPherson, Budge, & Lemon (2015) support the benefits of Twitter for academic developers in enabling collegial discussion among staff across

disciplines within HE offsetting previous notions of academic developers being isolated from faculty endeavours (Manathunga, 2007).

Skyring's (2013) research of five hundred educators demonstrated that educators from different levels of education considered that Twitter assisted meaningful professional learning and was an important platform for their personal learning network. A survey (Carpenter & Krutka, 2014) of Twitter use for professional development of 755 mainly K-12⁶ educators found that obtaining resources, links, sharing, and connecting with other educators was the most popular use, but additionally Twitter provided just in time personalised learning and teachers claimed it helped prevent isolation. Research on Twitter for professional learning within post-primary teachers showed that teachers appreciated that Twitter could be accessed on any day at any time and helped connections with other teachers outside their immediate environment (Gallop, 2014; Holmes, Preston, Shaw, & Buchanan, 2013). This resonates with earlier research demonstrating teachers liked to access broader networks (McNally, 2006) to learn from others outside their local contexts. Holmes et al. (2013) supported the notion of Twitter as a means for accessing professional learning when used over time, but they call for further research to evaluate the tangible impact of teacher engagement on Twitter towards professional development, a key interest of this current research.

While these studies show the respect that educators have for Twitter in enabling informal and social learning, they indicate positive and endorsing perspectives of using Twitter for professional learning purposes. However viewing Twitter in overly favourable terms fails to observe the various positive and negative implications of using the online public space of Twitter for professional purposes. Therefore more research into how Twitter is used by professionals for learning is needed to investigate more thoroughly the barriers, enablers, and implications of its use.

⁶ K-12: American term for primary and secondary education
<https://en.wikipedia.org/wiki/K%E2%80%9312>

2.13 Attentive professionalism on online social networks

New technologies enable new relationships (Nerland & Jensen, 2014, p. 25) and various research studies have established that learning online is often founded on engagement and positive social relationships (Anderson, Lee, Simpson, & Stein, 2011; Brown, Keppell, Hard, Shillington, & Smith, 2013; Chen, Gonyea, & Kuh, 2008). Indeed when learners feel a sense of social and emotional involvement (Dunlap & Lowenthal, 2009; Rinaldo, Tapp, & Laverie, 2011) higher cognitive processing occurs (Vygotsky, 1978). Conversely other research into learning in online spaces has highlighted that learners can struggle with feelings of frustration, emotional safety, and trust (Sharpe & Benfield, 2005) which work against constructive social online learning. Recently Stewart (2015a, 2016) has highlighted the potential vulnerability of people who place themselves in open online spaces and the adverse effects that mismanaged types of online exposure can have on professional lives. Without doubt caution and attention is needed if open online environments such as Twitter are encouraged as part of professional practice.

So far I have demonstrated that the prospect of social connections, propagation and growth of knowledge are available through the expansive and open participatory web (Costa, 2014; Seely Brown & Thomas, 2011; Siemens, 2006; Weller, 2011). Despite positive affirmations about the potential benefits of open digital spaces, findings from some studies have pointed to a scepticism and uneasiness with Twitter's use for professional purposes. Indeed Fransman (2013) found that some academics perceived Twitter as a purely social platform rather than a professional tool considering Twitter inadequate for academic work.

Additionally other critics assert that participation on Twitter is over-shadowed by indulgent self-promotion and that the constant Twitterstream of information is difficult to process and filter for content appropriate for professional needs (Rheingold, 2013; Skyring, 2013). Hayes & Gee (2010) assume that online spaces enable freedom of expression while offering opportunities to learners to find affinity in democratic self-directed ways. However Fletcher & Bullock (2014) discuss the repercussions of posting online asserting the "permanence that a

teacher's or learner's comments possess in an online environment may carry implications for the nature of the comments that are posted" (Fletcher & Bullock, 2014, p. 4). Thus tensions exist in posting personal or professional information in public online spaces.

Others perceive dangers in connecting solely with like-minded people leading to a climate of group-think in online networks (Crump, 2014). Moreover Rheingold similarly urges attentive participation on social media encouraging people to become empowered participants rather than passive consumers (Rheingold, 2014). Lupton's (2014) findings argue for a critical stance in using social networking and advocates for reflection on uses of social networking to develop astuteness and awareness of the risks of use. Relatedly academic researchers ought to acknowledge the "politics of education and technology" (Selwyn, 2012, p. 214) and technology users ought to be aware of the use and implications of using online tools.

Moreover expressive individualist online behaviour can be at odds with the agenda of HE institutions. Indeed some universities prohibit academics' use of social networking (Lupton, 2014) to offset potentially damaging commentary and opinions which could be at odds with promotion and marketing in a competitive global market of education (Bélanger, Bali, & Longden, 2014). Others hypothesise about the perils that exist, such as the risk of jeopardising one's career (Lupton, 2014; Weller, 2011).

Thus online professionalism must involve critical thinking about the implications of participation in the online space for professional identity and practice.

Consciousness is called for about how online actions and sharing shapes online identities and influences the perceptions that are created of professionals online (Stewart, 2015b). Nonetheless despite cautionary advice, Pasquini, Wakefield, and Roman (2014) consider that early-career academics and researchers need a digital identity in order to initiate and foster important professional collaborations and connections.

2.14 Social Networks: developing capabilities

So it seems that some advocate Twitter while others raise potential issues that professionals need awareness of when using SNS. This raises another question about the capabilities of professionals in HE when using online social networks such as Twitter.

Ford, Veletsianos, & Resta (2014) contend that skills and proficiencies are essential if participants are to use online social networking effectively for learning. In light of demands to use technology as an ally in HE (National Forum, 2015) significant research has begun in identifying necessary proficiencies needed. Recently the United Kingdom's JISC (2014a, 2014b) and the Irish National Forum for the Enhancement of Teaching (Devine, 2015) have published comprehensive reports highlighting the needs of HE staff working in digitally permeated HE settings. It seems being capable in a digital world is essential in managing multiple work responsibilities and thriving in the online HE contexts (Beetham, 2015).

Relatedly Haythornthwaite asserts that “new media affect how, where, and with whom we learn and what it means to be literate in the 21st century” (Haythornthwaite, 2014, p. 1). Indeed Skyring's (2013) findings demonstrated the challenges of managing the large amounts of information from Twitter but effective strategies helped some educators to critically manage information while others lacked the capability to do so. Furthermore Rheingold (2010) described interconnected social networking literacies enabling people to be network smart. Similarly, predictors of digital education trends such as Thomas and Seely Brown (2011) and Siemens (2006) argue that the capacity to make relationships in networks is vitally important. Overall JISC (2014a) reports that communication, collaboration, and participation are vital capabilities for working within a digital society.

Thus far some schemes (Beckingham, 2015; Webster, 2014) focus on the ideological potential of Twitter and encourage HE professionals to use Twitter in technical ways to get connected with other professionals. However the over-emphasis and guidance given to the functionality of technology is criticised to

the detriment of essential cultural competences in these spaces where online cultures differ from face-to-face contexts (White & Le Cornu, 2010). While notable projects exist that facilitate academics to use Twitter, they overlook the deeper challenges involved in using social networks, which include building capacity to develop relationships on SNS (Beetham, 2015). Indeed online collaboration does not necessarily come easily to all users of the Internet (Lombardozzi, 2011) (Seely Brown & Thomas, 2011). This raises questions about the capabilities that HE professionals possess in coming to use SNS such as Twitter. Perhaps more thought is needed on the means to facilitate and develop digital capability if professionals are to effectively use social networking for learning (Ford, Veletsianos, & Resta, 2014) and to offset potential digital alienation (Ito, et al., 2013).

2.14.1 Developing networked professional identities

It seems that expression and actions within online public social networks are complex and the capacity to be literate in multiple modes of communication is necessary if we are to engage in online spaces comfortably, safely and wisely (Stewart, 2016a). Also the concept of social presence plays a role in the development and sustainability of learning communities (Garrison & Anderson, 2003; Rourke, Anderson, Garrison, & Archer, 2001) whereby having a presence online, learners can trust, feel safe, and take risks with peers in online networks. However establishing a professional presence in the online environment presents new challenges (Stewart, 2016a). Where once professional identity was formed through interaction with other professionals in contexts such as the workplace or conferences, in the online space professionals “cultivate scholarly identities, networks, and audiences via online participation” (Stewart, 2015b, p. 4).

Challenges may be faced by those who lack awareness of the audiences that can view their online social profiles (Stewart, 2015b). Furthermore the online space instigates a performance of identity where it is difficult to judge how one should choose to expose aspects of the self to multiple potential audiences in digital spaces. To this end some strategic professionals choose to select acceptable fragments of their identity (Kimmons & Veletsianos, 2014) thereby managing

their online identity. Thus this raises questions about professionals' capacity to establish and develop presence and identity in online spaces. What factors are essential to consider when professionals embark in creating online presence and identity? Are these factors merely a set of skills and capabilities or deeper innate characteristics?

What is interesting however is that while establishing digital presence and thus identity presents challenges, it also provides opportunities for self-reflection. Being faced with online presentation of the self to multiple potential audiences stimulates consideration at a theoretical level of one's values and practices. Shelly Turkle's (1997) early writing about digital identity proposed that digital presence contributed to questioning of the nature of the self, arguing that "computers brought philosophy into everyday life" (p.x). More recently Wesch (2008) has remarked that platforms such as Facebook, Instagram, or LinkedIn⁷ provide opportunities for the development of self-awareness and new ways of thinking about relating to others. To that end perhaps establishing digital presence can be a means for reflection and development of professional identity through the process of forming a digital identity.

Currently there is growing pressure on the professional to communicate online (Fransman, 2013; Pasquini, Wakefield, & Roman, 2014), to become part of relevant professional online communities and know how to navigate an online territory that is constantly evolving (Goodfellow, 2013; Weller, 2011). While Internet-based guides and blogs support the use of Twitter for professional purposes (Beckingham, 2015; Hart, 2015; Webster, 2014), there is a gap within the scholarly knowledge base about how professionals use Twitter for professional learning and the implications, enablers and barriers they experience in using Twitter. It seems timely, therefore, to explore and capture how HE professionals use Twitter to contribute to learning and professionalism.

⁷ Facebook, Instagram and LinkedIn are social network sites

2.15 Conclusion

In this chapter I have established the social, economic, and global factors impacting the professionalisation of teaching in HE. Thus the notion of professionalism in this study is aligned with the practices and services of those who teach and support teaching in HE. Learning is at the heart of professionalism (Eraut, 1994), where professionals continue to learn and create new knowledge in support of best practices for teaching and learning providing students with the best possible learning opportunities. Furthermore “the professional is a living project in creation” (Barnett, 2008, p. 206) on a relentless quest towards *becoming* a professional, a journey that is marked by critical reflection on values, codes and practices and within society at large.

In contemporary HE many professionals engage in formal professional learning to enhance learning and teaching practices. This chapter highlighted that schemes of formal professional learning can be complemented by informal learning offerings. Thus the exploration of SNS such as Twitter might potentially offer opportunities for informal professional learning.

The majority of existing studies to date have focussed on the early adopters of Twitter and other social networks, many of whom support and have positively experienced participation on Twitter (Lupton, 2014; Skyring, 2013; Veletsianos, 2012). However in this study I want to provide a more nuanced critique by investigating professionals who use Twitter for learning but in various ways, some of whom have evident social presence on Twitter and others who participate to a lesser extent. This will provide a broader picture of how Twitter is used by HE professionals and enable a deeper exploration into the implications of using Twitter for learning, in turn highlighting barriers and enablers experienced by professionals.

Thus this research is inspired by an overarching research aim:

To explore the activities of higher education professionals on Twitter, capture how these activities assist their professional learning and examine any barriers and enablers that may affect this activity.

Thus the following research questions will provide a framework for this exploratory research:

1. What are the activities of higher education professionals using the social networking site Twitter?
2. How are activities on Twitter supporting the learning of these higher education professionals?
3. What are the barriers and enablers that exist for these higher education professionals in engaging with Twitter for professional learning?

In general, the literature has established that Twitter enables social connections and activities among professionals, and while some research shows that Twitter supports social learning there is a dearth of scholarship specific to this area. In the next chapter I outline the concepts important to this research which will assist finding answers these research questions.

Chapter 3 Learning as a professional in digital times: theories and concepts

3.1 Introduction

The previous chapter established the importance of learning to professionalism and highlighted the opportunities for social learning presented by SNS, particularly Twitter. This chapter will present a review of the literature associated with professional learning and in particular how learning increasingly occurs informally, socially, and online in contemporary times.

Theoretical frameworks play an important role in guiding observation of the research data (Miles, Huberman, & Saldana, 2014; Robson, 2011) and initially I struggled to ascertain suitable concepts and theories to frame and guide the research. I felt that existing theories did not provide a direct foundation from which to start an exploration, so instead, I read widely around the main ideas prompting this research—professional learning, social theories of learning, and learning in online environments—to gain insight into how professionals were using Twitter for learning. This chapter expands on these concepts, describes relationships between them, and constructs a framework of concepts pertinent to this research.

3.2 Learning and professional practice

The context of this research is centred on professionalism and teaching, specifically the enhancement of practices of those who teach and support teaching in higher education. Professional learning is regarded as the main source of professional knowledge and development (Eraut, 1994; Evans, 2008; Marsick & Watkins, 1990; Wenger, 1998), is underpinned by many theories and frameworks of learning (Dochy, Gijbels, D, Segers, & Van den Bossche, 2011; Manuti, Pastore, Fausta Scardigno, Giancaspro, & Morciano, 2015).

Learning is at the heart of practice (Eraut, 1994) and is most effectively achieved when engaged in and sustained over a period of time (Bloomer & Hodkinson, 2000; Guskey, 2000). Indeed, professional learning, to enhance professional knowledge and practice, is perceived as a continuous trajectory of learning

throughout a career (Barnett, 2011; Eraut, 1994; Nixon, 2008). Others assert that professional learning is about the advancement of the individual as a professional and may involve transformations to perspective and the interpretation of experiences, which in turn guide actions (Cranton, 2006; Evans, 2008; Mezirow, 1991; Wilson, 2012).

Learning for professionals does not always happen through engagement in formal educational or specialist training (Campana, 2014; Dochy et al., 2011; Mårtensson & Roxå, 2015; Rienties & Hosein, 2015) and is often unplanned (Eraut, 2004). Rather, professional learning about practice takes place through collaboration where practitioners work together, share knowledge, and engage in cooperative inquiry to instigate change and growth as professionals (Dochy et al., 2011; Eraut, 1994; Wenger, 1998). Additionally, deep-seated motivation and agency is important for professionals to develop themselves and pursue collaboration and cooperation amongst colleagues (Day & Sachs, 2004; Eraut, 2004). Figure 1 summarises the key concepts of professional learning.

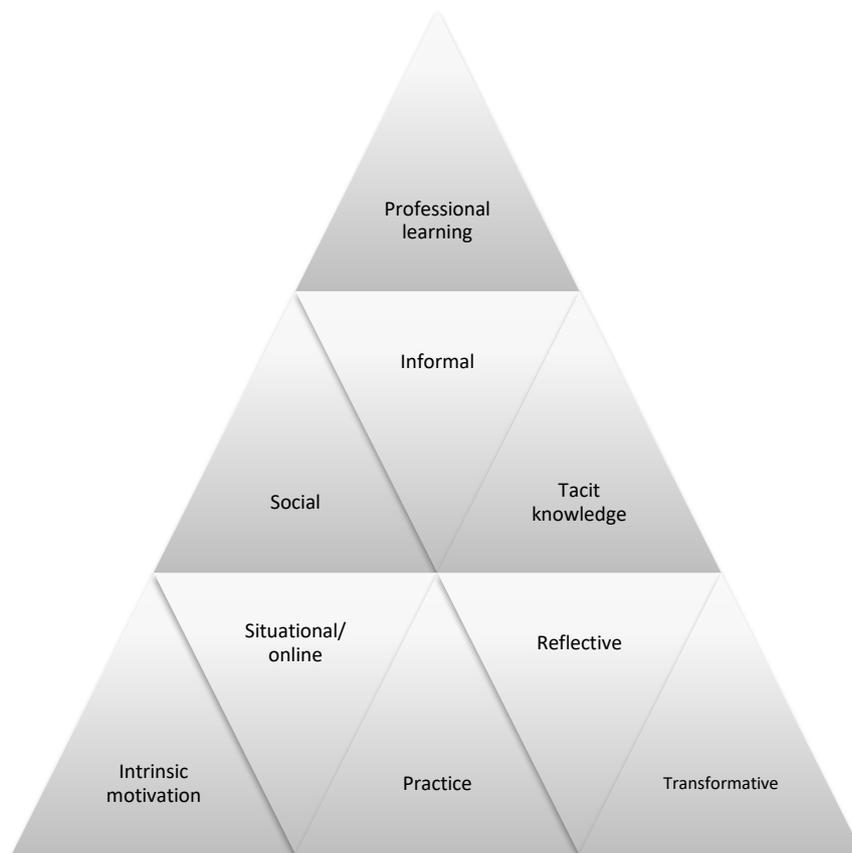


Figure 1 - Concepts characterising professional learning

Thus professional learning happens informally and socially through the exchange of tacitly held knowledge (Eraut, 1994; Marsick & Watkins, 1990), often driven by professionals' intrinsic motivation (Day & Sachs, 2004), occurring in socially mediated ways around everyday practices, and in situations such as the workplace and in other contexts such as socially networked online environments (Wenger, 1998).

3.3 Professional learning as informal learning

Eraut's (1994) research emphasised the significance of informal learning for professionals, highlighting that learning from experience should be valued as a means for professional learning. Indeed Wenger (1998) outlined informal learning as a process occurring "in organic ways that tend to escape formal descriptions and control" (ibid, p118). Workplaces are perceived as sites of learning (Billett, 2006; Eraut, 2000; Marsick & Watkins, 1990; Wenger, 1998) where much professional learning occurs through proactively sharing experience with peers who provide suitable support to meet needs and challenges faced in practice (Eraut, 2004). Indeed learning for professionals is characterised by implicit, unintended, opportunistic, and unstructured learning events that were independent of the presence of a teacher (ibid).

With the expansion of the Internet, more opportunities have presented for informal learning where people can access information, connect with others, and share practice (Ito, et al., 2008). Informal spaces online are perceived as powerful sites of learning, forsaking expert-led tuition, where learners find their own mentors and are self-taught through a form of public pedagogy (Gee, 2005). Nonetheless, tensions exist between formal education and informal online learning. The learning black market (White, 2011) where learners seek opportunities online outside of formal curricula, is yet to be valued and incorporated into common academic practices. Despite this, in the field of education, some research reports present solid arguments about how opportunities for informal learning are enabled through social connections on the web (Hayes & Gee, 2010; Ito, et al., 2013; Jenkins, Ito, & boyd, 2015).

Others contend that professional learning is not an isolated endeavour (Hughes 2010) and a social phenomenon (Lave & Wenger, 1991). In HE online personal learning networks (Cormier, 2010; Couros, 2010) are said to open up a range of resources to academics and ways of assimilating knowledge from those resources (McPherson, Budge, & Lemon, 2015). Indeed recent literature highlights the interrelationship and overlap existing between formal and informal dimensions of learning, emphasising informal learning relationships as significant in shaping professional practice (Manuti et al., 2015). Personal learning networks offer academics opportunities to interact with pools of knowledge concerning teaching, which might influence practice (Pataraiia et al., 2015). To this end informal learning events should be considered as important opportunities in academic development trajectories (Gibbs, 2013; Mårtensson & Roxå, 2015).

It has been argued that informal learning experiences have been under-valued and under-theorised (Billett, 2002; Eraut, 1994; McNally, 2006); this research aims to contribute to the growing discussion on informal professional learning.

3.4 Social learning

At this point I have noted that professional learning is a social endeavour largely achieved through informal means. Investigations of social learning theories emphasise the shift in attention from cognitive processes of learning to the social processes of learning (Bandura, 1977; Engeström, 2001; Vygotsky, 1978; Wenger, 1998). Social constructivism (Vygotsky, 1978) upholds the position that people collectively impose meaning on the world through interpersonal relationships (Illeris, 2009; Jordan, Carlile, & Stack, 2008) and those supporting this belief argue that other philosophies of learning ignore the relational and social nature of learning (Biesta, 2013; Lave & Wenger, 1991). To social constructivists, meaningful learning is a social process, taking place when individuals are engaged in social activities and through social interaction, where learners build their own interpretation of knowledge and meaning (Illeris, 2003; Vygotsky, 1978). Indeed many educators have adapted social constructivism to explain how learning happens between people, groups, networks, and within communities (Engeström, 2001; Garrison, Anderson, & Archer, 2000; Wenger, 1998).

To this end Wenger (1998) theorises that learning is not abstract but a feature of practice whereby people interact and negotiate meanings with one another. Among the advocates of this position is Eraut (2004), who maintains that most professional learning episodes occur within social contexts where professionals discuss events and take action through discourse.

While learning is regarded as a social practice, it is also dependent on the context and situation of the learning. As mentioned previously much learning occurred with peers situated in the workplace (Billett, 2006; Eraut, 2004; Marsick & Watkins, 1990). Situated learning theory asserts that learning is embedded in engaged activity with others in community or group settings (Barton & Tusting, 2005; Lave & Wenger, 1991). In this theory novices progress their learning through participation on the peripheries of these social learning contexts and by working with others who have more expertise. Likewise Brookfield (2009) and Vygotsky (1978) encourage learners to work with more knowledgeable others on a path to greater knowledge.

Learning about teaching has been acknowledged to occur in community settings (Hollins-Alexander, 2013; Hughes, 2007; Mårtensson & Roxå, 2015; O’Keeffe, Cashman, & O’Regan, 2008), providing linkages to wider circuits of knowledge and experts (Nerland & Jensen, 2014), and enabling collaboration and effective opportunities to learn from others. O’Farrell (2008) noted that discursive exchange through collaborative activities within academic communities enabled the formulation of best educational practices. Furthermore Rienties and Hosein (2015) indicated that a majority of academics used network contacts to discuss learning and teaching issues. Hence, through cooperative problem solving and critical analysis of experience, professionals help one other acquire knowledge and skills to generate responses to professional problems (Brookfield, 1995; Wilson, 2012). To this end it is claimed that online networks support social learning, a key interest of this research.

3.5 An approach to social learning: Communities of Practice (CoP)

This research is underpinned by consideration of learning taking place in a participation framework (Lave & Wenger, 1991) and that community based

frameworks characterise the nature of learning in networks and groups. The community of inquiry (CoI) framework (Garrison, Anderson, T, & Archer, 2000) is one such approach, whereby a community work together towards formally set outcomes, an approach incongruent with this study's focus on informal learning. Alternatively the community of practice (CoP) model (Lave & Wenger, 1991) supported theorising about the informal nature of learning in networks and groups (Barton & Tusting, 2005; Lawday, 2009; Patarraia et al., 2015).

Some writers criticise using the term community for its implied claims about social support and undisputed collaboration (Salmon, Ross, Pechenkina, & Chase, 2015). Despite this the work of Wenger (1998) has become popular as a concept (Lea, 2005) prioritising the informal nature of learning in communities and has been adopted by academics, researchers, and organisational development professionals (Barton & Tusting, 2005; Lawday, 2009). Lave and Wenger (1991) argued that learning for novices emerged through initial peripheral participation that evolved over time. Wenger (1998) subsequently proposed identity development was a central part of the learning process, where through social engagement in practice, professionals came to learn about practice and themselves, while establishing a sense of belonging within social structures.

Wenger (1998) explained that a CoP defined itself along three dimensions: mutual engagement, joint enterprise, and shared repertoire, dimensions portraying learning occurring in relationships between people as pursuing shared enterprises on a learning trajectory (Hughes, 2010). Newcomers gain access to competence development through informal and uncontrolled mutual engagement of members of the community in organic, evolving, and fluid experiences (Mårtensson & Roxå, 2015). However application of the CoP model to certain contexts such as teaching development among early career lecturers has been criticised due to a lack of evidence that mutual engagement in shared repertoires of practice was achieved (Gourlay, 2011). Instead new HE teachers felt isolated and confused rather than finding affinity with other teaching academics in their disciplines (ibid).

While the CoP model is critiqued as overly common (Lea, 2005), others argue (Hughes, 2007) that the CoP model provides clarity of expression for characteristics of learning in communities and it has been adapted by many studies to investigate online communities of practice. It is for this reason I adopt properties of the CoP model into this research.

3.5.1 Participation, belonging and identity in social learning

Learning involves social energy shaped by opportunities for engagement situated in solving problems of practice (Wenger, 1998). Through practice, members of the community establish “what it is to be a competent participant, an outsider, or somewhere in between” (Wenger, 1998, p. 137). In earlier writing, Lave and Wenger (1991) focussed on legitimate peripheral participation as a mode of learning for newcomers to a situation. Wenger (1998) additionally described trajectories of participation portraying that participants in communities could embark in disparate journeys of participation, enabling or inhibiting them from becoming central members within communities.

Wenger’s theory asserts that engagement in practice within a community feeds belonging but to engage in participation people need “the ability to take part in meaningful activities and interaction, in the production of sharable artefacts, in community-building conversations, and in the negotiation of new situations” (Wenger, 1998, p. 184). In flourishing CoPs, members have established trust with other community members, thus feeling confident in their agency in communities, to explore and take risks in the learning process. While Wenger (ibid) gives some thought to how engagement affects belonging to communities, Henderson (2015) criticises the CoP model as “a dominant delusional ideology of education as a harmonious enterprise and, at worst, a disingenuous or wilful ignorance of factors such as power relations, resistance, inequality, personal and socially negotiated histories and trajectories” (Henderson, 2015, p. 127).

Others fault Wenger’s lack of analysis of broader social and political contexts (Barton & Tusting, 2005) that potentially prevent full participation and belonging. Furthermore Lea (2005) claims that Wenger (1998) does not

problematise issues of participation or non-participation for members that can contribute to disempowerment and lack of agency.

Other writers (Barnett, 2011; Eraut, 1994, 2004; Nixon, 2008) describe the notion of the professional learning trajectory as contributing to the development of professional identity through socially mediated means. According to Wenger “Issues of identity are an integral aspect of social learning theory, and thus are inseparable from issues of practice, community and meaning” (Wenger, 1998, p. 145). Significantly for professionals, identification with peers can contribute to decisions about participation or non-participation and emphasise exclusion and inclusion (ibid).

Social learning theory contests that identity is an individually expressed concept and through participation in community identity is formed (Wenger, 1998). In turn professionals have the ability to negotiate the meaning of experiences and shape the meanings of the communities that they belong to (Wenger, 1998). Thus participation leads to learning, and mutually negotiated activities contribute to identity construction on a learning trajectory (Hughes, 2010; Wenger, 1998). The blind spot of the CoP model however is the lack of explanation about apparently harmless local activities that can have consequential ripple effects extending outwards into the wider world. Myers (2005) describes how risks to professional or personal selves become a reality of “unintended consequences of shared goals, uncertainty about outcomes and ambivalent identities” (Myers, 2005, p. 199). Similar concerns are evident in the literature about online identity in networked spaces. Identities which were once exclusive, private, and protected within online communities have now become public, their contexts collapsed, contributing to potential risks to professional identity (Stewart, 2015b).

Finally through participation in communities, learning becomes visible and tangible through artefacts. Wenger’s concepts of participation and reification illustrate that participation enables the negotiation of meaning, turning experience into “thingness” (Wenger, 1998). Thus reifications of knowledge, attained through participation, enables the discernible communication of ideas.

This is apparent in online social spaces where participants reify meaning in online expressions through tweets, blogs, and other virtual artefacts (Bell, 2014).

Figure 2 highlights concepts from Wenger’s model important in this research.

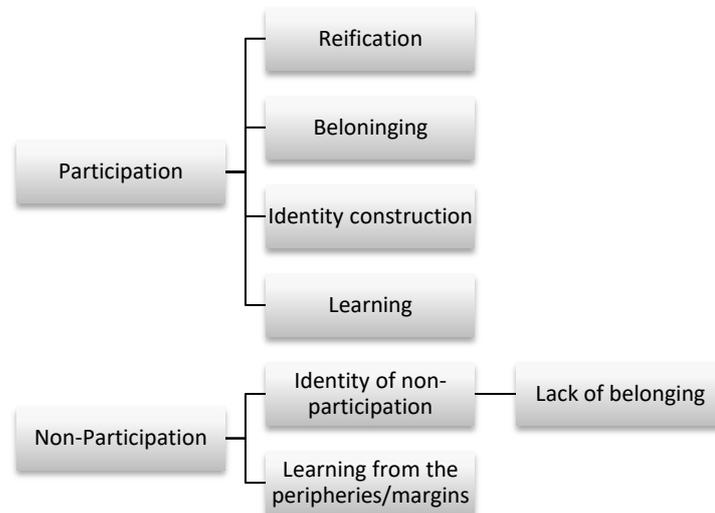


Figure 2 - Wenger’s CoP concepts

In recent years the CoP model has been criticised as becoming formulaic, transitioning to an educational model rather than an heuristic for empowerment and agency of learners (Henderson, 2015; Lea, 2005). Some claim that the complexity of situated learning and CoPs has been overlooked (Barton & Tusting, 2005). Nonetheless Wenger’s concepts provide a useful way of thinking about how learning happens around a common enterprise, in this case learning about teaching, and how identity affects learning and belonging within situations of practice.

3.6 Social learning in online spaces

While elements of Wenger’s (1998) model are suitable to this research, it has been noted that other researchers (Barton & Tusting, 2005) have adapted the CoP model complementing it with ancillary concepts and theories ensuring fitness for purpose. The previous chapter referred to the extended opportunities that HE professionals have to new information and knowledge communities, where they can share practices, ask questions, and acquire support (Costa, 2013; Veletsianos, 2012; Weller, 2011). Indeed SNS are cited as contexts for learning (Gerstein, 2011; Greenhow, Robelia, & Hughes, 2009; Vaessen, Van Den Beemt, & De Laat, 2014)

but as yet in-depth research is lacking on how HE professionals use Twitter for learning, a gap this research seeks to address. While the CoP model can describe the characteristics of practice-based informal learning, it is important to investigate the various frameworks and concepts that explain informal learning in online contexts, some of which are described next.

Frameworks such as networked learning (Garrison & Anderson, 2003), connected learning (Ito, et al., 2013) and connectivism (Siemens, 2006) have emerged to describe informal learning in digital environments. While they share a participatory approach to learning, they each emphasise different aspects of the online pedagogical experience for different types of learner. Common core assumptions such as self-determined and participatory learning, and learning that is authentic and relevant to needs, span these approaches to informal online learning (Ito, et al., 2013; Veletsianos & Kimmons, 2012b).

While Siemens' (2006) idea of connectivism draws attention to the benefits of distributed learning across online networks, it has been criticised for not accounting for issues of engagement and presence within online networks and how they might affect learning across networks (Kop, 2010). Nonetheless Siemens' (2006) concept seems to resonate with Eraut's (1994) thinking on the power of networked relationships where knowledge "can flow from person to person in several directions at once" (ibid, p.24). Networked learning, on the other hand, emphasises the experience and presence of learners in online communities. Indeed online "social presence is defined as the ability of learners to project themselves socially and affectively into a community" (Rourke, Anderson, Garrison, & Archer, 2001, p. 1) and networks are emphasised as sources of support and learning (Garrison & Anderson, 2003; Hodgson, McConnell, & Dirckinck-Holmfeld, 2012).

Lastly connected learning (Ito, et al., 2013) offers a design for online participatory learning. In both connected learning and in networked learning frameworks learners pursue knowledge creation activities with peers sharing common interests in online spaces. However despite similarities in their core assumptions the connected learning frameworks approach is based on experiences of young

people while networked learning seems common in the informal higher education space.

In other writing Gee (2005) speculates about online learning occurring around common interests in affinity spaces. Similarly Ito et al. (2013) declare that “social belonging motivates much of this engagement” (Ito, et al., 2013, p. 64) where youth find affinity with others. Gee (2005) uses the term spaces rather than networks or communities to describe the virtual sites where people position themselves as learners or mentors in search of knowledge and skills. Within this research, I draw on Gee’s (2005) concept of space to describe the online context of learning activities and practices of professionals. Furthermore in each of these frameworks researchers refer to the artefacts that learners create through shared and supported experiences online (Gee, 2005; Hodgson, McConnell, & Dirckinck-Holmfeld, 2012; Ito, et al., 2013) demonstrating knowledge reified into virtual artefacts by learners.

While the theme of support is common in literature on networked learning (Veletsianos & Kimmons, 2012b) it strikes me that other online learning frameworks (Gee, 2005; Ito, et al., 2013; Siemens, 2006) neglect to discuss the challenges for learners in participating in online spaces. Indeed in the offline setting Eraut’s (2004) research highlighted that confidence of professionals, among other factors, enabled or hindered professionals’ capacity to avail of opportunities for professional informal learning, claiming that the “emotional dimension of professional work is much more significant than normally recognised” (Eraut, 2004, p. 8). Relatedly self-esteem was reported as an important factor when participating in workplace learning (Bloomer & Hodgkinson, 2000) and the concept of ‘self-efficacy’, a core concept of social cognitive theory (Bandura, 1977) referring to the confidence that individuals feel about their capacity to accomplish a task or reach a goal is important to learning. However a thorough investigation of Bandura’s (ibid) theory was beyond the scope of this research. Nonetheless these works highlight the emotionality and relationality (McNally, 2006) of professional practice, emphasising that learning to be a professional is as much a cognitive as an emotional process (Fitzmaurice,

2013). Moreover the sharing of feelings and reflections on teaching with other teaching academics are important supporting factors to professionals' learning (Rienties & Hosein, 2015). Additionally social presence is claimed to support the cognitive objectives of learning (Rourke, Anderson, Garrison, & Archer, 2001).

As mentioned, Eraut (2004) found that confidence and appropriate support, among other factors (figure 3), were necessary for engagement in informal professional learning. These factors will be considered in analysing the data in this research.

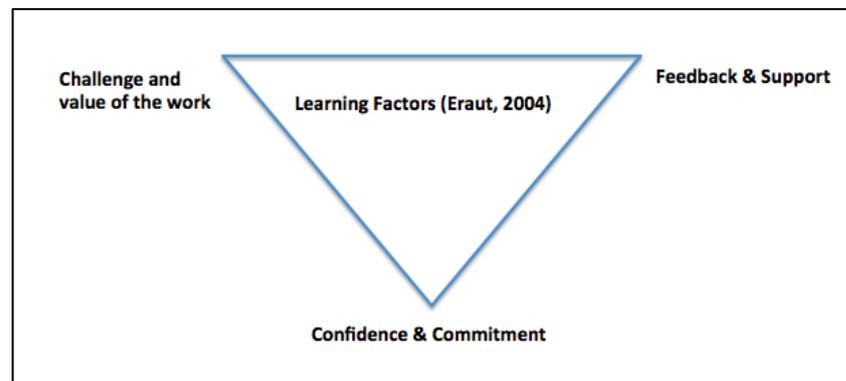


Figure 3 - Factors for informal learning (Eraut, 2004)

So it seems that engaging in and learning about professional practice is an emotionally charged activity and little research exists on the emotional challenges of professional learning in online spaces. As informal professional learning in online spaces is emergent, it seems there is a gap in the literature pertaining to the capacity of professionals to participate in informal learning online. This merits further research, an aspect of which this study aims to explore with participants. To conclude, the following diagram brings together the concepts significant to this research which include Wenger's (1998) CoP, combined with Eraut's factors for informal professional and attributes of the informal networked learning space (Garrison & Anderson, 2003; Gee, 2005; Rourke, Anderson, Garrison, & Archer, 2001).

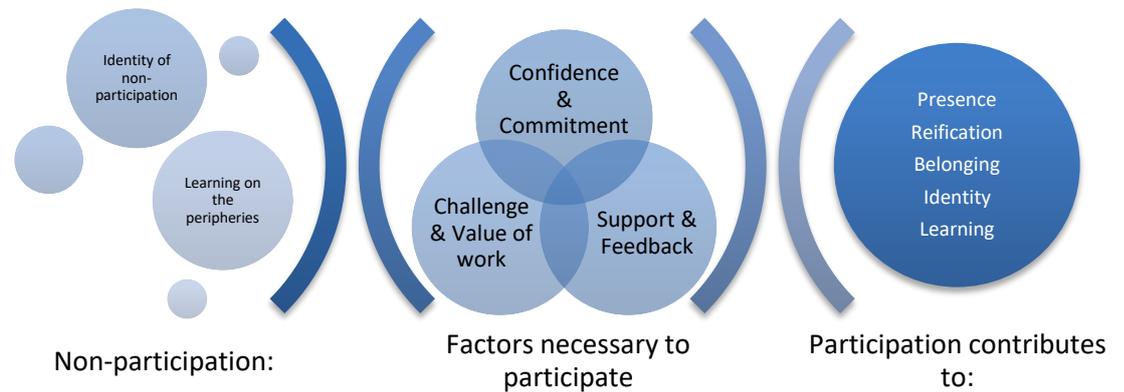


Figure 4 - Diagram of conceptual framework

3.7 Modes of online participation: Visitors and Residents

Just as Wenger (1998) differentiates modes of participation among newcomers and experts in communities, different types of participation have been identified in online spaces. The Visitors and Residents typology (White & Le Cornu, 2011) maps modes of engagement on the socially networked web, viewing online practices as a continuum of engagement where people shift and change their practices depending on individual needs and context. *Visitor participants* are described as using the Internet as a tool to engage with when a need arises, whereas on the opposite end of the continuum *Resident participants* are considered to inhabit online spaces having established observable digital footprints.

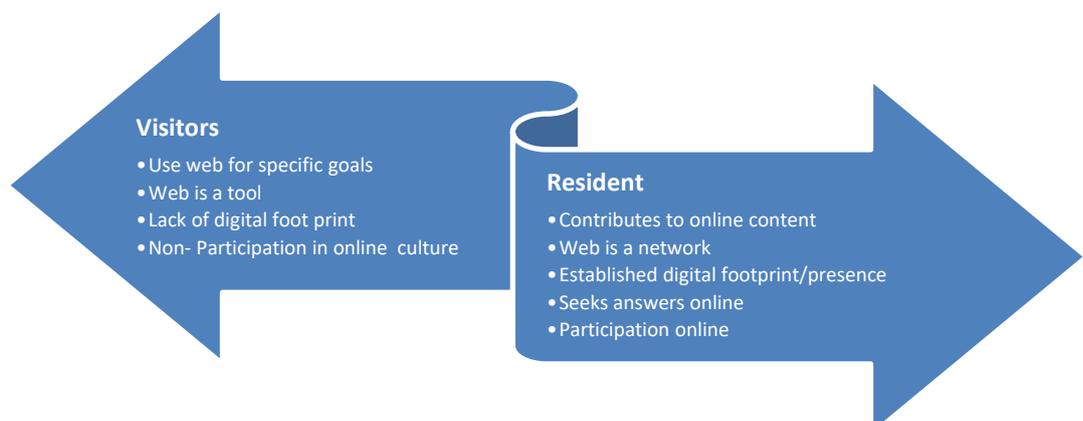


Figure 5 - Visitor Resident typology and CoP modes of participation

Within this study I draw parallels with Wenger's (1998) modes of participation, and the Visitors and Residents typology. I associate non-participation and peripheral participation with Visitor attributes and fuller participation with Resident attributes. Figure Five lists the characteristics of the Visitor-Residents typology combined with participation and non-participation (Wenger, 1998). As Wenger's CoP model was originally developed for non-online contexts, White and Le Cornu's (2011) typology provides an additional lens through which online participant activities on Twitter can be observed.

3.8 Conclusion

This chapter has reviewed essential concepts for this research supporting professional learning in online social spaces. This research is founded on social constructivist principles, which consider that learning occurs socially through interactions with others in spaces or communities around shared practice. In this context, learning is central to identity development. Thus the CoP model (Wenger, 1998) is helpful both in framing the understanding of professional learning, providing a foundation on which to discuss and analyse the data collected in this study. While some criticism exists on the dominance of social constructivist underpinnings within digital and socio-cultural research (Selwyn & Facer, 2013) and of the CoP model, I appreciate the limitations of any particular framework, recognising that they allow understanding of the phenomenon being studied while concealing other aspects (Mertz & Anfara, 2015).

By considering the CoP model, I have highlighted the weaknesses as well as the strengths. Others warn about the limitations of applying the CoP model to contemporary situations and learners (Fuller, Hodkinson, Hodkinson, & Unwin, 2005); for that reason rather than being wedded to a purist definition of "community of practice", I adopt other concepts into this conceptual framework also. The notion of the space (Gee, 2005) reflects the public nature of the social network Twitter. Thus the term *space* rather than *community* will be used in this study to describe the virtual places where professionals meet and interact online around shared interests, providing opportunities to engage and learn about practice. The notion of social presence as the ability of learners to project their

personal characteristics into the online space is also an important concept in this study.

Additionally of significance are Eraut's (2004) key factors affecting informal learning. For informal learning to occur, learning professionals need confidence and to feel supported. Lastly, White and Le Cornu's (2011) Visitors and Residents typology is paralleled with Wenger's modes of participation enabling the observation of modes of participation of professionals on Twitter.

In summary, as already indicated, current literature lacks investigation of *how* HE professionals use Twitter for learning about teaching practice, and the enablers and barriers experienced by them in this endeavour. My intention in presenting this study is to inform academic developers and other professionals in HE about how informed use can be made of SNS, particularly Twitter, for professional learning.

In the next chapter I outline the methodological approach I have taken in order to explore how a group of HE professionals use Twitter for professional learning.

Chapter 4 Research design

4.1 Introduction

This qualitative study seeks to identify, explore, and understand HE professionals' use of Twitter for learning about the activities of teaching and learning in the context of HE. This chapter discusses the rationale for taking a case study approach. I describe my assumptions and perspectives and demonstrate “the possible ways of gaining knowledge” (Grix, 2002, p. 177) to understand the phenomena being researched. Finally, I take into account ethical considerations, the biases of the researcher, and limitations of the research design.

4.2 Aims and rationale

Yin (2014) asserts that every exploration needs to start with a rationale and direction of study. This study stems from my interest in how HE professionals use Twitter for learning. Findings from a survey of teaching academics in Ireland (Slowey, Kozina, & Tan, 2014) indicated that openings for informal peer-exchange and more non-formal approaches are needed for the development of teaching and learning practices. Anecdotally, Twitter is claimed to be a professional learning tool (Gerstein, 2011; Hart, 2015), and other researchers call for rich qualitative research on the use of social networking within HE (Lupton, 2014; Veletsianos, 2012). This research is motivated by a combination of these factors, and its aim is:

To explore the activities of HE professionals on Twitter, capture whether and how these activities assist their professional learning and examine any barriers and enablers that may affect this activity.

4.2.1 Research questions

Qualitative research can be messy and iterative rather than neat and rigidly deductive (Cook, 2009; Lather, 2006), so I proposed the following research questions to allow for a flexible and fluid exploration:

1. What are the activities of HE professionals using the social networking site Twitter?

2. How are activities on Twitter supporting the learning of these HE professionals?
3. What are the barriers and enablers experienced by these HE professionals in engaging with Twitter for professional learning?

4.3 Research Approach

Using case studies I wanted to explore how HE professionals were using Twitter for learning about the professional practice of teaching, specifically teaching within HE, using a qualitative approach to uncover and describe the activities of HE professionals.

Social constructivist approaches have been criticised as dominating research in technology and education fields (Selwyn & Facer, 2013). Nevertheless, I chose an interpretive and social constructivist approach by questioning my ontological and epistemological understandings of the world (see researcher perspectives section in this chapter) and by accepting that there are as many realities as there are participants and researchers (Robson, 2011). Therefore the findings of this research are based on my interpretations.

Case study is a research design rather than a method (Buchanan, 2012), and choosing this approach allowed me to explore the situation while taking a holistic view (Denscombe, 2010; Yin, 2014). Case studies are flexible in their design (Robson, 2011), allowing for an iterative reflective approach drawing on multiple forms of data collection. Case study research complements previously completed research (Yin, 2014); thus previous research prompted the qualitative design of my study (Gerstein, 2011; Lupton, 2014; Veletsianos, 2012). I intended to go deeper than previous quantitative researchers and generate rich data and descriptions to explain, illustrate, and enlighten (Yin, 2014).

4.3.1 Considering the research design

At the outset of this study I wanted to explore participants' individual use of Twitter for professional learning. I was aware that I should investigate various research approaches and paradigms to guard against 'method-led' research (Grix, 2002) and avoid choosing a research approach that might not be suitable for this

context (Biesta, 2007). Also I wanted the research method to fit the problem under scrutiny in the study (Crotty, 1998) (Robson, 2011) rather than be overtly biased by a particular theoretical stance (Grix, 2002).

Initially, I was interested in determining the impact of Twitter on professional learning and if it produced changes in practice. However, through reading the literature (Bloomer & Hodkinson, 2000) I became aware of the longitudinal and time-consuming investigation needed to identify transformational learning outcomes. Also I was mindful of the problematic nature of determining and measuring informal professional learning (Eraut, 1994). To suit the context of this study, I adopted an approach that would provide a snapshot of participants' activities and experiences of using Twitter for learning within a particular period of time.

According to Dowling & Brown (2010) there is there is “no such thing as ‘the case study approach’ other than as constituted by the curricularising of research methods” (Dowling & Brown, 2010, p. p170). Indeed criticisms relating to rigour are acknowledged (Buchanan, 2012; Yin, 2014) but through well-planned design and systematic procedures, the case study approach can be strengthened. Buchanan (2012) believes case study is pre-research generating ideas for further research and he identifies growing confidence in the case study approach.

To ensure a well-judged approach I explored several research designs, including ethnography and digital ethnography, also referred to as online ethnography (Bredl, Hünninger, Jensen, & Linaa, 2014). Ito et al. (2008) used ethnography to study how social media was meaningful to young peoples' lives, employing multiple methods of data collection over a three-year period, to gain a broad-based cultural understanding of this context. Ethnographic researchers advocated lengthier studies involving a “waiting field” (Mannay & Morgan, 2014), but my research focussed on individual participants' use of Twitter at a point in time, so an ethnographic approach was unsuitable.

Richmond's (2014) digital ethnography approach employed a single data collection method gathering data from online discussion forum postings on LinkedIn. This approach enabled investigation of the social interactions and

peer-to-peer learning among professionals contributing to LinkedIn discussion forums. Here, the researchers observed the participants rather than interacting with them, which achieved limited insights (Highfield, 2014).

Other ethnographical investigations concerning Twitter have relied on computer assisted data collection approaches (Bruns & Stieglitz, 2014). However, I needed a mix of methods to answer my research questions (Highfield, 2014), which is the approach that Giglietto, Rossi, and Bennato (2014) argue for.

Skyring's (2013) study explored Twitter for professional learning among five hundred educators. Her findings were based on a large-scale analysis of Twitter networks, highlighting some drawbacks of using Twitter for learning. My purpose was to understand how and why participants were using (or not using) Twitter for professional learning purposes and to gain an "understanding of possibilities' and of 'what the problem might be'" (Biesta, 2007, p. 16). Therefore, I decided that a case study approach would promote a holistic understanding of individual professionals' use of Twitter for learning within a snapshot in time and enable analysis across cases. Exploring negative cases (Robson, 2011) and not just those who had a positive disposition towards using Twitter would provide a more nuanced understanding of participants' use of the SNS.

4.3.2 Strength of the case study approach

Yin (2014) and Robson (2011) have noted that case study design is particularly suited to exploratory studies and to research that asks 'how' and 'why' questions. While I was uncertain of the outcomes of this research, I still expected to find meaning in the data. Therefore, I chose the case study approach, as it allowed for the in-depth study of phenomena in a fluid and iterative sense (Dowling & Brown, 2010) and to spot interesting insights (Buchanan, 2012). 'Many voices' provide 'many meanings' (Buchanan, 2012, p. 364), which suggests that individuals might possess innately different understandings of phenomena. I wanted to exemplify individual cases (Robson, 2011) and then draw a set of conclusions (Yin, 2014) by comparing participant accounts and activities to identify similar patterns (Miles, Huberman, & Saldana, 2014). "The unit of analysis, not the topic of investigation, characterises case study" (Merriam, 2002,

p. 8); thus each participant of this study was initially regarded as a unit of analysis to enable cross-case analysis (Yin, 2014).

4.4 Researcher perspectives

“The perspectives we bring to our endeavours are important because they shape both what we perceive and what we do” (Wenger, 1998, p. 225). In much qualitative research, data are collected through subjective accounts and perceptions (Robson, 2011) to explain how the world is experienced and constructed by individuals. Etherington declares that “knowledge can only be partial” (Etherington, 2004, p. 27) and that an understanding of the world is only ever founded on knowledge available at any given point in time.

4.4.1 Social constructivist and interpretivist research

Within social constructivist perspectives, negotiating meaning and creating knowledge is a human act that happens through connections and activities with others (Wenger, 1998). I seek meaning through interpretation while also questioning my actions as I interpret the data (Nixon, 2014). I describe my research as interpretivist and social constructivist; within this interpretivist epistemological position I believe that “meaning is not discovered but constructed” (Crotty, 1998, p. 9). I acknowledge there are no valid or true interpretations and as different people may construct different meanings in different ways, even in relation to the same phenomenon (Crotty, 1998; Robson, 2011). To this end I deem that it is best to consider knowledge to be complex and socially constructed. By inquiring into participants' activities, enablers, and barriers in using Twitter, and through creating individual accounts, I will acquire multiple perspectives of the phenomena, allowing for a broader understanding. Epistemologically, as a researcher I am immersed in the research setting as I participate in the act of enquiry of “being with” the participants to generate meaning with them (Krauss, 2005). Similar to Roche (2011) I recognise that I value people as being equal to me while also being distinctive as individuals. I regard knowledge as being constructed in conjunction with others in a lived experience of participation (Wenger, 1998) and through dynamic, on-going processes

(Crotty, 1998). This position inspired a participatory approach to research, so I selected methods geared towards planning and conducting the research process with participants whose “life-world” (Bergold & Thomas, 2012, p. 1) and meaningful actions were under study. Therefore including the research participants in the process of interpretation is the means by which reality is constructed (Robson, 2011).

4.4.2 Taking a critical approach

As an academic developer I hold a responsibility to investigate how this research can help those who are being researched (Denscombe, 2010). Critical theory urges the critique and challenge of phenomena, methods, and data to transform and empower research participants (Merriam, 2009). In addition to understanding the phenomena under exploration, I am also seeking to provide recommendations for future professional practice (Carr & Kemmis, 1986) and suggest further “possible lines of action” (Biesta, 2007, p. 16).

Biesta (2007) critiques the contemporary tendency to regard education as a scientific and measurable enterprise, and learning technology is critiqued as frustrating for the politically inclined (Selwyn & Facer, 2013). Selwyn and Facer (ibid) relate their critiques to educational technology research in schools asserting that “much of the political, cultural and economic critique implicit in this research is lost in favour of simplified calls to appropriate digital culture tools to engage recalcitrant youth in unchanged and unchallenged educational goals” (Selwyn & Facer, 2013, p. 2). In taking a critical approach, I endeavour to be aware of the broader political, economic, social, cultural, and historical contexts that underpin the phenomenon of research and influence participants of this study (Selwyn, 2012).

Critical theory requires that I become aware of the values that compel my inquiry (Whitehead & McNiff, 2010) into how this particular research might enhance educational practices. I believe that values of respect, compassion, authenticity, integrity, and openness are integral to this approach (ibid) and I wanted to be consciously aware that I practiced these values within this research journey.

Indeed Nixon notes, “All understanding necessarily involves an element of self-understanding” (Nixon, 2014, p. 2). Within a critical theory approach it is important that practitioners understand themselves at a deep level and make their assumptions explicit in order to go beyond and learn from them (Etherington, 2004). Therefore, it is essential to sustain critical reflective practice (Whitehead & McNiff, 2010; Yin, 2014) to ensure the best research processes and practices are in place (Biesta, 2007). This ensures that I sustain a flexible approach to research processes (Robson, 2011), to answer the research questions in the best way possible. Through reflective journaling and memoing (Charmaz, 2006) I engaged in an honest critique of my practices as a researcher, identifying strengths as well as areas that needed improvement.

While I acknowledge that there are other theoretical perspectives in approaching research concerning learning and technology, I have chosen an interpretivist and social constructivist approach. However as I seek to make recommendations and enhancements to the professional practice of those working in HE, I endeavour to be critically reflective in my collection, analysis, and interpretations of the data.

4.5 Selection of participants

As an academic developer I previously taught on a Masters in Applied eLearning⁸ programme and encouraged students to use SNS to extend the learning environment beyond the classroom. I observed that alumni of the programme continued to use SNS following graduation. My curiosity was piqued and I saw an opportunity for further exploration of SNS with these graduates. However, Dowling and Brown (2010) argue that opportunity sampling should not be branded as ‘case study,’ nonetheless I had identified a suitable prospect for further investigation and sided with Buchanan’s (2012) advice that case study can be “self-selecting, emerging from opportunities and evidence” (Buchanan, p. 361). First, I wanted to ascertain if alumni of the Masters programme would participate in the study. I extended invitations to participate in the research to all graduates of the program via email in February 2014, and I included information about the

⁸ This Level 9 accredited Masters programme was aimed at HE professionals to enhance their learning and teaching practices and use of technology therein.

research. Within the email I asked them for approval to view their online social networking profiles⁹ for the purposes of this study. Twenty-eight graduates responded positively to my request, and of that group eighteen respondents worked in HE as lecturers or in teaching support roles.

I carried out some preliminary explorations of their social networking profiles, noting points of interest that signalled areas for further exploration. During this time I expanded my reading of literature into social networking use within HE (Costa, 2013; Fransman, 2013; Lupton, 2014; Veletsianos, 2012; Weller, 2011).

When developing the research proposal I conducted exploratory conversations with two potential participants. The conversations were structured around topics that I identified when investigating the social networking profiles, but mainly I wanted to know how and why they were using SNS. I made notes during conversations and both contributors mentioned using Twitter as a means for informal professional learning about teaching practice. This initial investigation deepened my interest in exploring how HE professionals use Twitter for learning.

I decided that eighteen participants would provide an excessive volume of data for the research. Based on feedback from the research proposal review panel, I decided to purposefully select (Denscombe, 2010) HE professionals using Twitter, which reduced the number to nine suitable participants.

The following criteria were used to select participants for this research. Each participant needed to be:

1. An alumnus of the Masters in Applied eLearning programme,
2. Working in the HE sector, and
3. A Twitter user

⁹ Social networking profiles are a description of individuals' characteristics that identify them on social media platforms such as Twitter, LinkedIn, and Facebook.



Figure 6 - Respondents suitable for participation in the research

I acknowledge that this sample of participants is small, so my findings may not be generalisable to other contexts. However I aimed to work with this small cohort first with the option of expanding my sample should I have needed additional data to enable deeper understanding.

4.6 Data Collection

The aim of this research was to better understand the activities of HE professionals on the SNS Twitter, explore if these activities support professional learning, and investigate any barriers or enablers experienced by professionals. The formal data collection phase commenced in June 2014, beginning with the collection of Twitter data followed by interviews in Autumn/Winter 2014. Table 1 shows the schedule of activities including data collection and analysis.

Table 1 - Schedule of research activities

Dates	Research Activity	Details
March 2014	Exploratory conversations	Two preliminary conversations about the use of SNS for professional purposes
June 2014	Research proposal approved	Panel advised to tighten research focus to one SNS. Twitter was chosen as focus.
June 2014	Collection of Twitter data from individual participants and conference backchannel	Used TAGSExplorer software tool to collect Twitter data
July 2014	Analysis of Twitter data (Appendix 2 - Twitter codes)	Using Veletsianos' (2012) categories
Sept 2014 – Jan 2015	Interviews with participants	Interviews recorded, transcribed
Oct 2014 – Feb 2015	Interview analysis on-going	Coded thematically (Braun & Clarke, 2006)
March 2015	Creation of case descriptions (Buchanan, 2012) of participants (Appendix 6a - Case descriptions – Ben: Resident participant)	Interpretations derived from Twitter data, interview data and reflective memos incorporated into case descriptions
April 2015	Participants approved case descriptions	Each participant emailed individual copy of their case description for approval and comments
June 2015	Created case display table (Miles, Huberman, & Saldana, 2014) for cross-case analysis (Appendix 7 - Case ordered display tables)	To highlight similarities and differences (cross-case analysis) between participants' case descriptions with a view of generating findings
Autumn 2015	Visitor-Resident typology mapped to cases	Types arose from cross-case analysis phase, participants ordered into groups

4.6.1 Twitter Data Collection

To answer my first research question, '*What are the activities of HE professionals using the SNS Twitter?*' I began to collect and analyse tweets of participants.

Taking Veletsianos' (2012) study as a methodological guide, I downloaded one hundred tweets per participant and limited my collection period to the month of May 2014. For participants who did not post one hundred tweets in that time, I extended the timeframe retrospectively to collect more tweets. I collected participant Twitter data using Hawskey's (2013) Twitter Archiving Google Spread sheets (TAGSExplorer version 5.110).

I also used TAGSExplorer to harvest data from the Twitterstream of an educational technology conference. As I collected Twitter participant data in May 2014, I realised that the conference would occur within the data collection time frame. Five of eight research participants attended the conference, and I thought that data from the conference could be useful. I downloaded 1,809 tweets from the conference backchannel and limited the data collection (Bruns & Stieglitz, 2014) to a period of five day days, including the conference dates.

Collecting Twitter data provided answers to the first research question, but I needed to understand how participant activities on Twitter were affecting professional learning. To answer research questions two and three, it was important to get more in-depth details through interviews.

4.6.2 Interviews

Early on in the research process I considered seeking answers through surveys but preliminary exploratory conversations with participants confirmed that I would gain rich data through interviews. The interview data could be sewn together to tell a story of the phenomena in question (Schostak, 2006). After the analysis of the Twitter data I developed a schedule of topics to guide the interviews. I kept in mind Stewart, Shamdasani, and Rook's (2007) recommendation to avoid including too many questions and created a schedule

¹⁰ TAGSExplorer is an application-programming interface (API) that collects data from Twitter. It downloads, organises Twitter data in bulk using a readable format. This software is free for educational use and developed by Hawskey (2013).

of topics to guide the interviews using subtle indirect approaches to questioning. The semi-structured interviews enabled me to answer the second and third research questions.

Interviews were arranged and scheduled to last between thirty and forty minutes in face-to-face settings, which I felt enabled a better rapport between the interviewer and participant than online or phone interviews. I also wanted to allow flexibility for unanticipated information to arise from the participants. At the start of the interviews I reminded participants of the purpose of the research and I was aware that the participants might have different perceptions about professional learning. Prior to the interview I asked them to think about their understanding of professional learning, which was the first topic of conversation in the interviews.

During the interviews participants were given the coded details of their Twitter activities and asked how these activities related to their professional learning. At the end of the interviews I asked if there was anything outstanding that they wanted to mention about Twitter or professional learning. One participant (Paul) asked me about the research findings, which opened up further dialogue and reflection on his use of Twitter for learning, providing insightful and meaningful data for research question three.

I was mindful of Schostak's (2006) warnings against perceiving the interview as a simple tool and that perspectives and understanding of the interviewer and interviewee may differ. "It is as much about seeing a world—mine, yours, ours, theirs—as about hearing accounts, opinions, arguments, reasons, declarations: words with views into different worlds" (Schostak, 2006, p. 1). At times I disagreed with interviewees' viewpoints and I noted my disputes after each interview in reflective memos. I wrote about my prejudices and attitudes towards responses of participants and reconsidered my biases and my values as a researcher. Also I made note of what worked well and what could be improved for subsequent interviews while also taking account of interesting points that I could address with subsequent participants. I felt that this approach resulted in

the interviews becoming more focussed while also allowing flexibility for participants to share experiences and thoughts openly.

Interviews took place in Autumn–Winter 2014/15; however, one participant became unavailable for interview during that period and excluded from the study. Thus my sample was reduced to eight participants. I recognised that this could represent a challenge in this small-scale study, but I decided to see what themes and findings emerged from the data, and if insufficient I would gather further data. However, after data analysis I had sufficient data to produce credible research findings.

4.6.3 Memoing researcher reflections

"Memos catch your thoughts, capture the comparisons and connections you make, and crystallize questions and directions you want to pursue" (Charmaz, 2006, p. 72). During the data collection and analysis I noted thoughts and feelings in memos helping me come to deeper understanding of incidents during the research. Etherington (2004) emphasises that we need to acknowledge who we are in coming to the research; similarly, Wenger (1998) stresses that our attention is drawn towards what we expect to see and "we hear what we can place in our understanding" (Wenger, 1998, p. 8). Therefore it was important that I become reflexive and mindful of who I was coming to the research.

I was the former tutor of these graduates and at some points in the research I became aware that I was judging certain participant opinions. I noted tensions, insights, and contradictions in my own thoughts and ideas. This made me aware of my personal responses, helped me make choices and better judgements, and enabled deeper interpretations (Buchanan, 2012).

4.7 Ethical considerations

Interpretive research is value laden (Dowling & Brown, 2010) and requires ethical principles that safeguard participants, particularly when carried out in the context of professional practice (Lee, 2009). Wellington (2000) warns against research that is ethically flawed in its design, methods, data analysis, presentation, or conclusions. The British Education Research Association (2011)

ethical guidelines note that it is the responsibility of the researcher to protect participants from harm and to keep participants fully informed about the procedures and the purpose of the research.

Like Bergold & Thomas (2012) I believed that a 'safe space' was necessary to assure participants that their statements would not be used against them. Also if participants expressed disruptive or dissenting opinions I wanted to ensure that these perspectives would be accepted and respected. I provided participants with their case descriptions (Appendix 6a - Case descriptions – Ben: Resident participant) so that they could confirm and approve my interpretations as part of the participatory process.

Researchers are encouraged to follow the principle of "do no harm" (McNiff, 2010, p. 90) and to think ethically (Norton, 2009). Malone (2003) described herself as naive about the ethical challenges faced as an insider researcher. She experienced having heightened intimacy with participants, which helped her obtain richer data for her research, but highlighted the increased risk to participants. I was conscious of participant perceptions of me and my relationship to each participant, which had previously been a lecturer-student relationship. While I accepted that my role had changed, these participants and former students identified me with the role of their lecturer. My relationship with participants had characteristics of an insider researcher (Dwyer & Buckle, 2009), so I needed to be mindful of the power dynamic between participant and researcher at all times.

Brydon-Miller (2009) advocates a covenantal model of ethics, which develops caring relationships and respect for people's knowledge and experience, and requires constant reflection during the research process. I adopted this model of ethics to ensure that participants would not suffer disadvantages as the research progressed.

4.7.1 Research ethics and the Internet

Gathering research data from the Internet may be one of the most important challenges to ethics in modern research (boyd & Crawford, 2012). Internet users

are constantly generating data, particularly through SNS, and this data can be manipulated in many ways for countless reasons. According to Twitter's terms of service¹¹ individuals continue to retain ownership of the content of tweets; nonetheless, Twitter and other data analytic agencies can use this data for additional means. Despite the fact that I could freely acquire and analyse Twitter data for research purposes, I asked my participants for informed consent to respect their rights and continue to foster trusting relationships with them. Additionally the Association of Internet Researchers (AOIR) advises "ethical decision-making is best approached through the application of practical judgment attentive to the specific context" (Markham & Buchanan, 2012), a perspective underpinning the ethics of this research. I desired to ensure, to the greatest extent possible, that participants would be kept safe during this research, so I applied the following actions to my research activities: reflecting on ethical guidelines, engaging a continually reflexive approach, and designing a rigorous methodology to support an ethical and critical approach.

4.7.2 Responsibility to the participants

Zeni (2009) urges researchers to think about the responsibility and accountability they have towards stakeholders of research. Recognising responsibility to research participants I received formal ethical approval in 2014 from the Institute of Education (University College London) for this research. I ensured that participants were fully informed (Appendix 1 - Participant information and consent) and allowing the participants to approve their case descriptions was part of the ethical and participative process.

4.7.3 Formal consent

I provided participants with a detailed information sheet and consent form (Appendix 1 - Participant information and consent) outlining the purpose of the research and how it would be conducted so they could make an informed decision about participation and involvement (Lee, 2009). I provided details and

¹¹ "What's yours is yours – you own your Content (and your photos are part of that Content). Such additional uses by Twitter, or other companies, organizations or individuals who partner with Twitter, may be made with no compensation paid to you with respect to the Content that you submit, post, transmit or otherwise make available through the Services." (Twitter, Terms of Service, accessed October 2014, <https://twitter.com/tos>)

assurance regarding the purpose of this research study, how I planned to collect and use the data, how the confidentiality of participants would be respected, and that participants could opt out at any time. To ensure that participants had adequate time to make informed decisions (Lee, 2009), I provided these documents some weeks before asking them for their response concerning participation.

I wanted to foster a relationship of honesty and openness between myself as a researcher and the participants of the research (Wellington, 2000). The participant consent form (Appendix 1 - Participant information and consent) outlined the principles of participation, which included the following:

- conditional participation (participants needed to meet the selection criteria for the study),
- informed consent,
- the right of participants to opt out at any stage, and
- anonymity and confidentiality.

4.7.4 Power relationships

Biesta (2007) urges us to be aware of the educational effects of our actions and reminds us to be cognisant of the longer-term consequences of research when designing a research project. As I was previously their lecturer, I was mindful that this former relationship of power might coerce graduates into complying with participation requests (Greenbank, 2007) as they might feel they did not have the power of refusal (Vincent & Warren, 2001).

On the other hand, I wanted to create a psychologically safe space for research and learning (Fairweather & Crammond, 2010). I prioritised being an approachable researcher and I considered my relationship with the participants to be harmonious, which I hoped would encourage them to choose participation or non-participation openly and freely. However, this positive relationship might have prejudiced interviews in that participants may have provided data to please me as their former lecturer. Malone (2003) discusses the benefits and dilemmas

of the heightened sense of intimacy that researchers can achieve through trusting relationships. I endeavoured to guard against bias in answers in the interviews by encouraging participants to think critically about enablers and barriers and asking for further comments about using Twitter for learning. Participants were also reminded that this research was for the potential benefit of future professional learners, which might have inspired sincerity in their responses.

4.7.5 Anonymity and confidentiality

Malone (2003) claims that anonymity and confidentiality of participants is a myth in small-scale research. I created pseudonyms for participants and tried to minimise personal identifiable information about them in creating individual case descriptions but acknowledged that individual participants could be potentially recognisable within the relatively small context of HE in Ireland. While I anonymised the Twitter data of names and identifiable references, since the data from Twitter was publicly accessible, the data would be searchable on the Internet, making participants easily re-identifiable (Ohm, 2009). This highlighted that potential harm can only be understood inductively through the process of the research (Markham & Buchanan, 2012). Indeed in using the data from the Twitter backchannel it became apparent that participants might be identified through association with other tweeters on the backchannel. This highlights complexities of privacy for those who place data in public online contexts such as Twitter where “definitions and expectations of privacy are ambiguous, contested, and changing” (Markham & Buchanan, 2012, p.6).

While I became aware of anonymity issues for all tweeters on the backchannel, my primary ethical responsibility lay with my research participants. To evoke awareness and safeguard participants I emailed details of the risk (Appendix 5 - Participant confirmation of case descriptions) of being recognised from the text of tweets with the case descriptions, highlighting potential negative implications to anonymity (Appendix 5 - Participant confirmation of case descriptions). Despite this caution, only one participant requested changes to the case description (these minor text changes did not impact the findings of the

research) but other participants were satisfied with my interpretations and were not concerned with risks to anonymity.

4.8 Ensuring accountability and transparency of bias

Krauss (2005) asserts that all research is essentially biased by each researcher's individual perceptions as we make judgments based on what we value or judge to be of better practice (Greenbank, 2007). Therefore, researchers adopting an interpretivist approach require considerable self-awareness and a disposition to self-monitor, often supported by methods enabling cross-checking with other evidence to offset bias (Robson, 2011). Due to the close relationship of the researcher and participants in qualitative research, researchers are encouraged to explicitly record reflections and biases in the research report (Robson, 2011). As mentioned previously, reflective memoing (Charmaz, 2006) acted as a means to acknowledge and describe my thoughts during the process, analyse my biases, recognise inter-subjectivity within the research process, and generate findings that would be suitably representative of the activities of the research participants.

Availing of critical friends (Whitehead & McNiff, 2010) is important to offset research bias, and I presented my rationale for this research, my research design, and preliminary findings to professional colleagues at educational research conferences and to my supervisors. More recently I posted blogs about my research processes and findings, which initiated conversations about the research in process. Critical feedback from these sources challenged my assumptions and interpretations, and I subsequently reconsidered and reformulated my findings. Additionally, participants commented on and approved their individual case descriptions, promoting authenticity and accuracy.

4.8.1 Storing information and data

Digital data is accessible and the storage of data is sensitive (Dowling & Brown, 2010); thus I was mindful to store the data on a password-protected computer, to which I alone had access, and performed backups of data on a regular basis.

4.9 Limitations, reliability, and validity

Brannick and Coghlan (2007) urge researchers to become aware of the strengths and limitations of their research through methodological and epistemic reflexivity. Similarly, researchers are urged to integrate processes to ensure trustworthiness during the study (Morse, Barrett, Mayan, Olson, & Spiers, 2002) and to critically discuss their perceptions of trustworthiness in order to establish reliable findings (Golafshani, 2003).

This connects back to the epistemological and ontological beliefs underpinning the research approach. If knowledge is constructed through activities engaged within social contexts, then the nature of knowledge evolves through engagement and interpretation of experiences and contexts. Since the participants' activities on Twitter might have developed and Twitter's technology constantly progresses and changes, thus findings may only be relevant and accurate to that period in time. For these reasons, my research might face limitations and a lack of generalisability.

4.9.1 Small-scale research

This research explored how eight participants used Twitter for professional learning. This small research population challenges the wider validity of the research and the scope of the generalisations themselves are limited. Participant activities on Twitter and opinions of how and why they use Twitter might evolve over time. Despite limitations of small-scale research, Yin (2014) supports the creation of contextualised knowledge through case study as a means to generate greater understanding of the phenomena. Recently other researchers in this area (Lupton, 2014; Veletsianos, 2012) have called for in-depth qualitative research; consequently, this small-scale research approach is worthwhile and valuable, contributing to research-informed discourse in this area.

4.9.2 Limitations with Internet data

Since technology is prone to errors and information can disappear frequently (Jürgens, 2012) I downloaded tweets. Jürgens (ibid) advises that human interpretation is needed to analyse data to develop insights; it was for this reason that I coded tweets manually rather than using automated social media analysis

tools. Also I did not rely solely on Twitter data, but used interview data to buttress and deepen findings. By providing the participants with coded tweets of activities, I endeavoured to gain richer understanding of participants' use of Twitter for professional learning.

4.10 Data analysis

The analysis was conducted in phases (Table 1). The individuals' Twitter activities were analysed first, then the conference tweets. Themes from the analysis of the Twitter data influenced the schedule of topics for the subsequent interviews. During these processes I wrote reflective memos. By triangulating the data (Yin, 2014) with other sources (Twitter data, interviews, memos) I wanted to offset threats to validity in the interpretations (Robson, 2011). By documenting the research process, I desired to give other researchers insight into the processes of research.

4.11 Twitter analysis

Data analysis was initiated with an investigation of Twitter accounts of individual participants in this study. While I downloaded one hundred tweets per participant, I limited the initial analysis to fifty tweets per participant. In Chapter Two I referred to Veletsianos' (2012) seven types of Twitter activity; to accelerate the initial coding phase, these were used as a priori codes to focus my investigation of the tweets while I also noted other activities or behaviours arising outside of these seven categories. Appendix 2 - Twitter codes provides an overview of Twitter analysis.

Coding each tweet made time to read tweets, observe conversations on Twitter, and reflect on what was happening for participants on Twitter. I decided to code manually as using an automated system for analysis might cause me to miss out on the activity or sentiment expressed within the individual tweets (Highfield, 2014). During this analysis I looked out for the activities, feelings, opinions, thoughts, and conversations of participants as I coded. While using a priori codes was a useful start to coding, some of Veletsianos' (2012) codes proved ineffective

in characterising the data; thus I generated other relevant codes (Appendix 2 - Twitter codes).

4.11.1 Data checking

After coding fifty tweets per participant I checked if I had reached saturation point and to clarify if I needed to code further tweets from all participants to capture more data. For this I expanded my Twitter sample to one hundred tweets for two participants (Karen and Ben) to assess whether similar or different activities were presented in these tweets. In this extended data-checking procedure, no extraordinary activities were observed; hence the sample of fifty tweets per participant was sufficient (Appendix 3 - Checking Twitter codes).

4.11.2 Conference backchannel tweets

Since the conference coincided with the time period that I collected participant Twitter data, I felt that that data from the conference backchannel could prove interesting and useful. I explored 1,809 tweets collected from the conference, taking note of activities and points of interest. This brought up interesting insights¹² and I used a Microsoft Excel table to code each Tweet from the backchannel, Appendix Four shows Twitter activities at the conference¹³. From this data I noted that five of eight participants attended the conference, so I paid particular attention to their tweets within the conference Twitterstream.

4.12 Interview analysis

Interviews were recorded on a digital dictaphone and transcribed by a professional transcription service with which I established a contract of confidentiality. While waiting for the transcriptions I listened to the interviews again, making memos which helped familiarisation with the data and assisted reflection, helping refine questions and topics for subsequent interviews. When I received the transcriptions I listened to the recordings while reading the transcribed text to ensure accuracy of transcriptions. I then imported each of the

¹² Analysis of the Twitter backchannel resulted in a paper presentation at a conference (O'Keeffe, 2015).

¹³ Data from the Twitter backchannel contributed to increasing complexities and problems with anonymity of internet data, discussed in sections 4.7.1 and 4.7.5.

transcriptions into qualitative data analysis software (NVivo) to code the interviews.

I used thematic analysis (Robson, 2011) to analyse the interview data, choosing Braun & Clarke's (2006) six-phase guide to help look for themes in a systematic way. Firstly I familiarised myself with the data, then generated initial codes, searched for themes, reviewed themes, defined and named themes, and lastly produced the report (Braun & Clarke, 2006). When I finished coding interviews, I returned to my memos about the interview data. I reviewed, defined, and created thematic categories then wrote a summary of each case (Miles, Huberman, & Saldana, 2014) to produce thematic case descriptions (Buchanan, 2012).

4.13 Case descriptions

The case description is the “base document from which analyses, selective descriptions, explanations, and new theories can be mined” (Buchanan, 2012, p. 362). Indeed, themes gain “significance when they are linked to form a coordinated picture or an explanatory model” (Bazeley, 2009, p. 9).

For each participant, a case description was produced by triangulating themes from the data sources (Twitter data, interviews, and researcher reflections) into a coherent interpretation for each participant. At this point I acknowledged that themes in the case description of one participant (Karen) were weak. While this participant described her use of Twitter she did not provide significant information on barriers or enablers. While she was asked the same questions as other interviewees, as the researcher I was at fault for not probing more deeply. Thus her data did not add sufficiently to the study and she was subsequently excluded.

The case descriptions held my interpretations of the data, so to offset bias and support the reliability of the interpretations, I provided each participant with their case description for their comment and approval. One participant requested that some wording be changed on her case description; this did not have implications for findings. All other participants approved the case descriptions.

Due to space constraints, case descriptions of two participants are provided in Appendix 6a and 6b.

4.13.1 Comparing case descriptions

Next I created a case display table (Appendix 7 - Case ordered display tables) summarising the central themes arising from each case description (Miles, Huberman, & Saldana, 2014). The case display table enabled identification of similar themes among cases. As distinct thematic similarities became apparent, I organised case descriptions into groups, linking cases with similar themes together (Khan & VanWynsberghe, 2008). Cross case analysis served to deepen understanding and explanation (Miles, Huberman, & Saldana, 2014).

I labelled the groups of cases using the Visitor-Resident typology (2011). This typology corresponding with concepts underpinning this study was a means to visualise the various modes of online participation among the individual cases. Thus the terms *Visitor* and *Resident* were used to describe and categorise participants' activities on Twitter in this study, helping cross-case analysis by demonstrating differences and similarities in how they used Twitter for professional learning.

4.14 Conclusion

This chapter has outlined the research approach for this study. I discussed my theoretical perspectives as a researcher within which I justified a case study approach for this research. I described my ethic of continuous reflection in relation to this research, to help combat what Lee (2005) regards as adherence to ethics as a methodological procedure. The data analysis process involved creating case descriptions for each participant through triangulating Twitter data, interviews and researcher reflections. The following chapter presents the main themes from each group of participants using the Visitor- Resident typology.

Chapter 5 Presentation and analysis of the data

5.1 Introduction

The previous chapter described the research approach, data collection, and analysis. This chapter presents the main themes arising from the cases which were grouped together according to similarities of participation using the Visitor-Resident typology (White & Le Cornu, 2011).

5.1.1 Mapping the cases to the Visitor and Resident continuum

Cases that demonstrated an absence of presence (Rourke, Anderson, Garrison, & Archer, 2001) and participation on Twitter were matched to Visitor attributes (White & Le Cornu, 2011). Those displaying higher levels of presence and participation on Twitter were matched to Resident attributes. Figure Seven demonstrates the position of each participant on the Visitor-Resident continuum.

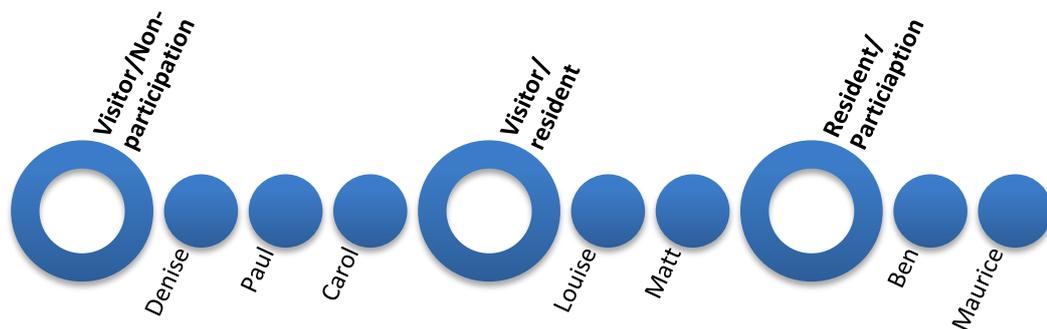


Figure 7 - Participant cases mapped to the Visitor-Resident continuum

The mapping process enabled cross-case analysis of themes, which highlighted the existence of three types of participant. For the purposes of description and explanation of similar cases within this study, I labelled these types as (a) Visitor, (b) Visitor/Resident¹⁴, and (c) Resident, and I present themes from the cases under these types and highlight some critical insights about themes arising.

5.2 Presentation of themes of ‘*Visitor*’ participants

In this section I present an overview of data from Visitor participants. Table Two provides a description of each participant, their professional role, how they regard professional learning, how they use Twitter for learning, and indicates individual participant themes

¹⁴ The Visitor/Resident types showed some evidence of presence and participation on Twitter, but were not as participative as Residents.

Table 2.	Participant details
Visitor Participants	Background, professional role, themes.
Denise	<p>Denise had been a learning technologist for ten years. She learned from others with more expertise than herself in her discipline, asserting <i>“Those kind of undefined or ill-defined ways of interacting with colleagues who know a lot more than I do in an area and just watching what they do to understand the strategies they employ”</i>. Professional learning was important to her. Learning as a professional was social, and she participated in various face-to-face learning opportunities. The Twitter data showed that Denise had not posted on Twitter, indicating no social presence at the time of data collection. The interview data revealed she found Twitter useful but did not want to post because she was <i>“hypersensitive around putting thoughts and feelings online”</i>. Denise did not want to contribute or participate posts on Twitter now or in the future.</p> <p>Denise’s themes: gathering information, more knowledgeable others, confidence, cautiousness, lack of risk-taking</p>
Paul	<p>Paul was an accountancy lecturer for eight years. For him professional learning occurred in informal face-to-face contexts through conversation with other educators. Hearing examples of practice from other teaching professionals gave him opportunities to ask questions. <i>“Well I think literally as you’re listening...you’re automatically contextualising it in your brain because you’re listening and thinking how would I do that and then go back and you’d ask further questions...”</i></p> <p>He described networking with educators at conferences and learned about practice from those interactions. At conferences he felt like one of <i>“kindred spirits”</i>, and valued meeting others and hearing about practices. He felt equal to peers in face-to-face contexts. At conferences he picked up <i>“tips and tricks”</i>. <i>“You go to a conference or you go to some kind of other professional learning environment and suddenly everything is possible”</i>. He referred to these learning situations as casual and informal, equating them to <i>“water cooler”</i> conversations for sharing practice and knowledge. In face-to-face contexts he indicated he had fewer inhibitions about sharing his own practice.</p> <p>Although Paul deemed Twitter a useful place for keeping <i>“tabs on key people”</i> in education, he did not tweet, claiming: <i>“I’m not a tweeter.”</i></p> <p>Paul followed sixty <i>“pedagogical kind of people”</i>, saying their tweets inspired his thinking. However he said information from tweets did not influence or impact on his teaching practices.</p> <p>Paul’s themes: reading tweets, confidence in face-to-face, not ready online, lack of time</p>

Carol Carol, a learning technologist with ten years' experience, valued opportunities for learning to improve work practices and engaged in learning opportunities when necessary, stating "*Professional learning equates to job performance for me*" and "*The majority of my professional learning is ... kind of a just-in-time learning*". Professional learning assisted Carol in solving problems encountered with professional tasks.

Carol described learning from others, has occasionally sought assistance for eLearning-related technical issues by asking questions in online discussion forums. She used blogs and discussion forums; while she checks Twitter occasionally she rarely tweets. Despite this, she deemed Twitter useful to professional learning. She recognised that other professionals in HE engage with Twitter more often and said that she should make more use of Twitter for professional reasons. "*I don't use Twitter very much at all and I know I kind of feel I should but I don't...*"

Carol's themes: cautiousness, time-saving/lack of time, lack of risk-taking

5.2.1 Views on professional learning

All three participants indicated connecting with other professionals and social learning was essential to professional learning. However, during the timeframe of data collection, their Twitter data showed a lack of interaction with other professionals on Twitter. While Paul retweeted information on Twitter, thereby establishing an online social presence, he did not post information about practice or opinions. Interviews confirmed that Visitor participants preferred to read Twitter to keep up-to-date rather than participate in social networking activities. Reasons behind lack of online participation are outlined in the section “Factors hindering participation”.

Visitor participant activities on Twitter	Reading the Twitterstream	Reading conferenced backchannel	Posting tweets	RTing/resharing Tweets
Denise	✓	✓	✗	✗
Paul	✓ Finding out new stuff		✗ “Not ready”	✓
Carol	✓ Saves information for later	✓ Backchannel challenges understanding of conference topics	✗ ‘I would agonise about writing a tweet for too long’	✗

Table 3 - Visitor participants’ activities on Twitter

5.3 Information gathering from Twitter contributes to practice

Visitor participants primarily gathered information from Twitter, claiming this kept them up-to-date with various professional responsibilities. This seemed to be a banking approach (Freire, 1968) of acquiring and storing information from Twitter; nonetheless, it helped their professional knowledge and practices.

5.3.1 Paul: “finding out new stuff”

Paul’s interview revealed that he read tweets of educators who shared knowledge and liked being able to access information on education-related issues. He regarded Twitter as a means of discovering new information from reliable sources, which helped him to keep up-to-date.

Paul: ... with each hyperlink, it brings you deeper into a certain topic and then you get to know the connections in the topic. And then also you get a sense of the culture of the community that are promoting these topics.

Information and links shared via Twitter enabled him to connect with other sources of knowledge. He suggested that learning more about managing Twitter information could create a better learning experience for him.

Paul: I think if properly curated and intelligent, thought about, it can be a very, very deep learning source.

5.3.2 Denise: “an information finder”

Reading the Twitterstream helped Denise find resources from well-informed sources and organisations such as the JISC and the HEA.

Denise: I’ve definitely used it to sign up for things that are institutions like JISC or HEA that I should be, as a professional, interested in ... it’s the articles, resources, and links of the people that posted and that I’ve got, I should be on top of that, you know it’s like a kind of an information finder.

Denise had not developed a social presence on Twitter but found it helped meet her learning needs.

Denise: I mean I’ve seen the potential. I suppose has it got value for me right now? Yeah I mean I think yeah if it [Twitter] was taken away we’d miss it.

5.3.3 Carol: “time-saving techniques”

Carol used Twitter infrequently gathering technically related information.

Carol: I might get some job performance related ... for example the other day I did come across a tweet talking about time saving techniques with Articulate and it gave a whole list of short cut commands, for example, this came through Twitter.

She then stored this information for other occasions, where it could potentially influence workshop planning. Carol had experience asking technical questions within other online forums, but she did not use Twitter to communicate.

Carol: I would definitely check out the forums and so I'd use that as well ... more than Twitter but no, I don't generally ask questions on Twitter.

She did not regularly post tweets and her reasons for this are discussed in the section “Factors hindering participation”.

5.3.4 Tweets contribute to “a challenge to understanding”

Denise conveyed the benefits of the Twitter backchannel at conferences and thought it fascinating to see opinions of delegates when listening to presentations. The backchannel commentary verified or challenged her opinions on topics presented, helping expand her thinking.

It kind of reconfirmed what the important points were for things so I noticed those two different ways.

She claimed the backchannel clarified certain points being made by a keynote or a presenter:

Denise: That's a point that should have registered with myself as to being important.

While the backchannel helped Denise's understanding, she chose not to establish her social presence there.

Similarly Carol indicated that she read conference backchannel tweets and compared her thoughts and opinions to those expressed in the tweets of others.

***Carol:** It's more value to read the comments of people that were at the same conference as you and then you can kind of compare your experience.*

When reading the conference backchannel she checked her understanding against opinions of others to help her make sense of conference presentations. Carol said she disagreed with some tweets about a conference keynote presentation, but she did not post her opinion on the conference backchannel. Carol 'agonised' about posting tweets and this prevented her from tweeting opinions or questions despite her unique viewpoint.

Visitor participants endorsed Twitter as a means to access new information relating to their professional responsibilities. All three described how they read the Twitterstream; two saved information for potential use later. Denise prioritised using Twitter for keeping up-to-date and Paul found that while that Twitter had inspired his thinking, it had not influenced his teaching practices. Carol had incorporated new information from Twitter into practice by developing new workshops. Denise and Carol both discussed how conference backchannel tweets were useful in following conference proceedings. Tweets from other people helped confirm Denise's understanding and highlighted Carol's disagreement with other conference delegates even though she did not voice her opinion on Twitter.

5.4 Social presence and participation on Twitter

Denise described interacting with colleagues in face-to-face situations as valuable for learning but had not interacted with other educators on Twitter. However, she posted regularly in a closed Google Plus¹⁵ group sharing teaching and learning practices there.

***Denise:** If I look back on all of the posts that actually are online [Google Plus] like I'm contradicting myself, even in that little community, I've had the most posts within Google Plus.*

¹⁵ Google Plus is a social networking service, See Glossary for more.

She acknowledged that her posts within the closed Google community contrasted with her lack of presence on Twitter. She emphasised that she did not want to share her opinions or information publicly on Twitter.

Denise: I've kind of made a very conscious decision about ... particularly with Twitter not to Tweet.

Denise's reasons for not posting tweets are discussed further in the next section. Carol did not post on Twitter as she did not want to be available for professionally related discussion at unsuitable times and described tweeting as an agonising, time-consuming experience.

Paul's social presence on Twitter was minimal. He followed other educators and read Twitter but did not share information or contribute opinion or practices. He followed educators on Twitter who posted thought-provoking tweets about education but claimed he found their tweets theoretical and could not apply them to practice.

Paul: And maybe their stuff isn't as easy to apply. Though it probably does make you reflect a bit or you get a sense of what's going on.

Nevertheless Paul claimed that new information on educational topics via Twitter broadened his perspective.

Paul's comments revealed he liked reading others' tweets but had never participated in conversation with another educator on Twitter. He preferred to observe information-sharing among other tweeters.

Paul: It's in my nature, I like to kind of stand back and just observe (laughs) and, I don't know whether I'd have ... I wouldn't feel ready to have a ... but in a way having an opinion or something.

Paul claimed he did not 'feel ready' to assert opinions on educational matters or post opinions on Twitter.

Carol and Denise both participated in other online networks but preferred to observe and gather information from Twitter. Nonetheless Visitor participants claimed that their activities met their professional learning needs.

5.5 Factors hindering participation on Twitter

While Visitor participants believed Twitter was easy to access and beneficial to their professional learning needs they were uneasy in establishing social presence and participating. Certain reasons given in the interviews are evident in the literature (Marwick & boyd, 2010; Stewart, 2014; White & Le Cornu, 2011) and explain why these participants shied away from establishing social presence or becoming involved in social networking activities. The reasons that hindered participation socially on Twitter are described next.

5.5.1 Time

Carol thought Twitter provided easy access to new information but lacked the time to engage more fully. As a part-time worker, she managed her work-life balance to give sufficient attention to family responsibilities and worried that she could not respond to Twitter conversation in timely manner.

Carol: I needed to draw lines between the part-time work, I did not want to be up, say in the park, with the kids and on the phone ... I felt that Twitter, once you started the conversation, you kind of would feel you have to be responding so that you were always in 'on' and 'available'.

Carol referred to the professional benefits of Twitter but had not found suitable ways to integrate it into her work schedule.

Carol: I think I can see the value of Twitter. I see how engaged other people become with Twitter and they kind of built it into their workflow I suppose ... and it doesn't seem to distract them which it does for me...

Balancing work and home life while fulfilling a busy schedule within work hours prevented her from allocating time to Twitter, and thus time was a barrier to her participation.

Paul indicated that he had not spent time learning how to use Twitter to its utmost potential, thus preventing himself from using Twitter's features effectively.

Paul: I think sometimes it's quite difficult to understand. You know sometimes maybe you'd see a tweet and you see the responses to it, it's hard to realise what's linked to what. But that just might be my lack of knowledge ... I suppose if I was tweeting, for example, I'd know more about the functionality of it because I'd be tweeting and adding things and linking things...

If he spent more time using Twitter, he might understand its functionality and post tweets. Indeed McPherson, Budge, & Lemon's (2015) research highlighted that spending time using Twitter was essential in building confidence using it.

5.5.2 Vulnerability versus risk taking

Carol expressed concern that tweets could not be edited, leaving a permanent record online. She was anxious about expressing opinions and would potentially spend too much time composing tweets.

Carol: I hate not being able to edit tweets, I absolutely hate that, so that would certainly be a barrier in that I think I would agonise over tweets for too long before sending them.

Carol's anxiety revealed her feelings of vulnerability in the public online space. Indeed other research has noted the vulnerability and sensitivity that scholars feel in posting on Twitter (Stewart, 2015a).

Similarly Denise liked to read the conference backchannel but chose not to participate in online conversations, indicating her perception of risk in posting on the Twitter backchannel.

Denise: I don't have that bravery I suppose to ... if I was at the conference.

5.5.3 A critical incident prompts caution

The potential for negative criticism on Twitter concerned Denise. She was "hypersensitive" about being judged and emphasised twice in the interview that

she worried about other professionals negatively judging her comments in the online space.

She highlighted an incident where she sent an email to all staff within her university and subsequently received criticism from university peers. For her this was a stressful experience and consequently chose not to place her work or comments in the public eye. Denise acknowledged the importance of critique of academic and work practices, but felt that criticism could sometimes be delivered in unconstructive ways.

Additionally Denise described an event at a conference where a salesperson made a pitch to delegates. The sales pitch was badly received by the audience who posted negative comments to the conference backchannel:

Denise: It was just going so downhill, it really turned into a very destructive ... it ended up being a product pitch which seemed to irk a lot of people and people got ... people would rant ... that poor woman, to have seen Twitter at that point in time.

For Denise this was an example of the destructive power of Twitter, and she feared becoming the target of similar negativity and criticism. These incidents heightened Denise's cautiousness in using Twitter and her reluctance to risk self-exposure, which could potentially make her vulnerable to personal attacks. Negative experiences had affected Denise's capacity to trust other Twitter users. She was reluctant to make posts, tweet about her work, or comment on other people's posts. These incidents left her highly aware of the vulnerability of sharing in public online spaces and prevented her from voicing opinions and sharing practice on Twitter. boyd (2014) also explores such issues in writing about how to use social media constructively while limiting potential abuse.

5.5.4 Unknown audiences

Denise consciously decided not to post on Twitter, but posted and shared information in a closed Google group of colleagues with whom she had established relationships. Within this private community, she felt confident sharing her practice, knowledge, and opinions. She was cautious in sharing in online public spaces and due to the previously mentioned critical incidents her

power to align herself to the activities of a community (Wenger, 1998) and to negotiate belonging with others in the online space was lacking.

Denise: I'm not sure what it is about me that I'm not confident about it being massively open, the social media, but if I know who I'm talking to I'd be more confident about saying it, about Tweeting something...

Denise preferred to know her audience before voicing opinions or sharing practice. Indeed Stewart's research asserts "participation makes us visible to others who may not know us, and makes our opinions and perspectives visible to those who may know *us* but have never had to grapple with taking our opinions or positions seriously" (Stewart, 2014, para. 9). To this end Stewart urges further discussion and thinking about risks and benefits of online spaces.

5.5.5 Not ready yet

During the Paul became aware of his preference for conversing face-to-face rather than online with other professionals:

Paul: Why would I be very happy to share literally at the coffee machine and not so happy to share on Twitter?

He questioned his preference for face-to-face discussion with peers over online social networks. He felt comfortable having discussions in face-to-face settings but was not at ease sharing information publicly on Twitter. He liked to observe rather than contribute opinions or share information about professional practices but did not *'feel ready'* to post his opinions in Twitter.

He said relationships with other educators were important to professional learning and he fostered good relationships with others in face-to-face learning contexts but had not developed similar relationships with educators via Twitter. He felt unprepared to make posts online, and his lack of participation on Twitter prevented him from developing relationships and establishing belonging (Wenger, 1998) within professional communities online.

5.5.6 More knowledgeable others

Denise referred to more knowledgeable co-workers as “*colleagues who know a lot more*”. Wenger (1998) refers to power as a characteristic of participation in CoPs, and Eraut described confidence as a necessary factor for informal learning (Eraut, 2004). This raises questions about Denise’s power to use her voice among other professionals and her confidence in her professional knowledge. She claimed that other professionals were more knowledgeable, therefore choosing to observe rather than participate fully.

In face-to-face contexts, Paul felt affinity with peers and valued exchanging information and learning from them.

Paul: There’s no hierarchy in a sense ... Once you get into professional learning or CPD, as we’d call it in accounting, everybody’s kind of equal.

Paul felt that he was equal to other professionals in face-to-face situations but described himself as ‘*not ready*’ to cast his opinions onto Twitter; instead, he followed educators that he perceived as holding esteemed academic positions and viewed them as having a professionally higher status to himself.

Paul:... Because people I subscribe to are kind of fairly high up ...

He perceived a difference between himself and other educators, which suggests a knowledge and status hierarchy. He enjoyed reading ideas and opinions about education on Twitter but said he could not relate them to his practices, as they comprised of theoretical ideas. He chose to follow educators who posted on abstract aspects of education and he could not identify situations within his practice in which to apply this knowledge. This created a perceived hierarchy in which other educators on Twitter were more knowledgeable, and his negative picture of his position affected his participation (Wenger, 1998) on Twitter. However in face-to-face contexts, relationships were easier to establish, which enabled his participation.

Paul: I guess because you’ve a very one-to-one or you’ve a relationship with the people, you know they’re in the same class

or same group — whatever, where in Twitter you don't feel you have that personal relationship.

He did not feel that he had relationships with the other professionals on Twitter, which limited his participation. Consequently, Paul had not established a sense of belonging (Wenger, 1998) with other educators on Twitter contributing his position as an outsider rather than as a central participant.

5.6 Capacity to participate in social network activities

Paul felt that he could use the social networking features to greater potential. While he valued reading information about education on Twitter, he was not actively participating. On the other hand, Carol and Denise both made conscious decisions not to participate on the Twittersphere due to time, cautiousness, and vulnerability online. Despite this, Carol and Denise indicated that their mode of using Twitter met their professional needs at that point in time.

In general, Visitor participants showed little social presence on Twitter. They preferred to use Twitter as an online noticeboard to access a dynamic stream of information and indicating valid reasons for these preferences.

5.6.1 Conference backchannel participation: “Swingy Chairs”

Denise remarked on the content and nature of some of the conference backchannel tweets. She was surprised at people’s fascination about the room design and the triviality of tweets referring to ‘*swingy chairs*’.

Denise: People were tweeting about the room ... where the chairs, you could swing back on, people seemed to be fascinated by the setup of this room.

Further investigation of the conference backchannel found that the *swingy chair* tweets were part of a conversation among delegates. These trivial “icebreaking” tweets allowed delegates to establish social presence in light-hearted ways through social commentary and encouraged conversation on the backchannel.

Informal tweets leading to online socialisation

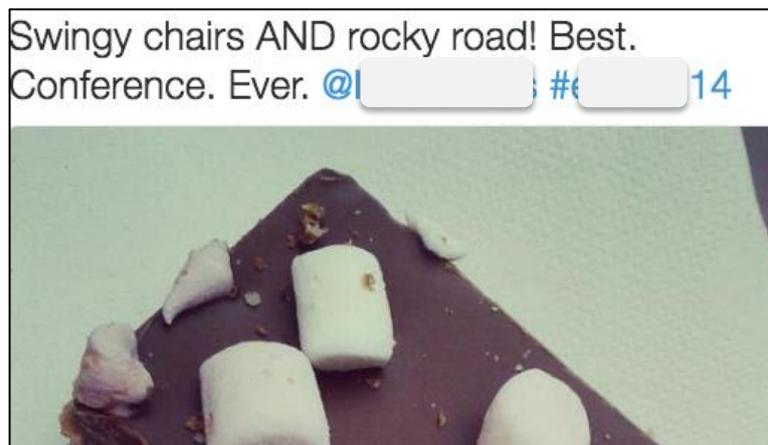
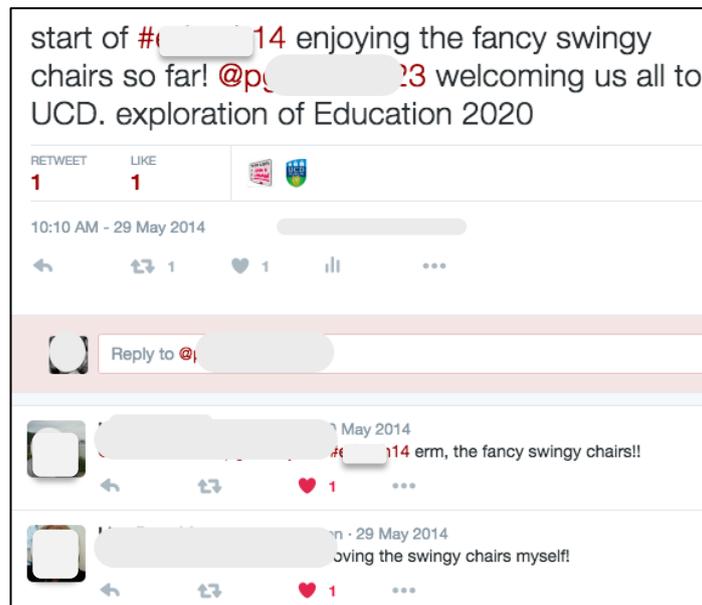


Figure 8 - Backchannel conference tweets

These seemingly inconsequential tweets promoted social presence and interaction on the backchannel, thus initiating participation and closeness (Rourke, Anderson, Garrison, & Archer, 2001) with others during the conference.

5.7 Reviewing the themes from Visitor participants

To summarise, these participants consider social learning with other professionals important, and one participant referred to face-to-face occasions where she learned from more experienced and knowledgeable professionals. Twitter was an easily accessible tool providing information that assisted updating

professional knowledge, and access to the conference backchannel challenged Denise and Carol's thinking. The Visitor participants preferred observing other educators' tweets rather than participating on Twitter through posting, retweeting, or engaging in conversations.

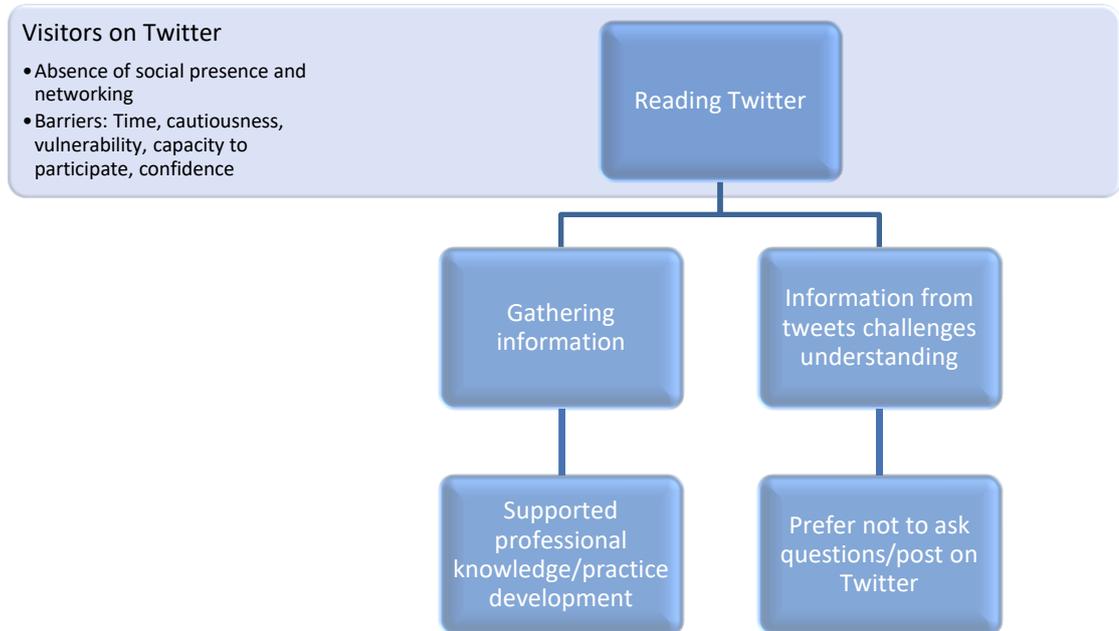


Figure 9 - Visitors' activities on Twitter.

Carol reported that lack of time prevented her from engaging in Twitter discussions. She was cautious in expressing opinions on Twitter because tweets were not editable. Denise found a deeper understanding of the topics through reading conference tweets, she did not want to take risks in voicing opinions and she feared the potential vulnerability of participating on Twitter.

Paul said that he was ‘*not ready*’ to post on Twitter and preferred to read the tweets of those he believed had greater expertise. Paul’s comments suggested that he did not feel affinity with others on Twitter due to a perceived hierarchy between himself and those whom he followed on Twitter. Paul had not developed relationships with people on Twitter, which prevented him from participating in communities online.

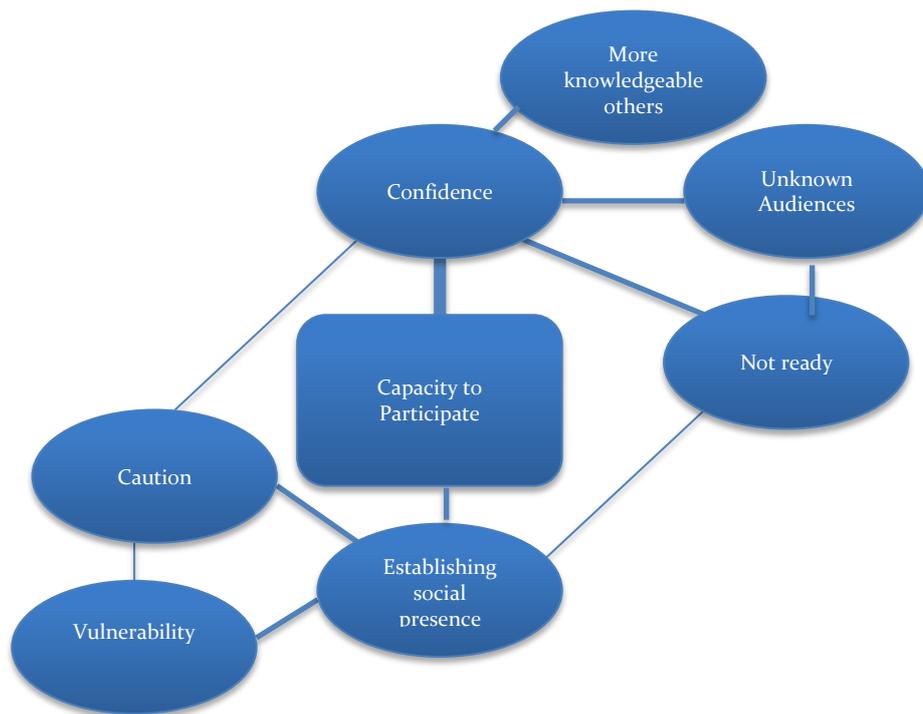


Figure 10 - Inhibiting factors for Visitor Participants

The theme of *confidence* was highlighted by data that described lack of readiness to participate (Paul), agonising over tweets (Carol), and perceiving others as more knowledgeable (Denise and Paul). Lack of confidence inhibited them

establishing social presence and networking on Twitter, preventing relationship development and a sense of belonging with others on Twitter. Further analytical discussion on this is provided in the next chapter.

5.8 Presentation of themes from Visitor-Resident participants

Two participants, Louise and Matt, used Twitter to read and gather professionally related information to keep up-to-date, but in some instances they participated in socially network activities with other tweeters.

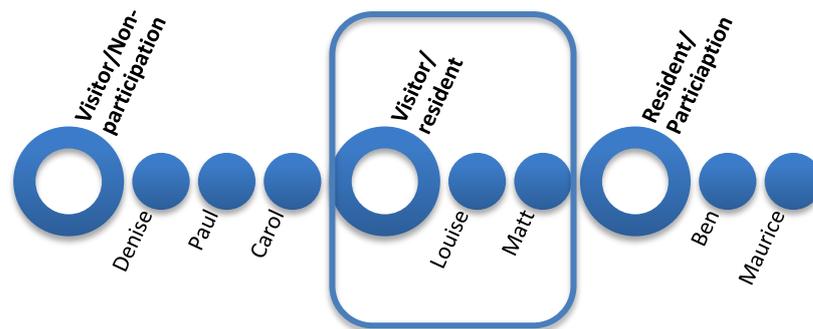


Figure 11 - Louise and Matt's position on the Visitor-Resident continuum

The table overleaf gives an overview of Louise and Matt's professional role, how they regard professional learning, how they use Twitter for learning, and identifies themes from their cases.

Table 4.	Participant details
Visitor/ Resident	Background, professional role, themes
Louise	<p>Louise was a learning technologist for eighteen months. She started using Twitter as a student while studying and continued to use it as part of work. She used Twitter keep up-to-date and indicated that losing Twitter would make it harder to continue learning for her role: <i>“It would leave a big hole. I can’t see how you could continue to ... learn at the same rate without it”</i>. As a student, she felt that she had enough ‘learning’ to deal with in her studies and did not post on Twitter. She described herself as a ‘lurker’ strategically following educators, observing tweets, gathering information to help with her studies. <i>“It enabled me to do all the things you’re meant to be able to do, to connect to the ... right people.”</i> She considered how to apply new information in practice. While the Twitter data showed she engaged in some discussions, Louise said she preferred to observe and gather new information. After graduating and commencing work as a learning technologist, she used Twitter to see what other professionals in the field were posting. As a professional she felt she had more time to explore Twitter with a view to integrating ideas from other professionals into practice. <i>“I do it because I can, because I’ve time to see what’s new, to see what other educators are doing. There isn’t a compulsion to use it for information gathering like before so ... I’m probably using it in a different way.”</i> As she progressed from student to professional life, her motivations for using Twitter changed. Her activities evolved from peripheral participation to increased participation making posts and involvement in conversations. Thus, her activities on Twitter changed as her professional identity evolved.</p> <p>Louise’s themes: gathering information, confidence, risk-taking, belonging, Twitter: not for constructive criticism</p>
Matt	<p>Matt was a manager in a centre for academic development for two years; before that he lectured for eight years. He spoke about the importance of discussions with other professionals, in formal and informal settings, as part of the learning process. He perceived Twitter as a means to assist educational professionals in joining informal networks, Twitter provided an informal means to gain professional knowledge. <i>“So Twitter has made stuff easy for me, easy to get this level of professional development”</i>. He supposed that it would be more difficult to access professional development without Twitter. <i>“It would put such a hole in my professional development, in my opinion”</i>. Twitter provided an online social network for educators and he wanted to build on what was learned through reflective dialogue with peers. <i>“We could get those informal sessions going around Twitter, where we could actually build on some of the information we’ve learned from Twitter”</i>. Discussing shared practice through Tweetchats could enable further learning. Matt encouraged opportunities that enabled people to make connections</p> <p>Matt’s themes: reading tweets, confidence, social connections, Twitter: not for constructive criticism</p>

5.8.1 Gathering information contributing to practice

Both participants recommended Twitter as a means to access information relevant to their professional roles. Louise spoke about curating information from Twitter for use in practice later. Twitter introduced Matt to new information about technologies for learning and teaching, which sparked his thinking about their usefulness in teaching situations.

Matt: Oh I really like the look of that, let's find out a little bit more. Whether it's technology they're talking about, particularly a web tool or something that they've implemented within the classroom.

This motivated him to learn more about how technology could be used in practice and he mentioned incorporating technologies into his practices.

Louise said she initially used Twitter to gather information and keep up-to-date during her studies. However, the data showed she had established social presence and engaged in some conversations (see 'making connections' in Figure 11) on Twitter.

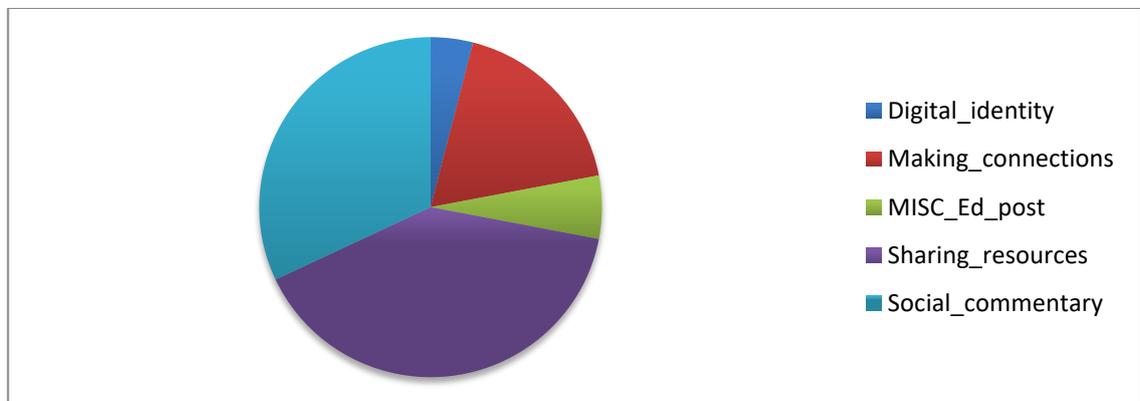


Figure 12 - Louise's Twitter activities

Despite having some evidence of participation on Twitter she expressed her preference to read tweets seeking new information useful to her professional responsibilities. She regarded herself as visiting and observing Twitter rather than being a natural sharer of practice and participating in conversations on Twitter.

Louise: I'm not a great one for sharing; I'm a great one for lurking.

Gathering information from Twitter had proved useful and had contributed to the development of an educational technology toolkit for her practices.

Louise: What it did was it enabled me to put together ... a list of technologies that were appropriate, pedagogically appropriate in different situations.

This toolkit enabled the integration of pedagogically suitable technology into curriculum activities on a new programme.

Matt and Louise advocate Twitter as a means to gather information, associating this activity to learning, an acquisition approach to learning. They provided examples where information from Twitter impacted their professional practices. Matt also used Twitter as a catalyst for further reading and for connecting and collaborating with other professionals.

5.8.2 Making connections (participation)

Although Louise self-identified as a *lurker*, the Twitter data suggested that she was more active than she perceived herself to be. In the interview she described posting a technical query on Twitter seeking solutions to work related problems:

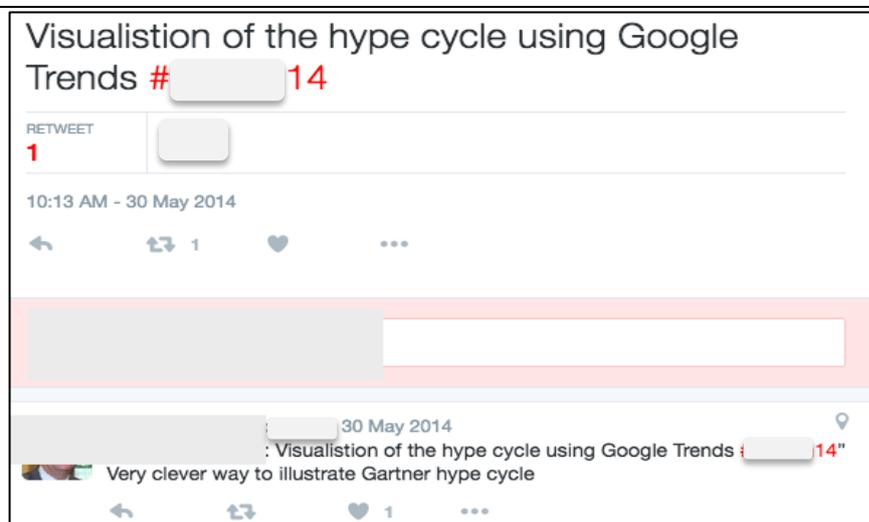
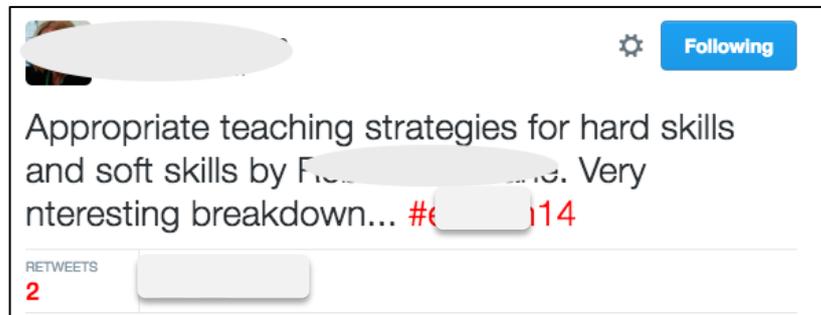
Louise: I certainly use it to vent frustrations about Articulate¹⁶ or whatever I'm using at the time and, you know what, there's experts out there that will come back.

Despite reaching out and asking for assistance on Twitter she felt she was not a full participant on Twitter.

Nonetheless Twitter data showed Louise contributing posts on the conference backchannel and sharing positive commentary about conference presentations.

¹⁶ Articulate is an eLearning development software tool.

Sharing, making social connections.



Mmaking connections



Figure 13 - Louise conference tweets

These tweets show evidence of Louise's social networking on Twitter, despite interview comments indicating that she was not innately comfortable being social on Twitter.

Louise discussed how the conference backchannel conversation seemed to endorse one keynote presenter's opinions and ideas. However, the keynote's ideas did not resonate with Louise, and when she read tweets on the backchannel she felt she was "*missing something*". She found it thought-provoking to read other people's perspectives on the backchannel.

***Louise:** From that point of view it's getting other people's perspectives — fascinating!*

The differing viewpoints expressed on the backchannel provoked her to reflect on her knowledge and understanding of the topic.

***Louise:** What am I missing; I'm obviously missing something? I don't get it. I'm not interested. It's of no value to me whatsoever but I was obviously in the minority.*

While this keynote presentation prompted her to think about these differences in perspective, she did not pose comments or questions on the conference backchannel. She said she was hesitant to post differences of opinion as it could be perceived as criticism or negativity, which she felt would not be good practice in the online space:

***Louise:** It's not good to be negative really is it? And particularly to do it in written form. I would be very hesitant to give criticism, even constructive criticism online. I'd be very slow.*

While she had engaged in making positive comments on the backchannel to others, she was reluctant to post her opposing opinions on Twitter. Louise suggested that Twitter was limited in facilitating critical discussion and that blogging might be more suitable:

***Louise:** 140 characters isn't going to give you probably enough to make too many valid points but I've seen that much more regularly in responses to blog posts which are extremely thoughtful and often constructively critical because you have*

that greater capacity to write and I suppose flow better once you start writing...

Matt participated somewhat more freely. The Twitter data showed that he was involved in ‘making connections’, ‘social commentary’, ‘sharing others’ practice’ (RTs) most often within his Tweets.

Figure 12 illustrates that Matt engaged mainly in social commentary posting light-hearted, positive sentiment to others on Twitter.

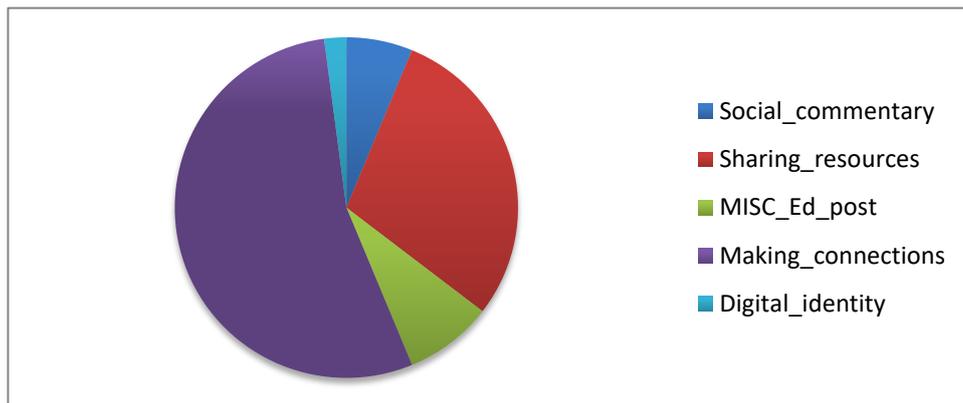
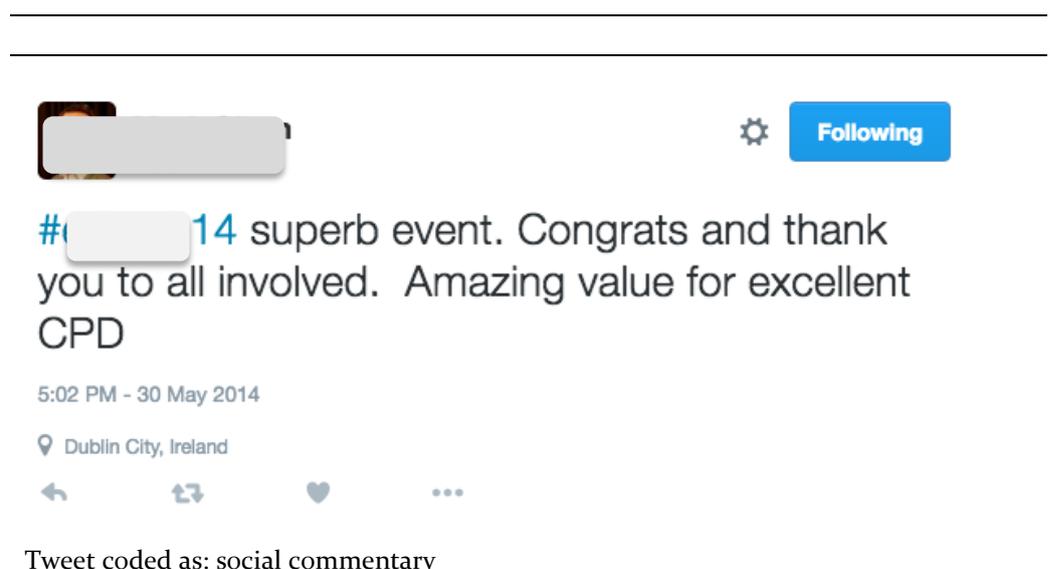
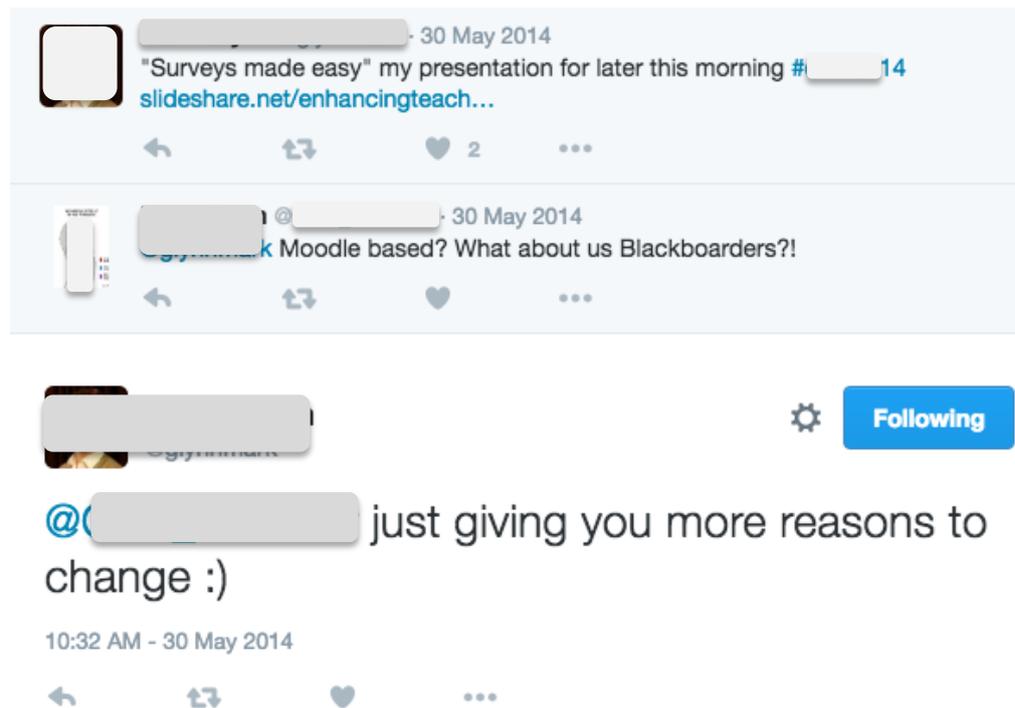


Figure 14 - Matt’s activities on Twitter

Table six contains examples of Matt’s tweets showing positive compliments, showcasing his work thus feeding his digital identity, and engaging in light-hearted conversation at the conference.





Tweets coded as: sharing resources, digital identity, making connections, social commentary

Figure 15 - Examples of Matt's Twitter social commentary

It would seem from the Twitter data and the interview that he was strongly motivated to connect with others and to communicate via social commentary. Matt's data emphasised that he used Twitter for making connections with other professionals and starting collaborations, showing that he was using Twitter in a brokering sense (Wenger, 1998).

***Matt:** I've set up a relationship, if that's an appropriate term, with one of the other keynotes that was at the conference and we've been tweeting quite a lot both messages and just normal tweets where we'd be mentioning one another and we also hope to establish a relationship with ... colleagues from three different universities who are going to come over as part of a National Forum event.*

He considered Twitter to be a means for professionals to come together virtually, create connections and develop working relationships with others. However while Mark made many social comments on Twitter he did not express negative

opinions, claiming that it would not be good to be perceived as a critic on Twitter.

Louise occasionally sought advice for work-related queries. While she tweeted positive comments at conferences, she was also hesitant to post critical comments or a difference of opinion on Twitter.

5.9 Factors contributing to participation and non-participation on Twitter

Like the Visitor participants, Matt and Louise described Twitter as an accessible means to keep up-to-date with professionally related information. While they had more social presence established than the Visitor group, they participated less than the Resident participants.

Next I present reasons contributing to their modes of participation on Twitter.

5.9.1 Confidence

Matt liked the social connection and networking opportunities that Twitter offered. He suggested technical barriers might inhibit some professionals from using Twitter.

***Matt:** They weren't technically competent or confident in their ability to actually use the technology.*

Matt mentioned having confidence in his ability to use Twitter was important, and he referred to others as less confident in their technical competency. Matt's comments suggest that some users might need support to become more confident using Twitter, but did not imply that confidence in one's professional knowledge was a factor, which had arisen for some Visitor participants.

***Matt:** It may be a bit more of a challenge, just breaking down the fear factor, knowing how do I actually use this?*

However his comments highlight that a lack of confidence can pose challenges for professionals.

Louise posted some comments to others but revealed that she was hesitant to express opposing opinions online. She thought that posting opinions could be perceived as criticism or negativity and was inappropriate in the online space.

This hesitancy suggests Louise lacked confidence in her professional knowledge and had not yet established a sense of affinity with a community online where she trusted others and her opinions could be heard. Additionally, Louise asserted that Twitter's limited functionality prevented teasing out and discussing opinions in a critical manner.

Yet Louise portrayed a shifting and growing professional identity where she was becoming more socially interactive through Twitter by making posts and comments. Perhaps as her career progresses, her capacity to voice opinions on public online spaces will develop, a possibility for further research.

5.9.2 Capacity to participate

Matt was reluctant to use Twitter to critique other people's opinions as he did not want to offend others.

Matt: I tend, unless I know the person very well, not to be critical, whether it's constructive or not. I would believe that, particularly in one hundred and forty characters but definitely in text, it's quite hard to have a rhythm and intonation associated.

He asserted that Twitter had limitations for expressing constructive comments and that the correct tone would be difficult to achieve in 140 characters.

Louise showed that her capacity to participate on Twitter was changing with her evolving professional identity. She also highlighted how the character limits of tweets inhibited meaningful critique.

Matt and Louise presented agreeable opinions on Twitter but seemed to lack the capacity to engage in critical discussion on Twitter. This style of tweeting might be criticised as endorsing and echoing the sentiments of other people, a criticism of the echo chamber effect on online spaces (Rheingold, 2014).

Table 5 - Matt's and Louise's activities on Twitter

Activities on Twitter	Reads Twitterstream, gathers information	Reads conference backchannel	Participation Social networking with others on Twitter including conference backchannel	Other comments:	Factors enabling/inhibiting participation
Matt	✓	✓	✓ Majority of his tweets were for making connections, social commentary, and digital identity development	He is a 'broker' (Wenger, 1998) of relationships on Twitter	Enablers: Self-Confidence; Technical competence; Twitter is easy to use; Playful style of communication on Twitter; Inhibitors: not good practice to be negative online
Louise	✓	✓ Questioning of her understanding of conference presentation topics	✓ Some posts to others on backchannel; Some posts of general queries on Twitter	Regards herself as a <i>lurker</i> but as her identity changed from student to professional she has increased her participation and social network engagement	Enablers: growing self confidence as a professional Inhibitors: not good practice to be negative online

5.9.3 Summary of themes from Matt and Louise

Figure Seven shows Matt's and Louise's activities on Twitter. They visited Twitter to gather information, developed a social presence online, and participated in social networking more than Visitor participants but less than Residents. They perceived Twitter as useful for gathering information to help with professional tasks.

These participants champion the benefits of Twitter for keeping up-to-date with professional knowledge, using somewhat a banking approach to storing information. Louise has integrated information obtained from Twitter into curriculum design. Both Louise and Matt engaged with the conference backchannel. Louise posted positive comments to others on the backchannel and mentioned that conference tweets about a keynote presentation provoked her disagreement with opinions but she did not voice her opposing viewpoint on Twitter. Matt tweeted actively during the conference, using Twitter to connect

with others in light-hearted chat on the backchannel. Both participants acknowledged the limitations for critical discussion on Twitter. They acknowledged the benefits that Twitter offered them professionally, and Matt mentioned that having confidence in his ability to use Twitter was important. Louise's comments suggest that confidence in her professional knowledge inhibited her capacity to post opinion on Twitter. However, the Twitter evidence showed that her use of Twitter was evolving, as was her sense belonging among others on Twitter.

5.10 Presentation of themes of Resident participants

Resident participants had established social presence and showed more evidence of social networking on Twitter than other participants in this study. Table Eight describes of each participant followed by a discussion of the main themes from Resident participants.

Table 6.	Participant details
Resident Participants	Background, professional role, themes.
Maurice	<p>Maurice was an academic lecturer for ten years. He portrayed himself holistically on Twitter by tweeting about education, history, human rights, and other topics, and claimed that Twitter contributed to his informal learning in the educational context and other areas of interest. Maurice asserted that his formal, structured learning about education helped him participate in informal learning opportunities on educational matters. <i>“Because I’ve had the grounding I can readily identify the very fast flowing stream”</i>. He identified useful and relevant information on Twitter, and frequent engagement inspired him to consider new ways to teach. Sometimes this led to further discussion with educators and incorporating new ideas into teaching practices. Professional learning for Maurice was about engaging in both formal and informal opportunities. He believed a good foundation in theory and practice of education enabled him to engage easily and regularly in informal learning.</p> <p>Maurice’s themes: reading tweets/gathering information, social networking, confidence, belonging, and constructive academic debate.</p>
Ben	<p>Ben was lecturing for six years and described Twitter as important to his professional work, by enabling him to tap into available opportunities. He valued formal learning settings, but informal opportunities enabled him to hear viewpoints of professionals from other academic disciplines: <i>“...the coffee room is a great place for [learning] as well because we’re on like a three school campus we actually meet people that are from different areas ... culinary arts for example, and they would see things with a different perspective, views, and teach in different ways and I find that’s a great way to learn as well, just to bounce ideas off them, listen to their conversations and seeing what they’re doing in their class that I can try and apply”</i>. Informal conversations inspired him to adopt new approaches and experiment with teaching practices. Opportunities for listening, sharing ideas, reflecting, and brainstorming with others were important, and within this context Twitter was regarded as valuable for informal professional learning.</p> <p>Ben’s themes: reading tweets/gathering information, connections, creating new knowledge, belonging, constructive academic debate, skillset needed.</p>

5.10.1 Information gathering contributing to practice

Ben scans Twitter daily and described Twitter as a ‘*handy tool*’ that was easily accessible and bookmarked information for retrieval and further investigation.

Ben: If ... you have 20 minutes on the train you can just go through the timeline, if something grabs your attention you can dig more into it, you can send the tweet link to your email and then that reminds you the next time you’re on a proper PC you can look up and do a bit more research into it if it’s actually what you want.

He said Twitter “*accelerates the process*” of learning and presented new ideas that he could adopt.

Ben: I’d kind of scan I suppose and then if something jumps out to me as relevant to my area or has been applied in my area before that I can take and use with a different angle[.]

Ben acknowledged that Twitter could provide an “*avalanche*” of data, but he managed information by reflecting on its relevance and suitability to his context. He was attentive to information presented on Twitter, giving him new ideas for teaching practices.

Ben: Has definitely changed my teaching for the labs in first year.

Ben: So many ideas, you know, one of them will stick with you or resonate with you and you go like ‘that idea, I’m going to try this semester’. I tend to try and try something new once a semester.

Ben was motivated to innovate his teaching practices with new ideas.

Maurice discovered new information, articles, presentations, and websites via Twitter. He mentioned being mindful of the source of tweets but deemed information-gathering from Twitter to be a fast and easy way to keep up-to-date in his professional area.

Maurice said Twitter was a profusion of information, which at times sparked new thinking about practice. However, he claimed that discernible changes to practice

as a result of new information from Twitter happened slowly. He applied a new pedagogical approach originally retrieved from a resource on Twitter whereby students collaborated and merged data within group projects.

Maurice: They just had clever ways of getting students to kind of pool the data so that it instigated a group project as well as just having the individual projects so that was quite nice so I tried that.

Maurice and Ben both claimed that information about educational practice via Twitter had contributed to changes in their pedagogical practices.

5.10.2 Participation: community, connections and conversations

Ben emphasised that communities of professionals exist in spite of online social networks, but Twitter provided a virtual gateway to other professionals and enabled professionals with similar interests to develop connections.

Ben: The Twitter link was the key to open the door into that community.

Figure Thirteen shows Ben's activities on Twitter showing he shared resources and made connections.

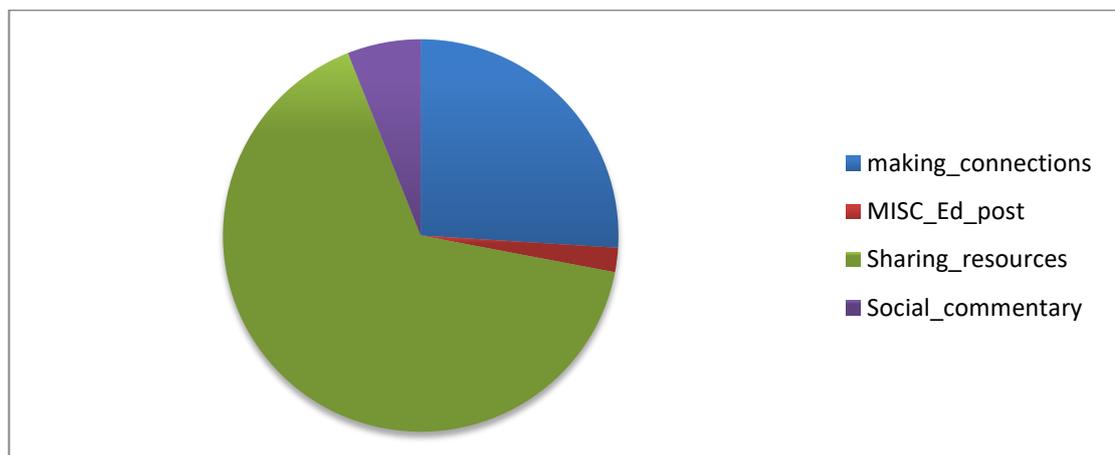


Figure 16 - Ben's activities on Twitter

Ben reported how tweets from educators stimulated further investigation into the teaching and learning practices of others, and gave examples of how making connections with other professionals via Twitter initiated collaborations.

Ben: PeerWise¹⁷ was one and I keep coming back to this because I found it on Twitter, I follow X[Person] on Twitter. He's in X[Place]. I've never met the guy, I probably never will meet the guy, but you know I've struck up a friendship with him through a connection through Twitter first of all and then in the emails and you know in sharing data and so on.

Thus a Twitter connection inspired him to use a new approach for student assessment. Subsequently, Ben recorded his experiences using this teaching approach with students and disseminated this as knowledge back to the community.

Ben: I'm contributing to the community through publications and my own resources. So you kind of take a little bit at the start and then you give a little bit back to the community as you get into it I suppose.

Ben indicated that while he gained valuable resources from Twitter, his contribution back to the community was important, indicating a two-way process of gathering information from professional communities on Twitter and contributing reified knowledge back.

In another example Ben related how, through a Twitter conversation, he identified similarities in teaching and learning activities within another university. This contributed to an inter-university collaboration, and a peer-feedback activity was designed among students from both universities.

Ben: I made a connection with a guy in University of XXXXX and we have now set up kind of a private feedback mechanism where his students will give feedback to my students and my students give feedback to his students, but again we made the connection through Twitter.

For Ben Twitter was a space to communicate and collaborate with other educators. Exposure to new information from other practitioners inspired him to rethink teaching and learning practices and led to further discussions with other educators. This enabled exploration of new pedagogical approaches. Interaction

¹⁷ PeerWise is an online tool for peer-assessment. See <https://peerwise.cs.auckland.ac.nz>

with professionals with similar interests, facilitated by Twitter, was a vehicle for learning and developing his pedagogical practices.

5.10.3 Twitter at conferences

Ben discussed how Twitter was a gateway into formal academic conferences. He followed conferences on the Twitter backchannel when he could not attend in person, and the backchannel helped him keep abreast of conference proceedings.

Ben: It's just a handy way to kind of keep a handle on when things get really big you can streamline your tweets. The hashtag, even if you can't go to a conference you can still follow the tweets from the conference.

Twitter provided Ben with the potential to expand connections with other delegates attending a conference. He investigated Twitter profiles of conference delegates to identify professionals with similar interests. He could choose to follow-up with face-to-face conversation at the conference:

Ben: Through Twitter you're exposed to more people and if you go to a conference, again, you're exposed to the same people but you've a chance to actually sit down beside them and say 'What do you mean by'...

Ben acknowledged that the Twitter backchannel was a powerful means of keeping in touch with conference proceedings and engaging with conference delegates. He recalled a conference where the keynote speaker encouraged contributions on the backchannel during the presentation.

Ben: There was almost arguments and debates happening in the backchannel where the presenter would say something and people would say 'Oh I agree with this' or 'I disagree with this' and then that conversation went on backwards and forth and you could follow the conversation thread and even if you didn't want to input into the conversation you could get people's opinions and ideas and you could see their thought process in the conversation they were having.

Ben claimed that the backchannel facilitated rich debate and encouraged tweeters to express their opinions or simply follow the conversations. These

conversations provided opportunities for making sense of the topics, thus facilitating a learning space.

5.10.4 Participation and voice on social networks

Maurice's Twitter data (Figure Fourteen) illustrated that his Twitter activities were strongly invested in social commentary with other Tweeters for educational and non-educational purposes.

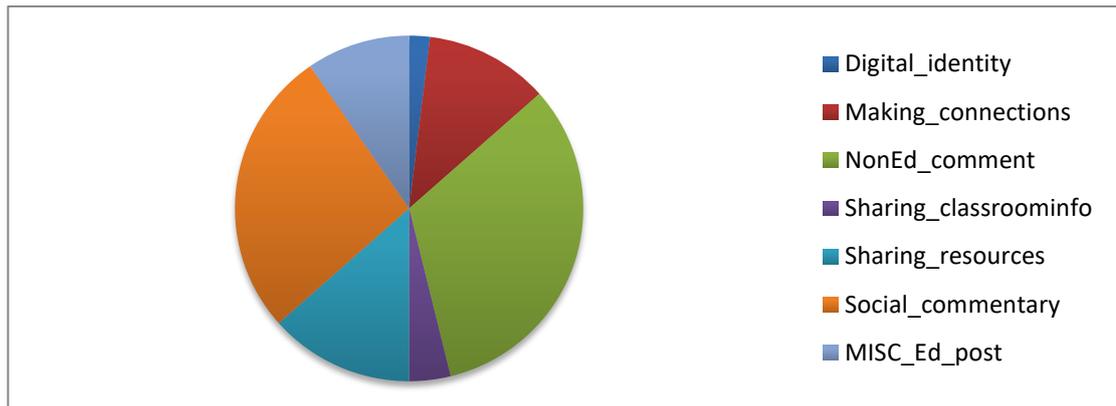


Figure 17 - Maurice's activities on Twitter

Indeed he tweeted about both personal interests and educational topics.

Maurice: The way I, maybe, approach my Twitter is professionally with, maybe, a personal twist.

Issues such as history, politics, and human rights were important to him, and he included and discussed a wide variety of issues.

Maurice: There is some stuff in there about gay rights ... and I do have this personal thing about whether it is up to me as an academic to champion that in terms of making it okay for students, I don't know. Some people feel very strongly that this is a role of academics, gay academics.

He indicated that he consciously thought about his use of Twitter when voicing personally significant issues and felt that he had a responsibility as an educator to be open and voice opinions on issues that were meaningful to him. Maurice reported that discussions followed from his comments on Twitter.

Maurice said that networking with others on Twitter was not an intentional or strategic aim, but occurred naturally. As a result of developing professional

connections through Twitter, he had been invited to present at conferences and to write educational articles for websites, periodicals, blogs, and publications.

Among all seven participants of this research, Ben and Maurice engaged and participated in social networking activities the most by posting tweets, making connections, sharing practice, sharing resources and engaging in social commentary on Twitter.

While this participant sample is small, noticeable differences in how participants used Twitter emerged, and factors acting as barriers and enablers have become evident. These will be discussed in more detail in the next chapter, but first I continue to discuss the factors enabling Maurice and Ben's participation on Twitter.

5.10.4.1 Playfulness online

Ben and Maurice enjoyed connecting and conversing with others on Twitter.

Maurice emphasised that he liked the conversational aspect of Twitter:

Maurice: I think you'll be ploughing a lonely burrow if you weren't able to connect with people in that way you know I like the conversational aspect of something like Twitter.

Participation on Twitter helped guard against isolation, an occurrence noted in academic life (Gourlay, 2011), by establishing conversations with other educators online. Maurice's Twitter and interview data show that he expressed a sense of fun in participating on Twitter. He referred to displaying some of his 'personality' online and his tweets indicate that he enjoyed involvement in trivial social commentary with others. Table Nine shows some of his social commentary, which helped support social presence and interaction online (Rourke, Anderson, Garrison, & Archer, 2001).

Laptop applying update 1 of 191.... maybe time to go home.

LIKES

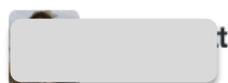
2

5:31 PM - 22 May 2014



[Redacted] · 22 May 2014

I've broken said laptop.



+ Follow

@[Redacted] Definitely should have just gone home!

LIKE

1

5:42 PM - 22 May 2014

He interspersed social commentary sharing tweets relating to education from his discipline:

Some good discussion on blog post "Learning to write about chemistry" [Redacted]

... # [Redacted]

8:38 PM - 28 May 2014



Figure 18 - Maurice: examples of Twitter social comments

Overall Maurice enjoyed participating in conversations with others on Twitter, which he perceived as “*a very friendly environment*”, unlike the Visitor participants who agonised over tweeting and feared unknown audiences.

Ben also indicated a strong enthusiasm for Twitter, which helped him to see possibilities for different perspectives in his practice.

Ben: Something jumps out to me as relevant to my area or has been applied in my area before that I can take and use with a different angle then that's something that would interest me.

Ben enjoyed the creative inspiration that came via Twitter, rousing creative opportunities to adapt practices to suit the needs of his teaching and learning contexts.

Ben: If I see something on Twitter and go 'That rings a bell with me', I can't see a connection just yet but I can imagine how I can make a connection between that image or that quote or that resource to what we're doing in class.

Ben imagined possibilities for new practices in relation to his teaching.

Overall, Ben and Maurice demonstrated a sense of fun through participation with others on Twitter. For them, Twitter stimulated creative ideas that affected their professional practice.

5.10.4.2 “It's a subject I feel very confident in”

Maurice asserted that his knowledge and understanding of educational theory enabled him to have fruitful discussions about education on Twitter.

Maurice: I suppose it's a subject I feel very confident in, but because a lot of the people in this area, which is XXXX education, are XXXX lecturers who are interested in the topic but maybe have not engaged in it in an academic sense, by which I mean like you know literature or having done courses or whatever. I don't mean to ... I'm not putting myself up here but I'm just saying I am informed.

He felt confident as a result of acquiring formal qualifications and this enabled his involvement in conversations about education on Twitter and in other informal contexts.

Maurice valued reading different opinions about education related topics on Twitter:

***Maurice:** Gives a different perspective, it gives maybe usually a broader perspective or somebody working in a different discipline but on the same topic.*

Different viewpoints on Twitter allowed him to see issues from different perspectives, and he considered the importance of being constructively critical of ideas and opinions. Maurice emphasised his ability to safely engage in academic debate on Twitter and provided an example where he posted his disagreement with a presenter on the conference backchannel.

***Maurice:** I do think it's important in a professional, constructive manner to say actually I don't agree with that or you know.*

However, Maurice was acquainted with the presenter and recognised that he had the capacity to respond well to constructive criticism:

***Maurice:** I knew the speaker was very robust. I mean I actually also asked ... as well as tweeting I also asked an end-of-presentation question and he came up afterwards and shook my hand.*

Having an established relationship was important to delivering critical feedback to the presenter. The critical but constructive comment delivered on the conference backchannel led to further discussion between Maurice and the conference presenter.

Nonetheless Maurice declared that tweets were often retweeted without due consideration of negative or positive aspects of the ideas. He believed that academics should be mindful of this inclination:

***Maurice:** There is a tendency for group think where ... somebody important says a good idea, let's all think it's a good idea and it's a good idea and that's a very dangerous ... I do think it's important in a professional, constructive manner to say actually I don't agree with that or you know.*

For Maurice, informed opinion in academic contexts and the ability to voice different opinions was essential to participating in academic discourse on Twitter:

***Maurice:** I think it's usually beneficial because even if people disagree with my criticism at least they're saying 'Oh that's what he thinks, I wonder why', you know.*

He asserted that the expression of different opinions provoked reflection, which helped the participants gain greater understanding as they tried to tease out explanations for opposing views.

Maurice referred to his confidence but recognised that others might be cautious to express their opinions online:

***Maurice:** I suppose people would be perhaps cautious that they may say something silly, misrepresent the institution, misrepresent themselves.*

Maurice considered the possibility some people might be concerned about posting inappropriate and potentially damaging remarks on Twitter. This resonated with Carol's anxiety about posting tweets, Denise's caution and fear of exposing her views online, and Matt's and Louise's comments about negativity online. Distinctly, both Maurice and Ben discussed and demonstrated that they could be critical and constructive online and felt comfortable in doing so.

Maurice enjoyed "being devil's advocate" and believed that academics should voice opinions and viewpoints and debate about differences, enabling deeper understanding.

***Maurice:** Surely one of things about being an academic is academic freedom, that you have the freedom to say 'actually this is what I believe' and maybe I don't know 'I'm happy to be proved wrong or I'm happy to have an argument but this is what my current viewpoint...' so that probably that's a confidence I certainly wouldn't have had before doing the courses say in [academic development].*

He highlighted that he was confident in his knowledge of education and was consciously aware of his viewpoint on educational issues as a result of exploring education in formal ways.

***Maurice:** I think confidence is a huge issue. Confidence to commit something to paper or to electronic ink and say actually this is where I stand.*

Maurice's confidence was critical to his capacity to participate with others in collegial and constructive ways on Twitter. He found that discussion helped broaden his thinking about education and topics related to his specific subject area.

5.10.5 Capacity to participate

Ben held Twitter in high regard as a means to open up discussions about practice, but awareness of appropriate netiquette was a priority for him:

***Ben:** It's all about having the correct etiquette and just being a nice person I suppose. You don't say something on Twitter that you wouldn't say to someone to their face.*

Nonetheless Ben witnessed "people being nice on Twitter because it is a public domain". This did not lead to debate, which he considered crucial for learning.

***Ben:** I'm sure debate develops our own understanding of whatever is being presented.*

Ben believed critical discussion was important to developing thinking, and this could be facilitated on Twitter with awareness and appropriate engagement.

***Ben:** I'm a believer in the need for debate ... but I don't believe in slagging someone off, you know if you don't agree with somebody's point, that's fair enough, as long as you can put your point across, develop your argument and then you know people challenge you back, it's fair game.*

Ben mentioned that it was necessary to learn skills that would help communicate opinions and questions when using Twitter.

***Ben:** A skill set that's needed to be up-skilled, you know that's something that could be looked at, but I generally find with*

academics, unless they have a particular hobby horse they may be criticising but they're generally constructive, you know. They challenge but they give a reason or a rationale why they're challenging.

He said that academic debate could happen on Twitter if people knew how to participate respectfully in online spaces.

Both Maurice and Ben confidently engaged in discussions with other professionals on Twitter. Maurice's professional confidence was grounded in formal education. Both Maurice and Ben used Twitter to make connections and interact with other educational professionals and academics, extending their reach beyond local networks. They regarded Twitter as a suitable space for constructive academic debate, but Ben asserted tweeters needed appropriate skills to communicate in constructively critical ways. This data suggests that a 'capacity' to socially network and participate in online spaces such as Twitter is important and ties in with current work in the UK (Beetham, 2015; JISC, 2014a) and Ireland (Devine, 2015) on the preparedness of higher education staff and students to thrive in the digital age.

5.11 Summary of themes from Maurice and Ben

The Twitter data from Maurice and Ben illustrated their strong social presence and interactions with other tweeters. Maurice participated on Twitter to express and discuss views on education as well as other interests, while Ben used Twitter for education purposes only, perhaps avoiding context collapse with his audience. However, Maurice welcomed multiple audiences, stating he wanted a holistic view of his interests and profession in the online space.

Twitter introduced them to new information about education-related issues and pedagogy, prompting further activity and follow-up discussions. Twitter inspired new ideas for pedagogical practices and opened up other professional opportunities. Table Ten shows Ben and Maurice's various activities.

Table 7 - Summary of themes for Maurice and Ben

Activities on Twitter	Reads Twitter and gathers information	Reads conference backchannel	Participation: Social networking with others on Twitter including conference backchannel	Other comments	Factors enabling/inhibiting participation
Ben	✓	✓ Positively experienced questioning/academic debate on backchannel	✓ Making connections Sharing resources Social commentary		Enablers: Professional-Confidence; Twitter: easy to use; Playful style of communication on Twitter; Ability to debate and participate
Maurice	✓	✓ Engaged in questioning activities on backchannel	✓ Digital identity; Making connections; Non-educational comment; Sharing practice; Sharing resources; Social commentary	Professional confidence underpinned by formal education qualifications	Enablers: confidence as a professional Inhibitors: awareness that other people might be cautious

Maurice emphasised that he was able to participate on Twitter because of his confidence in discussing educational matters with other professionals, but cautioned against acceptance of viewpoints expressed in tweets. Ben said that the capacity to participate on Twitter and an awareness of how to participate was important. Both agreed that Twitter enabled expression of opinion and was a suitable platform for academic debate. Twitter enabled them to join valuable professional networks and engage in professional debates. They enjoyed interacting with other educators on Twitter and indicated that fun and enjoyment underpinned their participation on Twitter.

In Figure Fifteen the inner elements show the factors that enabled Residents participation. One such factor was confidence (Eraut, 2004). Participants discussed confidence as an inhibitor (Denise, Visitor) or enabler (Maurice, Resident) to participation on Twitter. The playfulness and enthusiasm of Resident participants contrasted with the Visitor participants' fear of risk-taking online. The activities displayed on the outer circle of the figure helped Resident participants form an identity of participation (Wenger, 1998) thus developing a digital identity.

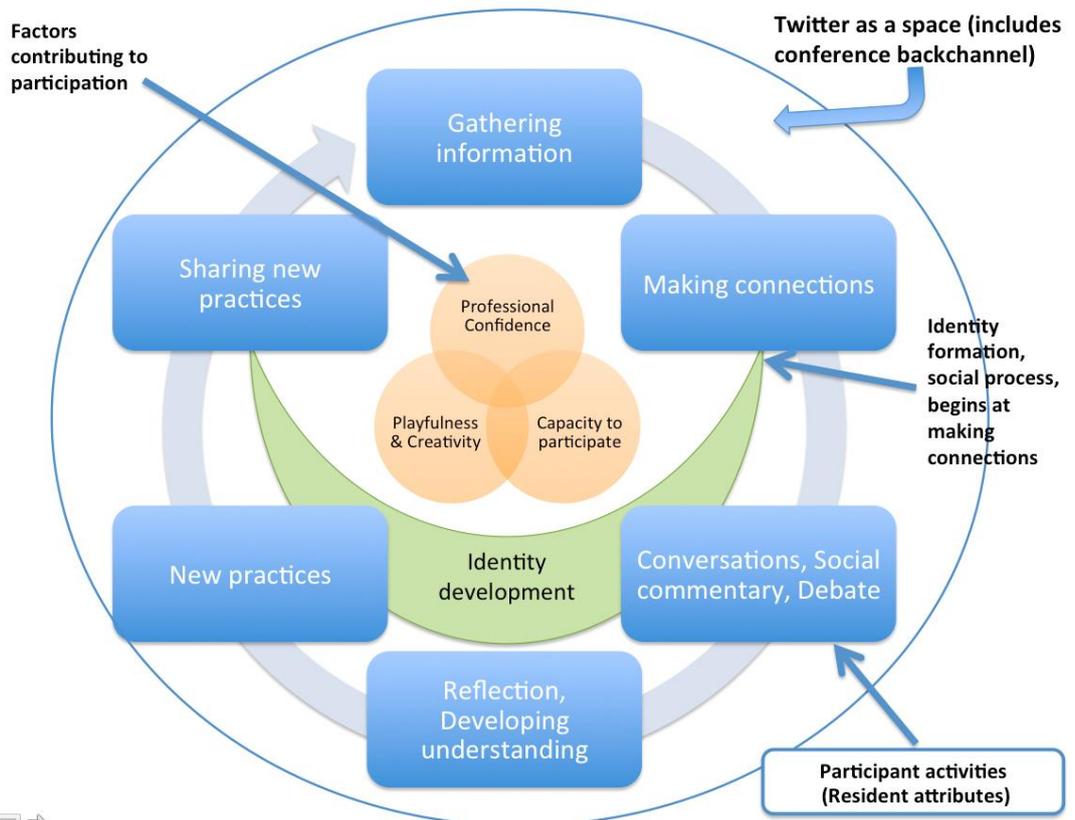


Figure 19 - Overview of Maurice and Ben's Twitter use

5.12 Further observations

Visitor participants preferred to read information on Twitter, thus staying at the margins of communities (Wenger, 1998). They avoided using Twitter's social networking features to establish social presence or interact with others. They valued reading tweets but factors such as time, confidence, not feeling ready, thinking others were more knowledgeable, feelings of vulnerability, and capacity to participate, and caution contributed to their non-participation (Wenger, 1998). They did not establish a social presence on Twitter, which prevented them from interacting with other tweeters and developing relationships online. Figure 16 shows that capacity to participate was linked to confidence.



Figure 20 - Visitor participants - Inhibiting factors

Matt and Louise used Twitter primarily to gather information but sometimes posted tweets and engaged with others online. While Louise used social networking features of Twitter she insisted she was a *lurker* rather than an active socially networked participant. Matt brokered connections with other educators for collaborative purposes but did not get deeply involved in discussions online. Neither Matt nor Louise felt comfortable posting critical comments as they perceived online criticism as inappropriate.

Nonetheless Louise's use of Twitter evolved from gathering information to socially interacting with others. Her shifting identity and growing confidence

enabled her to increase her social presence on Twitter. Matt emphasised his confidence in his ability to use Twitter, which he demonstrated by socially interacting with other tweeters in light-hearted ways, thereby establishing relationships and initiating collaborations.

Ben and Maurice were the most involved in social networking on Twitter. Exposure to new information via Twitter enabled them to reflect on current knowledge and practice and contributed to changes in pedagogical practices, while networking on Twitter led to professional collaborations. Ben discussed the capacity to participate online, and Maurice talked about having confidence in his professional voice. Figure Seventeen shows the factors underpinning Residents' participation on Twitter.

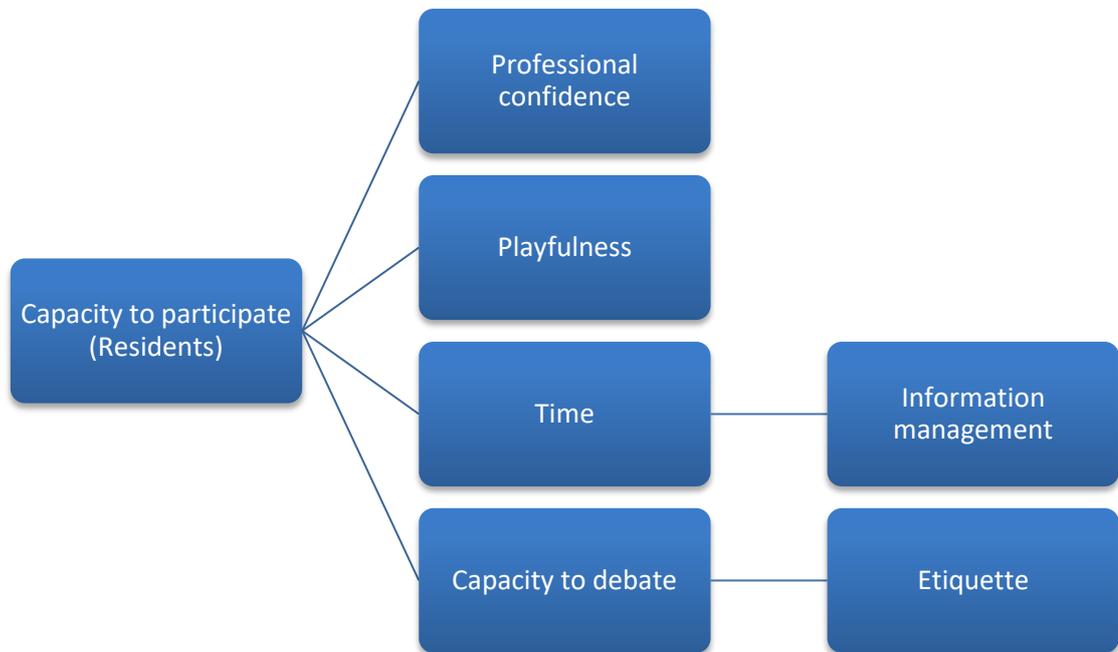


Figure 21 - Resident participants - Enablers to participation

5.13 Conclusion

This chapter presented themes arising from the Visitor/Resident groups. Figure 18 provides an overview of factors that contribute to participation or non-participation on Twitter for cases in this research.

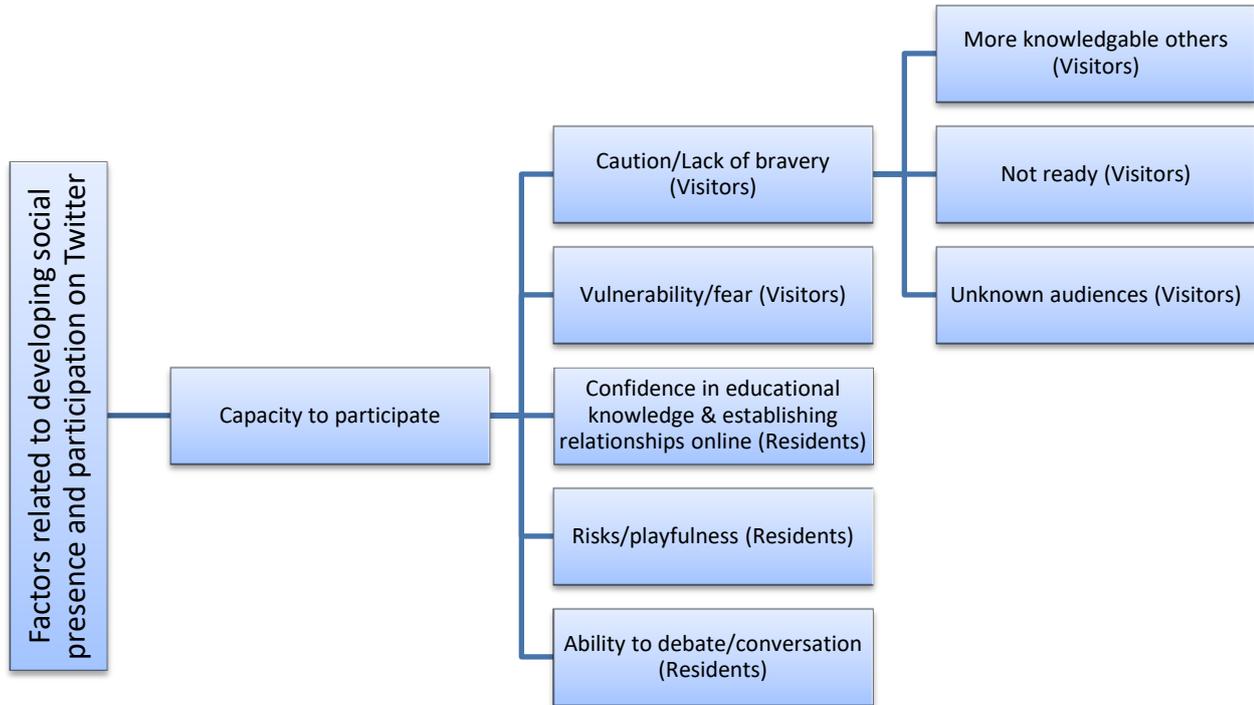


Figure 22 - Summary of enabling/inhibiting factors for Visitor and Resident participants

In the next chapter, I return to the underpinning theoretical concepts of professional and social online learning and critique themes further.

Chapter 6 Discussion

6.1 Introduction

Despite the relatively small sample, the participant cases provided rich data for this research. This chapter is arranged around main themes and findings which are discussed in relation to the theoretical concepts underpinning the research and current literature. Firstly I present how participants of this study used Twitter for professional learning. I then explore different modes of participation on Twitter and highlight factors that inhibited or encouraged professionals' participation. Lastly, I consider how the factors that surfaced in this study can inform the practices of those who support the use of online spaces for informal learning and of those who design learning opportunities for professionals in HE.

6.2 Outline of study

My interest in exploring professional learning on Twitter arose from my experiences as a lecturer and circumstantial claims that Twitter was useful for professional learning (Gerstein, 2011; Hart, 2015). I wanted to explore *what was going on* with a group of HE professionals using Twitter for professional learning. At this point it is useful to repeat the research questions and show how data has helped answer them.

1. What are the activities of HE professionals using the SNS Twitter?
Thus far the data has shown variations in how Twitter was used by participants. The Visitor and Resident typology proved helpful in grouping cases with similar themes together.
2. How are activities on Twitter supporting the learning of these HE professionals?
Interviews revealed that Twitter helped participants discover new information which they gathered and 'banked' for use later in practice. Sometimes this influenced pedagogical approaches and challenged thinking.
3. What are the barriers and enablers experienced by HE professionals in engaging with Twitter for professional learning?

Interviews highlighted several enabling and inhibiting features of using Twitter, raising questions about the preparedness of HE staff to learn in online social spaces.

6.3 Professional learning and Twitter

During data collection I did not provide participants with a definition of professional learning. Instead I wanted them to think about and explain professional learning from their perspective. Participants commonly claimed that social and informal learning with other professionals was key to learning. But most interesting was that these participants, while advocating social and informal modes of learning, participated on Twitter in different ways. Some participants tweeted regularly and communicated with other professionals online, while others avoided establishing social presence or interacting on Twitter.

As emphasised in Chapter Three, much of the literature related to professional learning acknowledges the social nature of learning among professionals where they join networks and communities to discuss practice (Bloomer & Hodkinson, 2000; Dochy, Gijbels, D, Segers, & Van den Bossche, 2011; Eraut, 1994, 2004). Wenger (1998) viewed learning as being conducted through involvement in communities, enabling novice learners to connect with advanced practitioners supporting learning through participation. However, findings within this study demonstrated a disconnect between participants' beliefs about social learning on Twitter and their routine activities. Despite advocating social learning, some participants did use Twitter for social networking. A number of inhibiting factors regarding their use of Twitter were revealed and will be discussed in more depth later in this chapter.

Overall Twitter was regarded as an easy-to-use technology for learning, echoing the findings of other researchers (Holmes, Preston, Shaw, & Buchanan, 2013; Skyring, 2013). Participants perceived Twitter as an informal and accessible means to stay abreast of advances in professional education matters (Krutk & Carpenter, 2014). New information from Twitter was stored for potential use in practice. Ben described finding “nuggets” of useful information on Twitter, corresponding with Stewart’s (2016a) metaphor of the ‘Twitter magpie’ collecting

pertinent information. This acquisition or 'banking' approach to learning (Freire, 1968) was helpful to participants meeting their learning needs and developing their professional practices. While Freire (1968) cautions against a reliance on an acquisition approach to learning, others such as Sfard (1998) support acquisition as important to the learning process. Thus reading Twitter and storing information served certain learning needs of professionals in this study and in some cases contributed to teaching related practices.

The findings of this study resonate with other research reporting that "overall, participants emphasised that changes in teaching were largely incremental rather than transformational in nature" (Patariaia et al., 2015, p. 349). Thus it seems that learning from networks can be beneficial for practice but as Maurice indicated takes time to come to fruition. Also, while the improvement of work practices through learning is important, learning as a professional involves more than just enhancing work-related habits. Indeed the development of self-aware, reflective practitioners who can critically consider situations through multiple perspectives constitutes the professional (Brookfield, 2009; Eraut, 1994; Nixon, 2008; Palmer, 1997). Thus a transformational approach to learning (Mezirow, 1991) is encouraged among professionals so they can be critically adept in their professional roles (Barnett, 2008; Bennett, 2012; Schön, 1983). However, the process of transformation takes time (Cranton, 2006; McNally, 2006); thus the design of this study was limited in determining if Twitter or other SNS contributed to critical reflection or transformed perspectives of professionals in this study. To this end further research is needed.

Nonetheless some participants discussed how tweets confronted their thinking. Recent research (McPherson, Budge, & Lemon, 2015) demonstrates that Twitter provides opportunities to challenge perspectives and those of other users. Indeed, Carol and Louise both talked about their perspectives being challenged by tweets at a conference; however, they choose not to engage or pursue their difference of opinion on Twitter, thus preventing debate on viewpoints. Maurice, on the other hand, used Twitter to provoke and prompt responses about conference topics, entering into critical debate. Yet, while debate and discussion might be a

precursor to critical reflection and perspective change, the data acquired in this study was not adequate to gauge whether the participants' experiences led to deeper, perspective-changing professional learning.

Undoubtedly, activities of participants undertaken on Twitter were beneficial for professional knowledge and practices, which has been similarly noted in other research to date (Holmes, Preston, Shaw, & Buchanan, 2013; Krutk & Carpenter, 2014; McPherson, Budge, & Lemon, 2015; Skyring, 2013). As the researcher, I value and respect the viewpoints and opinions of participants about how Twitter contributed to their professional learning. Also through the process of the research and reflections, I am aware that opportunities (other than Twitter) for professional learning might have contributed to their professional learning.

Despite concerns about how the participants used Twitter, Wenger's (1998) theory upholds that learning can happen in any form as a social practice.

It is learning—whatever form it takes—changes who we are by changing our ability to participate, to belong, to negotiate meaning. And this ability is configured socially with respect to practices, communities and economies of meaning where it shapes our identities (Wenger, 1998, p. 226).

To conclude, other literature claims that professionals' use of social networking is generally useful for learning, whereby networks influence teaching and research (Guerin, Carter, & Aitchison, 2015). So as educators we might continue to consider how to integrate or combine informal and online strategies into formal learning designs (Evans, 2015 ; McPherson, Budge, & Lemon, 2015).

6.4 Capacity to participate in online public social networks

Nerland & Jensen (2014) assert that networks can be simultaneously used in diverse ways and urge greater understanding of various modes of engagement within networks. Indeed, this study has uncovered diverse modes of participation on Twitter while uncovering reasons for these modes of participation, thus presenting new contributions to the emerging literature base in this area.

Although all participants of this study advocated the use of Twitter for professional learning, the data showed that participants did not use Twitter the

same way. Different approaches were taken, with some participants choosing a passive approach, following other tweeters and reading information, while other participants engaged more readily in social networking activities on Twitter. White and Le Cornu's (2011) typology highlighted the differences between those who had established social presence and regularly participated in social networking activities on Twitter (Residents) and those who participated less frequently (Visitors). Resident participants posted tweets and communicated with other educators via Twitter. Their active participation and information sharing activities on Twitter were production-centred activities (Ito, et al., 2013). However, my findings show that other participants were cautious about creating social presence and engaging with others on Twitter.

6.4.1 Visitors to Twitter: peripheral participation

Much of the literature associated with online, informal or professional learning refers to learning as social and collaborative (Gee, 2005; Ito, et al., 2013; Eraut, 1994; Siemens, 2006; Wenger, 1998). However despite opportunities presented by Twitter for social modes of learning, Visitor participants commonly used Twitter as a bulletin board enabling them to read useful information while choosing not to establish social presence or share their comments or opinions on Twitter. They expressed a preference for lurking cautiously in peripheral spaces of Twitter, observing other peoples' activities at a safe distance.

Carol, Denise and Paul expressed their conscious decisions and reasons for non-participation on Twitter.

Carol: I would agonise over tweets for too long before sending them

Denise: I'm not confident about it being massively open, the social media, but if I know who I'm talking to I'd be more confident about saying it

Paul: It's in my nature, I like to kind of stand back and just observe [laugh] ...I wouldn't feel ready to have..... an opinion or something.

Visitor participants felt uncomfortable within the space of Twitter which affected their participation online.

My reflective memos (Dec. 2014) noted my awareness and surprise about the lack of outward participation of Visitor participants on Twitter. At that time, I thought that a lack of social network activity inhibited social learning. However after significant consideration, my interpretation evolved. At present, rather than think of peripheral participation on Twitter as unproductive, I regard peripheral participation as useful to the developmental learning of these participants. Indeed Jenkins, Ito, & boyd's (2015) ideas on participatory learning echo this interpretation:

At any given moment there are many different modes of engagement: some are watching and observing, waiting to participate, while others are on the floor dancing and others are much more peripheral watching from the balcony (Jenkins, Ito, & boyd , 2015, p. 6)

Likewise, Lave & Wenger's (1991) concept of legitimate peripheral participation strengthens the position of Visitor participants who preferred to lurk online. Wenger (1998) highlights that for newcomers to communities, non-participation is an opportunity for learning, as "*being silent is still a social practice*" (Wenger, 1998, p. 57) and thus non-participation was a learning activity of Visitor participants. Despite Visitors' hesitancy in creating social presence online, observing from the margins of Twitter was a social form of learning and thus a learning experience satisfying their learning needs. To this end, the participants of this study were enriching their professional knowledge and practices by visiting Twitter "*for immersion and broader exposure*" (Wenger, 1998, p. 122). Indeed, Visitor participants mentioned using Twitter to keep up to date with information from JISC (Denise), from other eLearning developers (Louise), and from other educators (Paul).

6.4.2 Shortcomings of peripheral participation on Twitter

Although peripheral participation was identified as a beneficial learning approach for Visitor participants, Wenger (1998) cautions against peripheral modes of participation that involve acquisition alone and forgo interactions with

others in communities or networked spaces: “information does not build up to an identity of participation, it remains alien, literal, fragmented, unnegotiable” (Wenger, 1998, p. 219). Thus Visitor participants were forfeiting the opportunity to construct knowledge with others and their viewpoints remained fragmented and unreified.

Louise and Carol highlighted that tweets on the conference backchannel challenged their perspectives. Carol speculated about whether or not tweeters provided authentic opinions on the backchannel, and Louise reflected on her understanding of a particular topic. However, neither Carol nor Louise posted their viewpoints in response to tweets, which prevented them from networking with other educators, thus remaining at the peripheries.

Carol and Louise were hesitant to give opinions, ask questions or challenge backchannel sentiments. This raises questions of power, did they feel disempowered among others in the network? Did they feel empowered in their ability to voice opinions? Perhaps hesitancy related to a lack of “knowledge-related identity congruence” (Hughes, 2010, p. 1) with others in the online space? According to Wenger “mismatched interpretations or misunderstandings need to be addressed and resolved directly” (Wenger, 1998, p. 84). This might have been an opportunity “for the production of new meaning” (Wenger, 1998, p. 84). Nonetheless, in this context while Louise and Carol’s viewpoints were challenged, neither person engaged in discussion or questioning, in this way, perhaps they missed an occasion to build their participation, while reifying their knowledge and building further understanding.

6.4.3 Online participation and reification

The experience of participation enables learning, and through the reification of knowledge, “experience comes into thingness” (Wenger, 1998, p. 57). To this end, participation and reification are needed to support learning (Wenger, 1998). Similarly the connected learning framework includes production-centred outcomes for learning (Ito, et al., 2013), where the products of learning are more than concrete objects but can be reflections of practice and tokens of meaning.

However, in this study some participants chose not to reify their knowledge on Twitter. Through outward tweeting of thoughts and opinions they might have reified their own knowledge and initiated opportunity for further conversation on Twitter. Moreover, choosing not to posts tweets was a barrier to conversation with others that might have led to the negotiation of meaning, which in turn, may have enhanced understanding and learning.

On the other, hand, Resident participants, Ben and Maurice, reified knowledge and practices through participation on Twitter. They posted tweets and participated in conversations online. Additionally, reified knowledge about professional practice of teaching and learning was extended to the creation of publications, journal articles, blog posts and presentations at conferences. Similarly Ben found information about an assessment tool via Twitter and initiated collaborations with others interested in this pedagogical strategy. He subsequently contributed new knowledge back to the community through a journal article on the topic.

Nonetheless Visitor participants chose not to participate in the social networking aspects of Twitter, thus avoiding reification of knowledge. More recently, Hayes & Gee (2010) have proposed that learning how to produce knowledge and not just consume gives the learner meta-knowledge, in turn enabling the formation of questions and thus learning about shared interests. Thus participation interplayed with reification might have created additional opportunities for negotiation of meaning leading to enhanced learning for these participants.

6.4.4 Marginalised professionals

For Wenger (1998) identity formation is at the heart of social learning, and “identity is formed through participation and reification” (Wenger, 1998, p. 152). Through “relations of participation” (Wenger, 1998, p. 56) within communities, others come to recognise and define us. Resident participants who established online presence through posting tweets and involving themselves in Twitter conversations established an identity through participation. But Visitor participants were unsuccessful in establishing an identity among other professionals on Twitter, thereby excluding themselves from Twitter activities

and discussions. Through this, they were “creating an identity of non-participation that progressively marginalised them” (Wenger, 1998, p. 203). Denise, Paul, and Carol chose to observe rather than participate, thus choosing identities of non-participation, consequently marginalising themselves through non-participation. Indeed, Paul highlighted that he perceived other educators on Twitter as different and more knowledgeable than himself, thus erecting a barrier between him and others. He did not identify with others online and was defined by “practices we do not engage in” (Wenger, 1998, p. 164). Paul’s absence of social presence and participation prevented him from finding affinity online; he lacked an identity of participation among others on Twitter.

Wenger (1998) encourages legitimacy in peripheral participation so that “inevitable stumblings and violations become opportunities for learning rather than cause dismissal, neglect or exclusion” (ibid, p101). Indeed, the best way of understanding and benefiting from Twitter is to experiment and use Twitter (McPherson, Budge, & Lemon, 2015; McCluskey & Readman, 2014). Many websites and instructional guides can assist newcomers to use Twitter (Beckingham, 2015a; McCluskey & Readman, 2014).

Singh (2015) challenges the notion of fully open Internet spaces, claiming that online spaces do not allow for universal participation of those affected by issues of power and privilege. “These platforms were designed with specific people in mind, and those people were rarely people of color, minorities, women, or marginalized folks” (Singh, 2015). Indeed, Visitor participants mentioned feeling different to more knowledgeable others and those with higher status on Twitter, thus the position they painted of themselves marginalised them from participation (Wenger, 1998). Perhaps Resident participants held privileged positions in contrast to Visitor participants? However finding an answer to that was outside the scope of this research. For certain reasons participants marginalised themselves and were concerned about exposure and vulnerability online. Singh (2015) urges that educators be sensitive about *openness* as for some it can signify harm. Although Singh’s comments are valuable and well thought out, Stewart’s (2016b) research, in contrast, highlights how those who engage

instrumentally on Twitter, without participation in networks, might not benefit from networks of care, a potential benefit that might mitigate the risks of online presence. This indeed raises questions about how educators can safely and thoughtfully introduce Twitter as a networked form of learning to those who may be in more vulnerable and marginalised positions thus posing ideas for future research.

6.4.5 Evolving modes of participation

In this study, it seems that Visitor participants were peripheral participants on Twitter. However Louise's data demonstrates that over time her participation on Twitter evolved. She described following the "*right connections*" as a student and gathering information from Twitter to assist her studies, but as a professional, she had become involved in conversations on Twitter. Nevertheless, she expressed her preference for lurking on the side-lines.

As a student, Louise preferred to lurk and observe the activities of others on Twitter which was beneficial to her learning, resonating with Wenger's claim that "full participation is not a goal to start with" (Wenger, 1998, p. 166). Louise participated peripherally, keeping up to date in her subject area. She exhibited an identity trajectory as newcomer, peripherally participating on the outskirts of online networks but then moved to more central positions within Twitter spaces, posting tweets, commenting and sharing. For Louise, peripheral forms of participation led to more significant participation and might be paralleled with her growing identity as a professional. Also, her participation on Twitter was self-directed, much like other narratives involving independent online learners (Gee, 2005; Ito, et al., 2013). Louise found affinity with others in the online space, first by reading their activities while keeping her own presence limited and structured, then slowly releasing acceptable fragments of her identity (Kimmons & Veletsianos, 2014) in comments and sharing of practice. Thus varying modes of participation on Twitter helped support Louise in developing a digital identity while also showing her professional identity was under construction (Eraut, 1994) enabling her to join networks of educators online.

While Louise's data demonstrated a professional trajectory with increased participation on Twitter, other participants did not discuss changing modes of participation on Twitter. The Resident participants (Maurice, Ben) did not indicate if they felt their activities and online identity had changed over time. Denise, Paul, and Carol indicated strong reluctance to becoming more engaged on Twitter, thus choosing an identity of non-participation (Wenger, 1998).

In the theory of legitimate peripheral participation, learning to participate in communities is perceived to be important in establishing voice: "the purpose is not to learn *from* talk as a substitute for legitimate peripheral participation; it is to learn *to* talk as a key to legitimate peripheral participation" (Lave & Wenger, 1991, pp. 108-9). Louise's peripheral participation helped her establish her professional voice on Twitter, thus demonstrating how her changing modes of participation paralleled her identity trajectory.

When I distributed the case descriptions to participants, I suggested that supports be provided to help professionals establish their presence and participation on Twitter. However, Denise firmly maintained that she might not participate on Twitter in spite of support offered or observing the benefits experienced by others who were more networked online than she was.

Denise: I don't have any interest in participating—I guess I might always be a lurker despite what support is given to me!

Unlike Louise, who showed an evolving mode of participation and digital identity, Denise, at that point in time, did not want to change her mode of participation on Twitter. She demonstrated that she was cautious in using her voice online, which I will discuss later as a factor that hindered her participation.

6.5 Belonging and affinity with others

Some of the emerging literature regarding online social spaces for learning have endorsed online spaces as a means for learners to find affinity with others (boyd, 2011; Hayes & Gee, 2010; Ito, et al., 2013; Stewart, 2014). Meanwhile, others warn against simplified and unchallenged findings that extol the virtues of learning in

online spaces (Selwyn & Facer, 2013). Findings in this study illustrate that not all participants felt a sense of belonging online with other professionals on Twitter. Indeed Paul, a Visitor participant, alluded to feeling different from other educators whom he followed on Twitter. He perceived that other educators on Twitter were positioned differently on a hierarchy, contributed to by their greater knowledge, expertise and status. Hughes' (2010) research reported that finding affinity through knowledge-related identity was fundamental to learners and Paul alluded to a gap between his knowledge and that of those he followed on Twitter; thus he felt he could not participate with them. Also Paul perceived a gap in power between others educators' position and his own position (Wenger, 1998) within the social network contributing to his hesitance to socially engage other professionals on Twitter. Since identity develops through participation with others (Wenger, 1998), Paul was unsuccessful in developing a digital identity as he did not develop relationships with others online. Identity, coupled with an affinity with others involved in a community's negotiation of meaning, is a major factor in establishing belonging (Wenger, 1998).

Activities such as seeking and inviting contributions on Twitter might have helped Paul build an identity and negotiate his position among others on Twitter spaces. However, he indicated that he was not ready to be socially present on Twitter, thus preventing him from developing a sense of belonging online. Yet from his perspective this position of non-participation was of benefit to him. In contrast Resident participants seemed to enjoy a greater sense of belonging with other people on Twitter by involving themselves in the work of identification and negotiation.

In contrast to the online space, Paul described feeling equal to other educators in formal face-to-face contexts where he involved himself in conversations about practice. Indeed research demonstrates the developmental role of informal conversations in supporting the ability of academics to learn about teaching from colleagues (Eraut, 2004; Thomson, 2015). Similarly, Denise reported that she felt comfortable in engaging in face-to-face discussion for learning and on online private networks where she had already established relationships with colleagues.

Denise felt content to share information in spaces with people with whom she had negotiated relationships; these were safe spaces for learning.

Correspondingly, Patarraia et al. (2015) found that formation of network connections tended to result from close personal relationships.

Overall the experiences of Denise and Paul indicate the importance of knowing one's audience and having established relationships as key to participation in online networks. Indeed on Twitter, a public social network, it is difficult to be fully aware of the audiences that exist (Marwick & boyd, 2010) and neither Denise nor Paul had established relationships or a sense of belonging within networks on Twitter.

In contrast, Louise referred to finding the "*right connections*" on Twitter. Her activities on Twitter had changed over time as she experimented in acting out her identity (Facer & Selwyn, 2013). However, Denise's cautiousness prevented her from participating publicly on Twitter, hindering the negotiation of her social presence online and preventing her from participating in social network activities on Twitter, which in turn inhibited the formation of a digital identity.

While using online social networks adds to the complexity and messiness of professional practice (Budge, Lemon, & McPherson, 2016), there is pressure on HE professionals to develop an identity of participation in online social spaces (Pasquini, Wakefield, & Roman, 2014; Stewart, 2016b; Weller, 2011). Participants, here, expressed cautiousness and reluctance to participate in online spaces with potentially unknown audiences. Lave and Wenger (1991) maintain that problems of learning in communities relate to how newcomers found belonging within communities and how relations were established within these cultural and political contexts. In this research context, knowledge congruence (Hughes, 2010) presented challenges to Visitor participants, a finding that contributes to research about professional learning in informal online spaces.

Engagement, imagination and alignment contributes to belonging in communities (Wenger, 1998). Indeed those researching learning online claim that social belonging motivates engagement online with others (Gee, 2005; Ito, et al., 2013; Salmon, 2007). However concerns of identity, presentation of self and

managing digital reputation (Costa & Torres, 2011) pose challenges for online participants. These challenges are evident from the Visitor participants of this study. Because Paul did not have a sense of belonging with the others on Twitter, he had not *engaged* with them. He had not posted tweets or made connections on Twitter, and this contributed to a lack of digital presence which affected his creation of digital identity. On the other hand, Resident participants Maurice and Ben demonstrated connectedness through emotional involvement within their networks (Kop, 2010) tying in with research indicating online networks as sites of belonging where participants testified to experiences of care in networked spaces (Stewart, 2016b).

Maurice, Ben, and Matt participated in light-hearted chat on Twitter, thus establishing presence and relationships online and confirming belonging with others on Twitter. This is very much unlike Paul, who did not *imagine* belonging to an online community of educators and referred to other educators on Twitter as having knowledge and a higher status than him.

Resident tweeters *aligned* themselves with the practices of other educators on Twitter by sharing dimensions of their work and practices, demonstrating mutual repertoire and shared purpose. In this way, fruitful pedagogical collaborations arose for Ben through Twitter. However, Visitor participants did not engage their practices with other educators, did not imagine themselves belonging to a greater community of educators online, thus they did not align their practices with other professionals' practices, therefore inhibiting belonging.

In this study Resident participants had a larger digital footprint on Twitter and felt a greater sense of belonging online than Visitor participants. They established more connections with other people and had formed evident digital identities. Resident participants seemed to have the capacity and confidence to seize opportunities for expression, to voice opinion and find affinity with others in online spaces.

I have already referred to the hierarchical structures and feeling of difference experienced by some Visitor participants. Singh (2015) asserts the need to be cognisant of power differences, privilege and the marginalisation created by race,

gender, or positions held. While Paul and Denise perceived that others were more knowledgeable than they were, it is possible that other factors marginalised their ability to participate online and find affinity with other users. Resident participants, Maurice and Ben, were both male and had secured permanent teaching positions in HE, and this might have supported feelings of confidence and personal authority, thus enabling them to have influence (Stewart, 2015b) through participation on Twitter. On the other hand, some of the Visitor participants were female and in non-permanent positions. It is possible that differences in gender, in security of tenured positions might have contributed to participants feeling confident and safe in their identity and belonging in online spaces. Indeed, concerning gender, Beetham declares, “participating online feels different if you are a woman” (Neary & Beetham, 2015, p. 98). However this research study was small, and drawing conclusions about gender difference and forms of privilege that may have influenced the participants’ belonging falls outside the scope of this research. Also both genders were present in the Visitor group, so no obvious conclusions could be drawn.

6.6 Confidence

Eraut (2004) contends that the emotional dimension of professional work is more significant than normally recognised and that confidence is necessary for professionals to engage in learning. Similarly Bandura (1977) perceived that people’s beliefs about their capabilities was an enabling factor in successful learning. Recent research focussed on learning in informal online spaces seems to suggest that people confidently reach out and participate in expertise-driven networks online (Gee, 2005; Ito, et al., 2013). This study indicates that confidence held by professionals was key to engaging and participating in online spaces but for some a shortfall in confidence contributed to a lessened social presence and participation online.

Also it might be said that the positions held by Denise and Carol, both learning technologists, might have inhibited their contributions on Twitter. Indeed Singh (2015) alludes to position as giving power to assert oneself on open online spaces. Perhaps Denise and Carol felt constrained among those who identified as

lecturers; this might have inhibited their voice on Twitter. Does this suggest that Denise and Carol felt a sense of illegitimacy about their position among other educators in the online space, something that Gourlay (2011) highlights among new lecturers in her research? However Louise, also a learning technologist, showed that her voice was growing online in parallel with formation of her professional identity. Her confidence within her professional knowledge and capacity to contribute online grew with her professional identity.

Eraut (2004) highlights that the term 'confidence' is contextual, and in this study confidence was relative to participants' evidence. Maurice's confidence seems to refer to his knowledge and capability resonating with Bandura's (1977) concept of self-efficacy. However, he also had a capacity to participate online in conversation with others, showing confidence in establishing and maintaining relationships online. Indeed Eraut (2004) found that "confidence related more to relationships than to the work itself" (ibid, p269). Relational confidence depended on mutually supportive relationships among professionals; this raises questions about whether Visitor participants perceived support to be available through other professionals on Twitter. Indeed emotional support links where educators share their feelings, challenges, and frustrations about teaching with people they trusted are important to them (Rienties & Hosein, 2015). Other research highlights the care that academics receive from others by being open online (Stewart, 2014). Did Visitor participants feel unsupported in online networks? Perhaps they did not give themselves the opportunity to experience care from peers online due to an absence of social presence and identity online.

6.6.1 More knowledgeable others

Visitor participants of this study did not participate outwardly on Twitter. Wenger (1998) asserts that participation or non-participation reflects the identity and power of individuals within communities with broader social structures enabling or inhibiting participation. Two Visitor participants, Carol and Paul, referred to a perception that other professionals had more knowledge than they had, thereby showing a lack of confidence in their own knowledge.

Paul followed other educators on Twitter but he felt that these educators were not on a par with him.

Paul: I've chosen the players in my field or whatever. I'm not choosing peers. That's the main thing like.... I've chosen the hierarchy actually.

While McPherson, Budge, & Lemon (2015) note that “the norms of hierarchy and identity in the academy are broken by the use of social media platforms for informal learning in academic professional development” (ibid, p. 127), Paul alluded to a divide between him and other professionals, and this gap contributed to his non-participation on Twitter. In contrast, Paul indicated that he was able to share practices in face-to-face situations. He reflected on this contradiction during the interview and asserted that he was not ready to voice his opinions online. Paul’s participation on Twitter was inhibited by a lack of readiness and his perception that the professionals sharing practice on Twitter were more knowledgeable and of higher status than he was. This helps explain why he preferred to passively observe the activities on Twitter rather than actively participate on Twitter.

Likewise, Denise also referred to more knowledgeable others when describing her understanding of professional learning. Denise believed that she held less knowledge and experience and preferred to look to other professionals for advice rather than express her knowledge and opinions. This suggests a lack of confidence in her professional knowledge.

In contrast Maurice, a Resident participant, referred to confidence in his knowledge as being key to his engagement and participation in social networking on Twitter. He felt that he had ‘solid’ background knowledge in educational theory and practice gained from qualifications in academic development programmes.

Maurice: I suppose it's a subject I feel very confident in [.]

Having foundations in educational theory and practice gave him confidence empowering engagement in conversations about teaching and learning with

other educators and participation in Twitter discussions about education. In turn, this participation contributed to Maurice's online identity as an educator.

Maurice's confidence underpinned his ability to openly discuss educational matters and enabled him to reify his knowledge through writing in online spaces. His confidence and capability enabled him to declare himself as an educator (Barnett & Di Napoli, 2008) and show voice online in participation with others on Twitter. He said that accredited academic development programmes gave him this confidence. Indeed research indicates that staff development activities play a role in helping teachers gain confidence and control of their work situation (Van Lankveld et al., 2016).

Denise and Paul felt their professional knowledge was not on a par with other educators, a factor that inhibited their readiness to post on Twitter. They chose to stay in the margins of communities rather than participate centrally within them (Wenger, 1998). Correspondingly, Wenger notes that "in order to engage in practice, we must be alive in a world in which we can act and interact" (Wenger, 1998, p. 51). Paul and Denise were not fully *alive* as professionals on Twitter as they were hesitant to establish presence online and avoided connecting with other tweeters. Also, their preference for non-participation prevented reification, which in turn might have contributed to lost opportunities for the negotiation of meaning and understanding with other professionals on Twitter.

6.6.2 Vulnerability

Resident participants (Ben and Maurice) viewed questioning and debate as important and engaged in academic debate on Twitter. Indeed, Nixon (2008) posits critique and questioning as vitally important to the professional learning process. Nonetheless McNally's (2006) study highlighted that educators found the prospect of criticism from the educational community a terrifying and demanding prospect. To this end, Dochy et al (2011) emphasise that trust among people is of the utmost importance when participating in communities for professional learning. Likewise, Wenger states that "a small gift of undeserved trust" (Wenger, 1998, p. 277) can support thriving communities of practice. However Visitor participants expressed hesitancy to post tweets and it is

recognised that the online space can be “challenging to rehearse a tentative and emerging identity in a public setting” (Neary & Beetham, 2015, p. 98).

While all of the participants valued learning from peers, it seems that trusting others in shared spaces online was an issue. In this study, some participants alluded to vulnerability when considering making posts about practice or voicing opinions on Twitter. Denise referred to her lack of bravery and not having a knowledge of potential audiences on public online spaces, while Paul referred to not ‘feeling ready’ to post on Twitter. They both felt they could be leaving themselves exposed to negative consequences. Similarly, the literature highlights how expressing voice and opinions in public online spaces can contribute to critical, extraneous and disruptive comments being directed at people in online spaces (Cole, 2015; Duggan, 2014; Jarkko & Harri, 2015).

Denise’s cautiousness originated in witnessing discourteous and unconstructive online behaviour. Indeed, recent literature from Stewart (2016b) and Beetham (2016) illuminates the implications of online expression and considers the tensions that arise for professionals when using online public social networks. Furthermore, Wenger (1998) wrote about the potentially detrimental effects of “destabilising events” (Wenger, 1998, p. 98) to individuals and to the health of the communities. Wenger (ibid) described negative incidents as inhibiting social energy and preventing communities from moving forward in their work and practices. Although Denise had chosen not to post on Twitter due to cautiousness, McNally (2006) claimed that emotional-relational experiences helped develop a possible sense of self and commitment, potentially leading to the formation of a professional identity. However, Denise avoided engaging in activities that would potentially support the development of her digital identity. Stewart’s (2014) research highlights the vulnerability of public online spaces, alluding to other repercussions for scholars “Because contributing and participating, out in the open—having opinions and ideas in public—has costs” (Stewart, 2014). Furthermore, Neary & Beetham (2015) urge that acknowledging “vulnerability, boredom, isolation, frustration, compulsion—as well as our

curiosity, excitement and professional interest—is important” (ibid, p. 98) in online spaces.

Denise’s confidence in expressing her opinions through posts in closed communities was contrasted with her lack of *risk-taking* to express professional voice in the public online space of Twitter. It seems that having knowledge of the audience was important for Denise to feel confident sharing knowledge and expressing opinions in professional contexts. Marwick and boyd (2010) refer to the context collapse of audiences on online social network sites. Tensions arise for online social network users when dealing with a multiplicity of contexts that have been collapsed into one, and it becomes problematic to communicate to broader audiences than just previously imagined audiences (Marwick & boyd, 2010). To evade this problem, Denise, Paul, and Carol avoided communicating on Twitter, thus sidestepping being publicly visible to a multiplicity of potential audiences (Stewart, 2016b).

While many advocate Twitter as a useful tool for HE professionals (Pasquini, Wakefield, & Roman, 2014), for emerging scholarly activities (Weller, 2011) and for learning practices (Rinaldo, Tapp, & Laverie, 2011), questions emerge about advocating the use of online spaces for learning. If Twitter is a suitable space for social learning, how can vulnerability be offset? How can trust be established among professionals who use and participate on online social networks? As an academic developer, if I advocate the use of online social networks, am I mindful of the gap (Stewart, 2016a) into which I potentially place HE professionals? How do I support the development of trust and identity in these online spaces and fundamentally how do I help develop confidence of professionals who work as educators in HE? These are questions raised by this study and to which I continue to seek answers.

To summarise, the Resident participants’ capacity to participate was underpinned by confidence and trust of others in the online environment. Maurice’s confidence in his knowledge empowered him, but Denise and Paul felt others were more knowledgeable and of higher status, while Carol agonised about phrasing of tweets. These factors highlighted their levels of confidence impacted

capacity to participate on Twitter. Further investigation is required to better understand the confidence necessary for professional use of online social networks such as Twitter.

6.7 Factors supporting participation on Twitter

The capacity to build relationships with others who share similar interests is important for learning (Gee, 2005; Ito, et al., 2013; Wenger, 1998) and this study highlighted a number of factors that either enabled or inhibited ability to establish relationships with others online. Each of the participants discussed the benefits of Twitter, but while Louise, Matt, Maurice and Ben had established a social presence on Twitter, the remainder of the participants chose not to post, thus eluding presence online and avoiding interacting with other professionals on Twitter. Carol and Paul mentioned wanting to post but explained preferences against participating on Twitter. Confidence has already been outlined as a factor of online participation online, but next I discuss other factors arising from the study.

6.7.1 Time

Most participants regarded Twitter as easy to access coinciding with other studies (Holmes, Preston, Shaw, & Buchanan, 2013; Krutk & Carpenter, 2014). Timely opportunities, such as the commute to work, were used by Ben to engage with Twitter. Maurice and Ben talked about navigating a 'profusion' and an 'avalanche' of information on Twitter. While Maurice and Ben referred to the challenges of information management, Louise said that over time she became accustomed to the type of information shared by others and began to decipher information of value to her. She felt her capacity to navigate and manage information had improved, showing she had developed a "critical filter" (Barry cited in Neary & Beetham, 2015, p105) helping her to critically consume and manage content presented on Twitter (Rheingold, 2010).

However, two Visitor participants indicated that making time for Twitter was an inhibiting factor for them. Paul suggested that he had not made time for exploring the functionality of Twitter; similarly, Carol said that due to her part-

time work and multiple responsibilities she had not put time aside for Twitter engagement. Carol and Paul both expressed that spending more time would help their ability to use Twitter. Indeed, according to the Twitter experiences of McPherson, Budge, & Lemon (2015), spending time using Twitter developed confidence in the conversational aspects of Twitter. Indeed accumulating experience in using online social networks is essential to becoming competent in using social media and technical skills necessary (Hayes & Gee, 2010; Ito, et al., 2013). Furthermore, community building is a temporal process, it is not a quantity of time needed but rather “a matter of sustaining enough mutual engagement in pursuing an enterprise together to share some significant learning” (Wenger, 1998, p. 86). My study supports the idea that making time for using Twitter is essential to establishing a social presence on and participating in the social networks of Twitter.

Those who have made time for Twitter seem to have done so by using opportune informal moments such as their work commute. The Visitor participants of this study seem to regard *making* formal time for Twitter as imperative and thus far making time had eluded both Carol and Paul.

6.7.2 Playful participation

A common sense of fun in using Twitter was noted among Resident participants of this study. Resident participant tweets show social commentary and referred to mundane work matters via Twitter humourously.

Maurice: I've broken said laptop.

Laptop applying update 1 of 191.... maybe time to go home

Indeed play has been shown to provide favourable environments that can support the emergence of creativity and thinking about creative possibilities (Craft, 2012; Barab & Jackson, 2015). Matt, Maurice, and Ben's social commentary to others on Twitter suggested they were involved in playful communication by which they were achieving a "vicarious kind of negotiability" (Wenger, 1998, p. 203), helping negotiate affinity with others in Twitter's online space.

Maurice indicated that the conversational aspects of Twitter helped offset isolation and loneliness. While the Visitor participants in this study perceived participating in the online space as an intimidating prospect, the Resident participants were confident and fearless in their participation on Twitter. Although Maurice acknowledged the cautiousness of other professionals online, he indicated that his confidence in knowledge about education supported his participation on Twitter. Louise also indicated that she preferred to lurk on Twitter but her data showed that she had begun to post tweets. Louise's activities on Twitter were evolving and she was beginning to take risks, which in turn supported her growing involvement resonating with Wenger (1998) in that "taking risks at the margins does not imply exclusion" (ibid, p. 216).

Indeed, Budge, Lemon, & McPherson (2016) relate how their risk-taking through Twitter engagement was met by approachability of other academics and the enjoyable social aspects of Twitter offset potential negative implications. Although Twitter was perceived as messy, they nonetheless embraced the messiness while acknowledging the risks in "enacting our professional selves very publicly, online" (ibid., 2016, p. 5).

Stewart (2014) recognises challenges and potential vulnerabilities, including context collapse on Twitter, but she also found that Twitter was a place for humour and self-deprecation. Stewart (ibid) recognised those with an ability to entertain others cultivated attention and enjoyed good-humoured discussion with other professionals on Twitter. Certainly, the topic of the "swingy chairs" discussed in the next section created good-humoured conversation on the conference backchannel. Moreover, Wenger (1998) noted that being involved in communities demanded playfulness which disengaged people from more serious

practice discussions. Incorporating personal highlights and stories into professional tweets enabled users to develop a digital identity that anchored and established their relationships online (Stewart, 2015b), showing that informal tweets could help “yield a sense of affinity, thus participation” (Wenger, 1998, p. 194). So, it can be said that a factor to establishing social presence and thus participation on Twitter is the capacity for a playful attitude, which seems to compensate for risks taken on Twitter.

6.7.3 Online socialisation

In formal learning environments, online socialisation (Salmon, 2007) or social presence (Rourke, Anderson, Garrison, & Archer, 2001) is a cornerstone in developing trust within learning communities. According to Wenger, “making work life bearable is part of joint enterprise” (Wenger, 1998, p. 81), which is manifested through trust and positive relationships in practice and in the workplace. Thus, being personable, respectful, intuitive and sensitive to members of the community is important. Processes to support online socialisation are recommended in formal learning environments (Salmon, 2007) and while initiatives such as Ten days of Twitter (Webster, 2014) exist, it is difficult to ascertain if they provide adequate support to foster socialisation in online public environments such as Twitter. Perhaps investigation of suitable of what supports to socialise professionals into online spaces for informal learning are needed. However that investigation is outside the scope of this research.

Data in this study revealed that informal online socialisation occurred in unplanned and unstructured ways between tweeters. Denise expressed surprise about trivial tweets made about the ‘swingy chairs’ on the conference backchannel. Further investigation of tweets from the conference backchannel emphasised that tweets about swingy chairs acted like icebreakers initiating casual and informal Twitter conversation, a fun way of establishing presence, making introductions and building rapport among delegates at the conference. However Denise was unfamiliar with this protocol and found the casual nature of the tweets confusing within a formal conference situation.

Denise: The chairs, you could swing back on, but people seemed to be fascinated by the set-up of this room...a chair that swivels...as an organiser I was like, whatever. (laughs) You know I thought it was mad but people were obsessed with the room, yeah, yeah obsessed.

Just as Wenger (1998) claims processors developed local meanings about practice, delegates tweeting at the conference were finding appropriate ways of communicating with others over the backchannel. In this instance, those joining the backchannel were setting up a repertoire of shared communication through the backchannel. Tweets about the 'swingy chairs' initiated a process of socialisation where delegates established social presence and connections with other delegates. Thus tweeting acted as a means to build community on the conference backchannel.

Although Denise did not recognise this opportunity for socialisation on the Twitter backchannel, there were other factors inhibiting her participation. There have been emergent discussions among academic scholars about providing care for others online (Stewart, 2016a) where "social media and online social networks function as places where (some) academics express and experience care" (Veletsianos, 2014, para. 5). If Twitter is noted as a space for informal learning at events like conferences, how can delegates be supported and socialised safely onto these spaces? Recently, the publication of social media etiquette guidelines (DIT, 2016) for events have been noted, raising the question if the development of guidelines for appropriate behaviour and participation on social networks will become common practice? If so, what are the potential implications of these guidelines for staff in HE and social media users?

6.7.4 Capacity for online academic debate

Maurice and Ben (Residents) demonstrated their capacity to engage and relate to others online using humour and playfulness as a means to make connections with other professionals. Nonetheless Ben also recognised that respectful and courteous behaviour was important on Twitter; and Maurice and Ben acknowledged debate and critical discourse was valued. Indeed, critical thinking within communities of critical friends (Handal, 2008) is seen as important to

discourse, enriching knowledge and learning. Likewise researchers who investigate the use of online social networks assert that networks challenge considerations of evidence, positions, and expression of opinion (McPherson, Budge, & Lemon, 2015).

While Ben valued critical discussion on Twitter with other professionals he was cognisant of the need to be fair. Indeed the notion of “fairness” is valued in many online cultural practices (Hayes & Gee, 2010; Ito, et al., 2013; Stewart, 2014). Ben suggested that it was about having the “correct etiquette” and “being a nice person,” and indicated that the ability to provide fair critique was a skill set. Ben’s ability to “operate with a concept of criticism that is not negative” (Handal, 2008, p. 64) was key to providing critique in collegial ways, demonstrating his capacity to publicly participate in academic discourse on Twitter. This raises questions about the ability of other participants to engage in constructive criticism with other professionals. Indeed the capacity to communicate appropriately online is noted as a digital literacy (JISC, 2014b) and therefore a developmental need for students and staff in HE.

6.8 Informing practice

Findings highlighted that all participants considered Twitter useful for professional learning despite inconsistencies in the way they socially participated on Twitter. Modes of participation among participants on Twitter were distinguished using White and Le Cornu’s (2011) typology enabling further discussions on the preferences for participation. Thus my findings call into question the accepted notion that Twitter inherently enables social learning and thus enables professional learning. In this research, professionals used Twitter mainly as a means to gather and ‘bank’ information. However reflective practice is a key aspect of professional learning and while some participants described challenges to thinking, due to limitations, it was not possible to determine if Twitter contributed to perspective-transforming learning. The findings also emphasise barriers that participants encountered in using Twitter and show that confidence, the capacity to participate, and a lack of a sense of belonging were issues preventing Visitors from actively networking with other professionals on

Twitter. These findings have implications for practice, particularly with respect to how SNS such as Twitter are integrated into development work and teaching practices and for the broader domain of academic development. Moreover these findings will be of interest to anyone who is concerned about learning in HE or education more generally in the twenty-first century.

Using the research data as evidence, I wish to inform future practice, both my own practice and that practice of others who might use SNS such as Twitter for professional learning. To this end I suggest the following:

- As an academic developer I encouraged the use of Twitter among HE professionals for learning. In the future, following this research I will support discussion of the positive and negative implications of using SNS, urging professionals to take a critical approach in deciding whether to participate in networks such as Twitter. Indeed Veletsianos and Stewart (2016) recently urge that those involved in educational roles “resist utopian or dystopian social media narratives and to consider instilling in scholars the complicated picture of social media use.” (Veletsianos & Stewart, 2016, p. 9). Therefore I will provide supports that allow for critical and informed decisions in using Twitter or other social networks. I believe it is acceptable for HE professionals to decide against using Twitter or other public online social network sites. If I integrate Twitter into learning activities, I am aware that it raises the question of equity and fairness of accessing learning activities among students who choose not to use Twitter. Interestingly Denise argued that even if she were provided with support she would choose not to participate on Twitter, echoing other research findings that “some colleagues simply do not participate in such online spaces” (Guerin, Carter, & Aitchison, 2015, p. 220).
- In this study, those who chose not to participate on Twitter nonetheless had the technical competence to do so, as they were adequately digitally and information literate. However, issues relating to confidence and identity arose for Visitor participants. The findings of this study support recent initiatives addressing digital capability (Beetham, 2015). In a digital capability approach, technical competency and digital literacy can be learned, but identity

development requires longer-term work involving the development of the person as a professional. Growth of professional digital identity involves confidence building combined with digital capability development. How can academic developers support this longitudinal process of identity and digital identity development? In this study, for example, Maurice indicated that he gained confidence through formal accredited learning. This suggests that formal accredited learning opportunities are useful in support of identity development for HE professionals and are a useful building block towards construction of digital identity.

- Critical discussion is required to discover what it means to work in the digital age in education (Beetham, 2015) and to uncover the implications of working as an educator in digital spaces for those who have various roles and responsibilities in HE. What does it mean for teaching and for student learning practices now and into the future? Indeed as yet we poorly understand these new notions of community and must recognise the different understandings of virtual spaces and spatial practices (Savin-Baden & Falconer, 2016).
- As can be seen from the data the virtual world presents particular emotional challenges (Neary & Beetham, 2015) and is a messy experience (Budge, Lemon, & McPherson, 2016). As academic developers, how do we support and equip peers in HE to face these emotional challenges? Indeed common thinking is that people can just use these tools without support (Gourlay, 2015). However recent literature emphasises a caring and mindful approach (Stewart, 2016b) to offset potential vulnerability in online open networks. So in this space do academic developers have a duty to care for professionals they work with and encourage online? Should academic developers model online social networking practices and behaviours? If so what do these practices and behaviours look like? More broadly, how do we create safe places for networked forms of learning and how can we best support this?
- Digital identity is important, but it is formed in conjunction with the practices and responsibilities of HE professionals. How can academic

developers help support professional identity and thus support digital identity?

- Some suggest that encouraging informal conversations about teaching and building associations between formal and informal development are essential for development (Mårtensson & Roxå, 2015; Slowey, Kozina, & Tan, 2014; Thomson, 2015). To this end Twitter can support informal modes of learning but as yet large-scale information on capabilities and preferences of staff to use SNS are unknown, findings of this small-scale study provide some indication of challenges that exist for staff. Indeed, networking skills combined with an attitude towards networked learning are regarded as key for professionals assisting the optimal use of personal learning networks (Rajagopal, Joosten–ten Brinke, Van Bruggen, & Sloep, 2012).
- Currently projects are underway to help build digital capacity and capability of staff and students in HE (Devine, 2015; JISC, 2014a; National Forum, 2015a). Additionally, the New Media Consortium Technology Outlook for Higher Education in Ireland report (Johnson et al., 2015) highlighted that “Rethinking the Roles of Educators” was a key theme for development in HE in Ireland. This challenges how academic developers design digital capacity and capability building into academic development work. Can this support be mapped onto current formal accreditation? How can new spaces for dialogue on these issues be structured? What key supports do HE professionals need to thrive in a twenty-first century environment? What models already exist that combine informal and formal modes of learning, and can online social networks be part of this?

To sum up, my findings do not argue for all-embracing integration of Twitter or other SNS into the practices of HE professionals, but recommend purposeful and selective mediations that attentively explore and support professionals when using SNS for learning. I propose that those in the field of academic development be acutely aware of the necessity of developing professionals’ confidence and capacity to participate in online spaces by engaging more critically in identity

development work that has increasingly been influenced by online and virtual participation. Discussions continue in Ireland with the National Forum for the Enhancement of Teaching and Learning Forum (2015a) and I consider these findings and implications for practice to be valuable to those conversations.

6.8.1 Reflections on theories and concepts

Many types of learning theory exist, some for varying purposes and each emphasising different aspects of learning (Wenger, 1998). Eraut (1994) proposed that professional learning was an inherently social and informal activity and within social and informal learning theories, Wenger's (1998) CoP model confirms that issues of identity are an integral aspect of social learning theory. Therefore, I deem the characteristics of the CoP model to be a suitable basis for supporting this exploration. Additionally, I found that theories of networked and connected learning (Gee, 2005; Ito, et al., 2013; Rourke, Anderson, Garrison, & Archer, 2001; Siemens, 2006) provided explanations of learning in online spaces, some of which were supported by my findings while others were contradicted by evidence in this study.

In this research journey, I collected data and began analysis before I settled on a suitable conceptual framework to support explanations of the data. Twitter has been commended as a means of connecting professionals so that they may collaborate on mutual and shared interests (Dabbagha & Kitsantas, 2012; Gallop, 2014; Gerstein, 2011; Holmes, Preston, Shaw, & Buchanan, 2013). To this end, the CoP model enabled further analysis of how participants used Twitter in various modes of participation. This model, which originated within an organisational development setting, focussed on three dimensions of a CoP: mutual engagement, joint enterprise, and shared repertoire (Wenger, 1998). However, findings from this study demonstrate that while Resident participants connected with other professionals online, Visitor participants did not participate openly online and their behaviours did not align with Wenger's (1998) three dimensions of CoPs. While Visitor participants were reading the Twitterstream, they were not fully active in a community with others, sharing repertoires. This suggests that the dimensions of the CoP model were not fully relevant to this online context.

Eraut's (2004) factors of informal learning described the importance of confidence in empowering professionals to engage in learning opportunities, a factor which was confirmed in the research findings. Eraut (2004) favoured the term *confidence* over Bandura's (1977) concept of self-efficacy due to its associations with relations among people rather than the individual's ability to execute a task or perform a role. To this end, 'confidence' was a suitable term to describe an inhibiting factor apparent among some participants in this study.

The problematisation of online spaces as places of learning is relatively new in the research literature. Nonetheless, models of networked and connected learning (Gee, 2005; Ito, et al., 2013; Rourke, Anderson, Garrison, & Archer, 2001; Siemens, 2006) assisted this study. I argue that these studies observe learning online through the position of those already positively disposed to online spaces. Therefore this study presents the view of those whom are hesitant and cautious in online spaces, a novel contribution to the literature base. While a peripheral mode of learning on Twitter was useful to some participants in this research, this study challenges the notion that online social spaces are inherently spaces for networked learning.

Finally the Visitor and Resident (White & Le Cornu, 2011) typology was useful for highlighting the similarities and differences in modes of participation among participants enabling further consideration and critical discussion.

Chapter 7 Conclusion

7.1.1 Introduction

In this chapter I outline where this study makes a contribution to knowledge in the fields of professional learning and the use of online social networks in HE. To start with, while conclusions are drawn in relation to Twitter I also argue that they act as a point of inspiration for conversations concerning activities on similar social networks.

All participants in this study advocated using Twitter for professional learning, but the evidence demonstrated differences in participation on Twitter. Visitor participants observed the activities of other educators on Twitter, while Resident participants posted tweets, engaged in conversations, and established a digital footprint and identity on Twitter. Reasons for non-participation on Twitter related to confidence, vulnerability, capacity to participate socially on Twitter, and an absence of belonging online. Perceptions that a hierarchy existed within these spaces and that other social network participants' knowledge was greater than theirs contributed to absence of participation. Negative perceptions of online expression inhibited Visitor participants from participating visibly on Twitter.

Lastly, I summarise limitations of this research before noting the professional significance of the study for my work as an academic developer and for professionals in the wider field of HE. Finally, I propose a number of research areas that may be worth investigating in the future.

7.2 Learning from the research

This research has been an attempt to contribute to the enhancement of my professional knowledge and to the general area of academic development within HE. The purpose of this research was to fill the gap in the existing research into how Twitter is used within HE (Lupton, 2014; Veletsianos, 2012) and I wanted to explore how Twitter served as an informal means of learning for professionals. Furthermore, as international (European Commission, 2014) and Irish national initiatives (Hunt,

2011; Slowey, Kozina, & Tan, 2014; National Forum, 2015c) look to expand opportunities for academic professional learning and development, options that embrace online, informal and flexible modes of learning might become more recognised by mainstream professional learning giving importance to this research.

I became aware that professionals used Twitter to bank knowledge (Freire, 1968), while this was sufficient for participants learning needs, some assert that professional learning is a process of deeper interrogation where self-exploration, changes of perspective, and growth of professional self are critical (Barnett, 2008; Nixon, 2008; Palmer, 1998). Indeed Wenger views learning as “a matter of identity” where “identity is itself an educational resource” (Wenger, 1998, p. 277). However this study was limited in finding if perspective-changing learning occurred for participants; nonetheless some participants discussed how their thinking was challenged, with changes to practice contributed to by Twitter. Overall this research raised questions about how academic developers promote new media, including Twitter, as opportunities for learning for professionals working in HE.

At a personal and professional level, this research provided me with an opportunity to critically consider my practices on SNS, particularly how and why I value Twitter for professional learning. This investigation contributed to my awareness of attitudes, practices and beliefs as an educator and led to a widening of my perspectives and a shift in my professional identity. Indeed as an academic developer, I have a responsibility to lead by example and demonstrate a critical awareness of the technology I engage with (Selwyn & Facer, 2013). Additionally, this research journey has given me an entry point to a growing academic discourse and to a welcoming academic community sharing a common interest, whereby critical attention is given to the role of social media and online networks in modern professional academic life.

I am foremost a ‘teacher’ (Biesta, 2013; Palmer, 1998) in HE, and this research provided me with the opportunity to critically explore my practices as an educator. My findings have contributed to changes in my teaching approaches, particularly

with respect to introducing and using SNS for learning. I will continue to embed activities underpinned by social networks into teaching, but I will support this more thoroughly with care, involving others in critical discussion about the implications of using open online networks. Furthermore, I will align social networking activities with development of digital identity among HE professionals supporting them in safe ways (Stewart, 2016a).

7.2.1 Participation in online networks supports identity development

This research has highlighted how the development of digital capabilities (Beetham, 2015) and digital identity (Neary & Beetham, 2015) are important to the many activities and responsibilities of those who work in HE. Although Wenger (1998) argued that the politics of participation included influence and personal authority, Visitor participants in this study, through lack of outward participation, neither created digital footprints nor developed digital identities. In turn their lack of participation contributed to a lack of influence on Twitter (Stewart, 2015b).

In this study, a lack of confidence inhibited some participants from engaging outwardly on Twitter, and this was related to participants' absence of belonging with other professionals on the online space of Twitter. However, reflections on the research findings and literature highlight the opportunities for developing the self-awareness that online social networking offers (Wesch, 2008). Some literature emphasises the *identity* opportunity that being online offers (Turkle, 1997). Indeed, this study shows that presenting oneself and sharing views, opinions and practices contributes to a dilemma. Paul reflected on his lack of readiness to tweet, Denise preferred to observe, and Louise showed a change in her activities online. Perhaps then, inviting professionals into the online space instigates necessary discussion about digital identity and thus professional identity. This could provide a rich development opportunity stimulating reflection on the self and one's position in societal, cultural, institutional and global contexts. Therefore, the introduction of SNS such as Twitter into professional learning and development opportunities may

benefit identity support work, whereby academic developers endeavour to develop professional and digital identity.

7.2.2 Duty of care

This research has highlighted factors that inhibit participation on Twitter, showing the “virtual world presents particular emotional challenges” (Neary & Beetham, 2015, p. 98). Some participants felt vulnerable, lacking in confidence and not ready to engage in participation on the social network of Twitter. These authentic stories from participants raise questions as to how Twitter and other social networks are advocated and encouraged among HE staff. In recent research, Stewart (2016b) highlighted Twitter networks as valuable sites of belonging and meaning where scholars experienced care from others in the field. However, this study highlighted that some participants were very concerned with participating online telling stories of distress and vulnerability. Perhaps discussing how other scholars have found kindness and concern from other professionals on Twitter might offset vulnerability and fears of participation on the social network (Stewart, 2014). Ito et al. (2013) also claimed that youths participating in open online spaces for learning needed caring adults and supportive peers, which also suggests a need for an ethos of care towards others when using online spaces. Ben, in this research, suggested that participation online is a learned skill. I expand on this and describe it as a capacity whereby caring for others is an important aspect of being online professionally. This raises important questions about how those who promote the use of SNS, especially academic developers, provide support and care to others while modelling social networking practices online.

While it might be said that this proposition of caring for others online challenges the “logics of neoliberalism and the self-interested actions of dominant actors in the global knowledge economy” (Selwyn, 2013, p. 164), I believe that academic developers have an obligation to recognise the various modes of participation that learning on social networks offers. We have a responsibility to meet learners’ needs while supporting their journeys of identity development and in Wenger’s words it is

“a theorem of love that we can open up our practices and communities to others (newcomers, outsiders), invite them into our own identities of participation, let them be what they are not, and thus start what cannot be started” (Wenger, 1998, p. 277). This, I believe, is about fostering “networks of care” and “experiences of care” (Stewart, 2016b) for those who wish to visit or reside in online social networks.

7.2.3 How can academic developers support the use of SNS like Twitter?

Participants of this research discussed concerns about presence on Twitter and navigating unknown audiences (Marwick & boyd, 2010), so it seems “the digital landscape remains an uncharted frontier for many in academia” (Hildebrandt & Couros, 2016, p. 91). Participants in this study regarded themselves as possessing technical competency and digital literacy skills, but despite this, Visitor participants preferred to stay at the margins of networks, observing the activities of others on Twitter rather than establishing presence and participating. This study has highlighted reasons for their peripheral type of participation on Twitter.

Supports for using Twitter for various purposes in HE have emerged (Webster, 2014; Mollett, Moran, & Dunleavy, 2011) providing opportunities for professionals to develop the technical and social networking skills to use Twitter effectively. However, it seems from the data in this study that competencies were not the primary issue affecting participants’ use of Twitter. Instead the participants’ confidence and capacity to participate, underpinned by issues of identity, were crucial for enabling participation and belonging in online spaces.

This raises questions about the types of support necessary for using online social networks. Support devices need to acknowledge legitimacy of peripheral participation for newcomers into spaces and, rather than instructing them on how to use the technology, supporting the “negotiation of productive identities through landscapes of practices” (Wenger, 2010, p. xii). As Gogia (2016) recently blogged “we need to move beyond a discussion of tools – digital or otherwise. Instead, we need to function at the level of the pedagogy itself” (ibid, para 14). It is recognised that

staff development activities can play a role in identity development work of teachers in HE (Van Lankveld et al., 2016) so as academic developers, how can we support professional identity development of staff in an increasingly digital world?

Recent literature presents Twitter as a site of professional learning (Evans, 2015) where norms of hierarchy are broken and perspectives challenged (McPherson, Budge, & Lemon, 2015). However, my findings demonstrate that Visitor participants lacked the confidence and capacity to participate on Twitter in this way. Resident participants, however, acknowledged Twitter as a place for academic debate. This raises the question about how academic developers can support professionals to develop the confidence and capacity to participate on SNS.

More research into identifying suitable supports for using online social networks is needed if the promotion of these sites continues, and supports must reflect the importance of critical thinking of the opportunities offered and the implications raised within digital spaces. Indeed, providing supports that promote the professionals' construction of a digital identity might also develop professional identity. This research does not suggest the use of particular model or techniques to support those using SNS, but rather that we engage in critical discussion of how and why HE professionals can use SNS while being mindful of the broader implications and risks of use. Perhaps activities for experiential learning using SNS can be designed into formal programmes of development in teaching and learning, and it is worth investigating how the use of SNS can be embedded in curriculum activities and aligned with activities that enable identity development.

Additionally there is a need to consider how informal learning on Twitter is expanding and how emerging opportunities for informal dialogue, such as #LTHEchat¹⁸, are enabling professional dialogue on pertinent HE topics. However more research is needed into how structured but informal dialogue activities in these spaces support professional learning and also promote identity development.

¹⁸ #LTHEchat, which was set up in 2014, is a weekly Tweetchat for educators to discuss topics of HE learning and teaching.

7.3 Contributions to the field

7.3.1 Issues affecting participation on Twitter

This study found that Visitor participants were inhibited from participation on Twitter due to factors concerning confidence and capacity to participate, which affected their belonging in online networks. Most emerging studies in this field of research focus on early adopters on online social networks and those who participate in online spaces in Resident modes of engagement (White & Le Cornu, 2011).

Therefore, this study negates the view that participation happens inherently and that affinity is found by everyone in online social space. Stewart (2014) emphasises the need for care in online spaces, a view this study emphasises through showcasing the cautiousness and vulnerability of some professionals online.

7.3.2 Confidence

Confidence was an issue for Visitor participants. While all of the participants had completed a professional development Masters programme, some participants referred to a lack of confidence and the feeling that others had more knowledge than they had. Eraut highlighted that “much learning at work occurs through doing things and being proactive in seeking learning opportunities; and this requires confidence” (Eraut, 2004, p. 269). Consequently, there is a need to discuss how academic development initiatives currently support the development of confidence in professionals to enable their participation in spaces (face-to-face or online) for informal learning.

The development of confidence also relates to the growth of professionals' identity. Maurice highlighted his confidence originated from accredited studies in education; his confidence empowered him to voice opinions and share practices online, engaging with professionals with similar interests who in turn acknowledged his identity as an educator. Wenger (1998) highlights the connection between identity and practice. “If one needs an identity of participation in order to learn, yet needs to learn in order to acquire an identity of participation, then there seems no way to start. Addressing this most fundamental paradox is what, in the last analysis,

education is about” (Wenger, 1998, p. 277). Thus, it seems that the development of an identity needs participation, and participation in this study necessitated confidence and capacity to participate in online social spaces of Twitter.

7.3.3 Digital identity development

The development of confidence runs in parallel with identity development work on a progressive trajectory over time. This journey includes reconciling various forms of membership into one identity (Wenger, 1998) and becoming aware of the risks of “context collapse” (Marwick & boyd, 2010) while “negotiating local ways of belonging to broader constellations and of manifesting broader style and discourses” (Wenger, 1998, p. 150). I believe that academic developers need to examine current forms of professional development to establish how the digital identity of HE professionals is supported on this journey. Moreover, critical discussion on identity becomes more important with the increasing pressures to demonstrate academic work online and develop a digital identity. This research adds to the growing discourse about digital capabilities realised in projects underway within the work of the Irish National Forum for the Enhancement of Teaching & Learning’s framework of digital skills for HE (National Forum, 2015b, 2015c) and projects working towards building digital capacity of staff and students in HE (Devine, 2015; JISC, 2014a).

7.4 Contribution to theory

Wenger’s (1998) CoP model enabled analysis of how professionals use Twitter for learning. However the findings show inconsistencies in how Twitter was used by professionals. In this study some professionals were highly networked online whereas others lurked in the margins of Twitter spaces. Although Wenger (Ibid) provides some theory on marginalisation and non-participation, his theory did not extend to the complexity of participating in online spaces where audiences and risks become messy and unknown. To this end recent literature (Budge, Lemon and McPherson, 2016; Singh, 2015; Stewart, 2014, 2015a, 2016b; Veletsianos, 2012, 2014) helped problematise participation in public open online spaces. Indeed other

writers have criticised Wenger's lack of awareness on issues on power (Henderson, 2015; Lea, 2005) so it is recognised that Wenger's work cannot cater fully to all situations of social learning. Perhaps future studies can draw on this critique of Wenger's model. Despite this, in this context, the CoP model was suitable and helped stimulate pertinent findings.

Additionally, the Visitors and Residents typology (White & Le Cornu, 2011) was useful in highlighting engagement of participants on Twitter. Using the typology in this way extended its original purpose and assisted cross case analysis in this study.

7.5 Dissemination of findings

From this research I have seven case studies of HE professionals, placed on the Visitor and Resident continuum. I propose that these case studies describing professionals' use of Twitter for professional learning, can extend the benefits of the activities of the Visitor and Resident framework. These case studies might provide material for additional discussions about the use of SNS in HE settings. For this research I attained ethical approval from the IOE and achieved consent from research participants. However as I value a covenantal approach to ethics (Brydon-Miller, 2009) I will approach participants once again seeking permission to create case studies for general use. I wish to integrate these cases studies into teaching and workshop activities, as they might be useful resources for teaching topics concerning digital literacies, capabilities, and digital identity.

These findings open doors to collaborations with other researchers. I will investigate alliances with researchers who are also interested in concerns about using and participating on online social networks (Vigurs, 2016). Additionally, I have already presented aspects of this research at conferences and I intend to publish articles from my EdD work in appropriate journals.

7.6 Study Limitations

This study was sparked by my interest in gaining greater understanding of how HE professionals used Twitter for learning, but I soon felt like a newcomer to the topics

of professionalism, professional learning, and particularly identity. Determining the depth of participants' learning was problematic. Since professional learning is a process of enhancing awareness of the self, coupled with political awareness, this research due to its short time scale was limited in ascertaining how Twitter contributes to the development of HE professionals. Nonetheless, the participants of this research asserted that Twitter was useful for learning.

Also this study was focussed on the use of one SNS, Twitter. Therefore, it is possible that the findings may apply only to this particular social network, but they might nevertheless be relevant to other open online and public spaces used for professional learning.

Had I greater critical knowledge of matters of professionalism, professional learning, and identity prior to the research, I might have focussed my literature review differently, changed my research questions and posed different interview questions to focus more on issues of identity. Nonetheless, I believe that the case study approach, which allowed for an open exploration of the phenomena, was suitable as it enabled uncovering of findings, which now point towards further research (Buchanan, 2012). Indeed into the future I would like to explore how SNS might contribute to critical professionalism.

The scale of this study was small and arose from an opportunity sample (Dowling & Brown, 2010). While the findings might not be fully generalisable, it is unlikely that they would be unique to this context. Nonetheless, other small-scale research studies have established similar findings (Vigurs, 2016). It is my hope that these findings might resonate with other HE professionals beyond the immediate context.

7.7 Conclusion

For this study, I adopted a case study approach to explore how HE professionals use Twitter for learning. While this research shows that participants regarded Twitter as beneficial for learning, I acknowledge that I could not determine explicitly how Twitter may have affected deep professional learning and growth. Different modes of

social participation on Twitter were described by participants, and factors that inhibited or enabled their participation were revealed. From this research, I have concluded that Twitter provides learning opportunities for busy HE professionals, but rather than solving a problem it becomes a “problem-changer” (Selwyn, 2013, p. 21), as there is now a need to think carefully about implications of advocating online public social networks for learning. My findings call into question the widely accepted notion that Twitter inherently enables social learning and thus enables professional learning.

I have concluded that all modes of participation on Twitter evidenced in this study contributed to the participants’ learning, but more in-depth research performed over a longer time frame is needed if we want to find out how participation on social networks can influence professional learning in transformational ways. I believe there is a pressing need for academic developers and for others involved in the design of learning opportunities to promote discussion and foster critical attitudes about how we use and engage with social networks such as Twitter for learning purposes.

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Appendix 1 - Participant information and consent

Participant Information Sheet
Invitation to take part in a research project
April 2014

Researcher: Muireann O’Keeffe

Research Title Exploring the continued professional development of higher education professionals as they participate in digital and online spaces.

I am currently undertaking doctoral study at the Institute of Education, University of London, and as part of this programme, I am hoping to conduct some research with higher education professionals who are graduates of the MSc in Applied eLearning from Dublin Institute of Technology. I am inviting you to contribute to the research project and in order for you to decide whether to partake, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information and contact me if there is anything you would like me to clarify.

What is the purpose of the study?

Based on previous research (2011-13) I supported the process of ePortfolio development with students on the MSc in Applied eLearning programme. During this time many students made ePortfolios publicly available and also integrated other social media tools such as Twitter and blogs into ePortfolios. Recently I have conversations with two graduates which highlighted that digital tools and online spaces might be used for purposes of continuing professional development, where professionals keep up-to-date with innovations in higher education practices, share knowledge with a community of practitioners and collaborate with higher education colleagues.

In this study I plan to explore the activities of Higher Education (HE) professionals using online tools and digital spaces. I want to explore how online activities might support the professional development of HE professionals. I also want to investigate if there are barriers and enablers that exist to HE professionals in engaging in online activities and practices.

Firstly I will be exploring your use of Twitter and other social media tools such as blogs. Then I will be asking for your opinions on the use of these tools by inviting you to an interview in the coming months. Interviews will be scheduled at a time that will suit your schedule and can be facilitated face-to-face or via conference call.

I want this study to contribute to the knowledge of how online spaces and digital tools are being used by professionals in higher education and to see if these activities contribute to continuing professional development.

Do I have to take part?

No, it is up to you to decide whether you or not to take part. You will be given some time to consider this, and I will follow up this contact to you in a few days. If you do decide to take part, I will discuss additional details with you. You will be free to withdraw at any time without giving a reason.

What are the benefits of taking part?

The research may contribute to the knowledge on how online spaces and digital tools are being used by professionals in higher education and see if these activities contribute to professional development.

What will it involve?

If you decide to take part in the study, you will be asked to participate in an interview. I plan that interviews will commence in Autumn 2014.

Later if needed I might also disseminate a short questionnaire asking more specific questions so that I can probe deeper in this research

Will my taking part in this study be kept confidential?

Yes. All information that is collected from you will be kept confidential. The general findings of the research will be presented as part of a small scale research study that I am completing at the Institute of Education, University of London. Your name and personal details will not appear, and I will ensure that it will not be possible for anyone to identify you from your responses. When completed, a copy of the research will be sent to you. I also aim to disseminate the broader findings from this study at conferences and in research journals in the future; your confidentiality is assured in this case also.

If you have any questions, you can contact me for further information:

Muireann O’Keeffe
Institute of Education EdD student

████████████████████
██████████

Thank you for reading this and for taking the time to consider participating.

Participant Consent Form

Title: Exploring the continued professional development of higher education professionals as they participate in digital and online spaces.

Researcher: Muireann O’Keeffe

1. I have read and understood the attached information sheet giving details on the research project.
2. I have had the opportunity to ask the researcher any questions that I had about the project and my involvement in it, and understand my role in the project
3. My decision to consent is entirely voluntary and I understand that I am free to withdraw at any time without giving reason and that I will suffer no adverse consequences from withdrawing.
4. I understand that data gathered in this project may form the basis of a report or other form of publication or presentation.
5. I understand that my name will not be used in any report, publication or presentation, and that every effort will be made to protect my confidentiality.

Participant’s signature _____ Date

Participants _____ Name _____ in _____ block _____ capitals

Researcher’s signature _____ Date

Appendix 2 - Twitter codes

Creating codes for excel spread sheet, based on Veletsianos' (2012) study as a methodological guide

I adopted Veletsianos codes and began to code, but I changed the codes slightly for my own use.

Veletsianos' (2012) categories	MOK_Code
Sharing information, resources, and media relating to their professional practice;	Sharing_practice (MOK Changed to Sharing_resources)
Sharing information about their classroom and their students;	Sharing_classroominfo
Requesting assistance from and offering suggestions to others;	Requests_suggestions
Engaging in social commentary;	Social_commentary
Engaging in digital identity, impression management;	Digital_identity
Seeking to network and make connections with others;	Making_connections
Highlighting their participation in online networks other than Twitter. (Blogs or LinkedIn??) Reshape this into my framework....	Other_SM_participation
Non education related comment	NonEd_comment MOK Changed to NonEd_post
Statement related to education but not practice or classroom related	MISC_Ed_statement Changed to MISC_Ed_post

Phase 1 coding

Started coding backwards chronologically from the 1st June 2014, 50 tweets for each person

(This was a period with conferences: #excitedirl, #edXXXX14.....these events might have contributed to more tweets than usual...therefore this period of time might not be indicative of regular twitter behaviour/engagement)

Coding tweets

When I started coding Tweets I realised that some tweets fitted more than one code, I used a primary code from what I thought was strongest from the tweet, then I gave it a secondary code

Took 1 hour to code initial tweets, kept having to look at conversational context on twitter but then speeded up

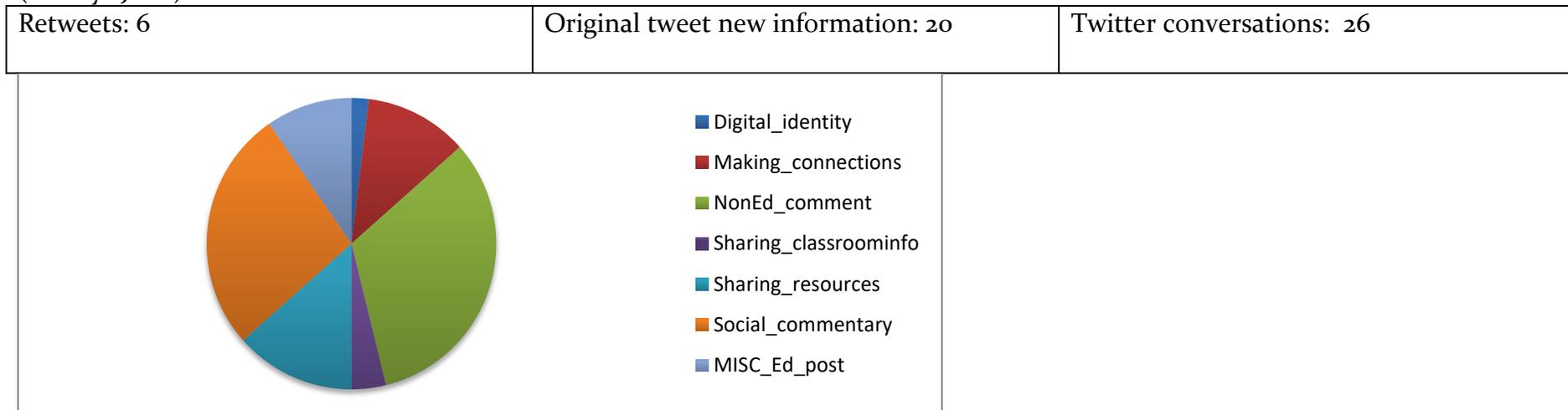
Some conversations – I denoted these by giving them coloured backgrounds

Phase 2 –

I wrote a summary of the tweets and asked myself RQ₁ at the end of each summary to help me refocus (What are the activities of these higher education professionals using Twitter? Activities listed next:

Maurice

(22May-1June)



Maurice's activities on Twitter

My overall impression: overall Maurice's tweets are conversational, often witty, education related predominately, with aspects of his personal interests incorporated throughout (Gay rights, history, politics), creates an authentic feel of a real person. Overall he makes connections, sees stuff of interest, and tells others. Creates stuff of interest i.e. blog posts and shares. He develops relationships with people via twitter

How does this impact his teaching...his students (he mentioned before about being a real person, was important to him, to be a role model for students, being a gay lecturer and being open)

Maurice links out the RSC discipline specific blog, which he writes

Learning to write about XXXXX: <http://www.XXX.org/blogs/eic/2014/XXXXXX>

Conference Report: Irish Variety in Chemistry Education <http://www.XXX.org/blogs/eic/2014/05/XXXXXX>

Also contributes comments to other blogs on request from @ThomsonScience <http://XXXXX.wordpress.com/student-blogs/>

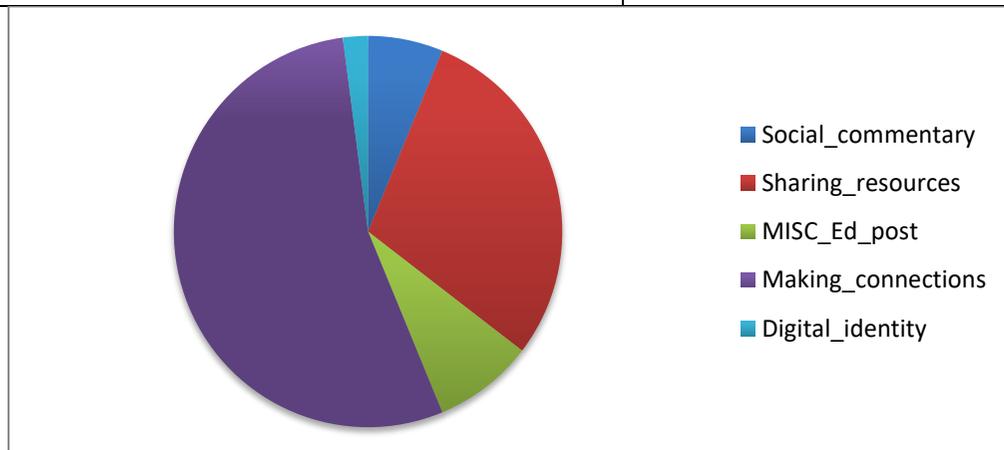
Hashtags: chemed, tu4dfye, iverse14, edXXX14

RQ: What are the activities of this higher education professionals using Twitter? : linking to his blog, sharing his practice, sharing information with other professionals, conversation with other professionals, personal comments, having fun, expression of opinion!! Expression of opinion, we get o tee what values/beliefs he might hold - is this important as a teacher

Matt

(30th May – 1st June)

Retweets: 19 retweets	original tweet new information: 5	Twitter conversations: 18
-----------------------	-----------------------------------	---------------------------



Activities that Matt engaged with on Twitter

Some thoughts: He RTs more than other

Not – substantive tweets, does not give personal slant on importance or his own interests, RTs rather than providing his own tweet with information from his practices or activities as an educator

Some light-hearted conversation

Use Hashtags – excitedirl, edXXXX14, likes to RT from conferences

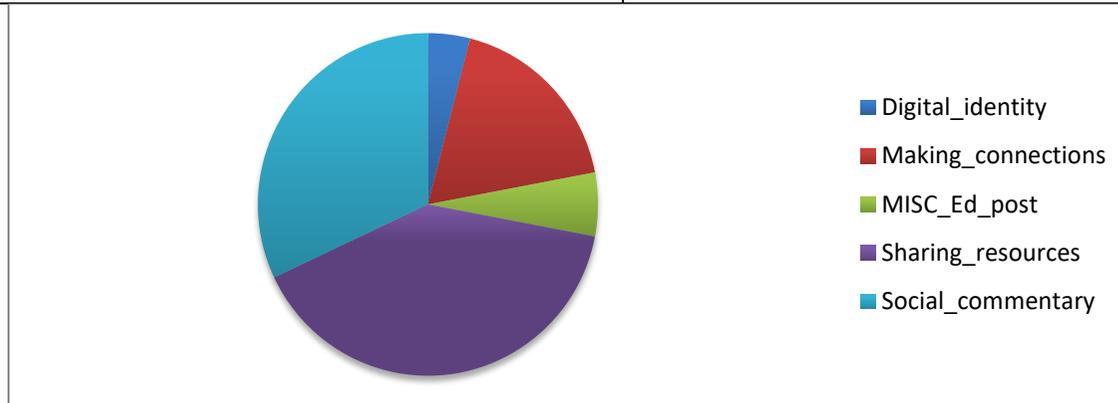
Seems to be the redistributor of info

RQ: What are the activities of this higher education professionals using Twitter?: sharing practice, sharing information with other professionals (lots rewets), conversation with other professionals, no personal comments, loves to talk, no deep statements, superficial, no opinons

Louise

(10 March 2014 – 2nd June)

Retweets: 8	original tweet new information: 22	Twitter conversations: 17
-------------	------------------------------------	---------------------------



Louise's Twitter activities

She has twitter conversations, mix of personal and professional, she doesn't tweet as often as 2 previous users, but she tweets original info that is important to her, portrays her interests.

Hashtags – cosystemnch, dittechtokit, edXXXX14

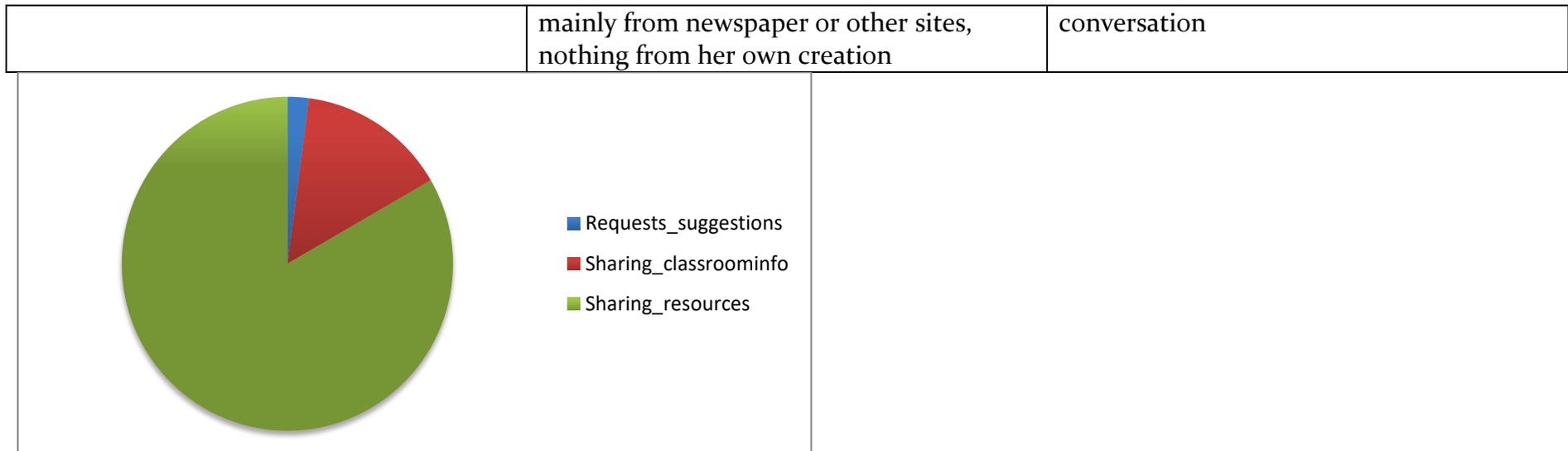
RQ: What are the activities of this higher education professionals using Twitter?: sharing practice (her project) , personal (holidays, leisure), opinion sharing (articulate), conversation with other professionals, information distribution

has deep statements (opinions)

Karen

(1st May – 30th May 2014)

retweets: 27	original tweet new information: 22, but	Twitter conversations: 1 reply, indicating
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Karen Twitter activities

She is using twitter but it is mainly RT's of business relating info, no pedagogy stuff or in a network of other lecturers, maybe she shares stuff of interest to her?

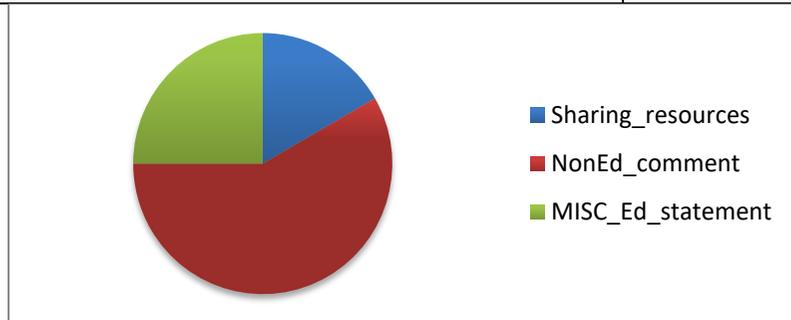
She does share info relevant to her place of work, but now so much about her students.

not part of a network, but using twitter to gain information about marketing and business, not explicitly using it for pedagogical improvement, but perhaps she follows people who talk about teaching but she just does not retweet these things...she might tweet for her marketing students so does not want to pollute the stream

RQ: What are the activities of this higher education professionals using Twitter?: sharing information (of others) , no opinion sharing/not deep tweets, only 1 reply to student, mainly a lurker, listening to others, retweeting what resonates, business activities

Paul

11 in tweets total from 2014 (3rd Jan – 20th May 2014)	9 RTs (out of 11 tweets)	Twitter conversations: 0 replies, indicates no conversation, no network participation
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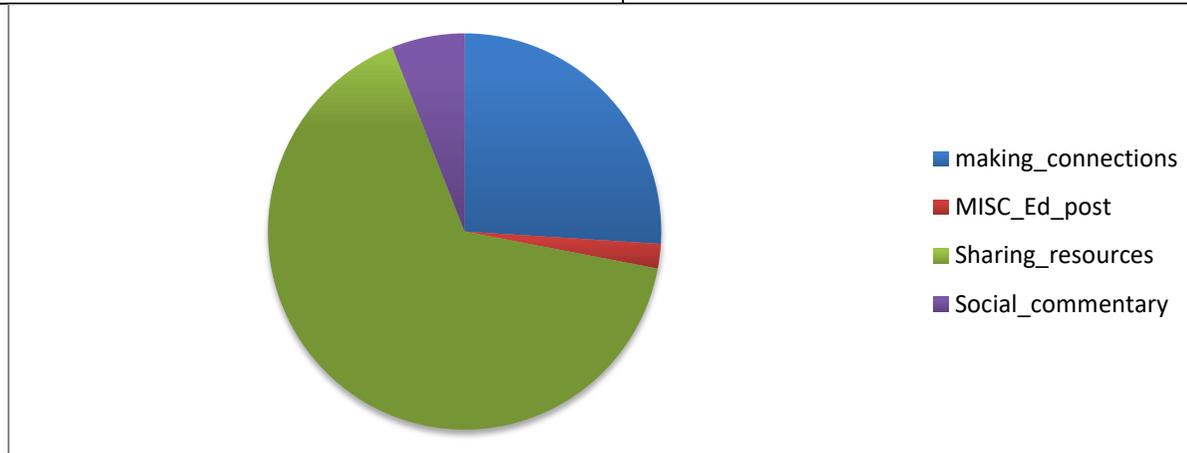
Paul 's Twitter activities – mok have codes in appendix

doesn't use twitter that much, but does have some tweets that indicate interest in education....pedagogy, could be interesting to follow up further, if it is useful, why he doesn't tweet – perhaps pedagogical up skilling is not a priority to him

RQ: What are the activities of this higher education professionals using Twitter? Sharing information, mainly non educational, lack of opinion, 1 reply, but not an ed community

Ben

Retweets: 10	original tweet new information: 11 tweets from conference, some tweets about own resources (video) but in context of a conversation rather than once off	Twitter conversations: 10 tweets
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Ben's activities on Twitter

RQ: What are the activities of this higher education professionals using Twitter? Sharing information, has retweets of others work, no opinions expressed, makes comments to others but lack of conversations
some sharing of opinion maybe ie tweet on research, maybe he tweeted this because it resonated with hi, however I should not make these assertions because I can only analyse what is evident not what might be going on his head!! Be careful

Appendix 3 - Checking Twitter codes

Checking of 50 extra tweets

I wanted to check the Twitter data by coding fifty extra tweets from two participants. I did this to ensure that no massive pattern changes occurred in types of tweets by participants, thus ensuring reliability.

Ben's tweets

21 original tweets	20 replies	11RT's
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And I found that 31 of the tweets shared information, this were predominantly from the edXXXX conference, edXXXX hashtag was included
19 tweets were social commentary – all of these tweets were commentary in relation to the conference

all of these tweets were made on the 29 and 30th May

Many social commentary tweets were about the award... that Ben won

Most conversation not critical commentary, but 2 questions were asked i.e.

@XXXX what about the good old QR code?

The social commentary shows a jovial collegial atmosphere

Some self-promotion - “Just about to present for the Award ceremony...fingers crossed! # edXXXX”

He mainly posts original tweets - showing confidence, and familiar with twitter and perhaps at the conference

Did 50 more tweets add more to data? – similar activities, showing social commentary, 50 extra tweets shows more of social commentary than his other tweets

However I think 50 tweets is enough as it shows the type of engagement, and it is about prof TL practice

Did I show saturation with 50 tweets? – not quite but I think 50 tweets was adequate as it showed that Ben was engaging generally ...but more could be drawn out from interviews

Karen's tweets

3 social commentary tweets	47 sharing information tweets 31 RTs	19 original tweets
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Mainly sharing info about business, marketing subject

No conversation with other educators

I am looking for tweets about how educators link with other T&L people, no evidence of this

Promotion of dept - Congratulations to DIT Business Case Group: 2014 champions @RRUIUCC

is this linking with students? - @shaneoleary1 @DigitalMediaDub @XXXXXX

Tough but fair, Shane! - Weren't you top of the class??

Some funny tweets, i.e. ads shared, were these for benefit of students?

Another conversation with student: @shaneoleary1 had shared it even before I saw your tweet, a lovely post!

She engages in very little social commentary, lots of retweeting, sharing info biggest activity -

Does this add more to data – majority of sharing and RT's , however it does show 3 examples where she connected with people –students

Did I show saturation with 50 tweets? Yes, as she has continued to share data, RT and not so much evidence of linking with others, and no info on using it for her own T&L development, will be good to ask her if she had ongoing conversations with students over twitter

Appendix 4 - Sample of backchannel tweets

Conference backchannel tweets

Code: conversation

@ctel_wit wait until you see the appendices! 3x as long as the roadmap. Have both at our stand #edtech14

Thks Tom! @TomFarrelly: U go boy, Cork pitch! #edtech14 @Cybersull <http://t.co/j9wkKex6nl>

Fantastic to catch up with a project I worked on in DCU, the Intergenerational Learning Programme #edtech14

Excellent presentation at #edtech14 on transformative Intergenerational Learning initiative at @DublinCityUni

"@JamesDiffin: Good feedback is anything that might strengthen a student's capacity to self-regulate. #edtech

RT @glynnmark: RT @NIDL_DCU: Great to see so many of our @NIDL_DCU team and colleagues here at #edtech

@mbrownz @DublinCityUni lovely engaging presentation, other colleges should copy this initiative #edtech14

"@mbrownz: Excellent presentation at #edtech14 on Intergenerational Learning initiative at @DublinCityUni R

Great to see @RCSI_irl so well represented at #edtech14. Excited to see @Cosyst present next!

Agreed 'e-learning' can be a scary term for many! @TomFarrelly suggests use other terms; digital literacy, #tel

@dubdonaldson describes how they investigated tech and e-learning infrastructure in Malawi prior to develop

2 interesting presentations, mention use of discussion forums... Q? how do you support engagement with foru

"@muireannOK: @dubdonaldson describes how they investigated tech and e-learning in Malawi prior to devel

"@craigdooley: "Whether we do elearning or not is in the past...it's now how well we do it" @TomFarrelly #ed

@muireannOK @dubdonaldson #edtech14 only ever managed it for most students by having mark incentives

@Emmadw @muireannOK @dubdonaldson We get very good participation on #ITOnline programs. Emphasise

@marloft @Emmadw @dubdonaldson grading is key to forum participation and good tutor emoderation skills

@catherinecronin I said, "Catherine!" to a stunned #edtech14 delegate and now think I've been labeled as cor

@topgold ha! you can say it again tomorrow, Bernie... I can't wait to get to #edtech14 for Day Two :)

RT @marloft: @Emmadw @muireannOK @dubdonaldson We get very good participation on #ITOnline prograr

@sheilmcn sadly, I'm not in Dublin with @crumphelen today (family commitment tonight) - but will be at #edt

@topgold must meet for coffee at #edtech14

Conference backchannel tweets

Code: Pres_sharing

#edtech14 last years ¼ million ERASMUS students moved around Europe, according to Margie Waters

RT @TomFarrelly: What a venue at #edtech14 sutherland building in @ucd very impressive! <http://t.co/1Ek9c>

Here in #ucd for #edtech14. Margie Waters from EC Commission keynoting on higher ed in EU context

#edtech14 M. Waters encourages participation in mobility of students and staff through Erasmus+. Important i

#edtech14 Ireland set ambitious targets for 30-34 years with HE qualification - but where is the funding to sup

Higher education is huge 99 million in 2010, expected to increase by 4 fold by 2030 #edtech14

#edtech14 number of HE students in Europe expected to grow 4 fold by 2030 (largely driven by growth in inter

Margie Waters " need effective HE systems" #edtech14 - 20% increase in students, 20% reduction in staff and

The PIAAC figures provide some food for thought #edtech14

#edtech14 M. Waters questions how Europe can maintain competitiveness in global market for mobility. Techn

What are the challenges for HE? Here's the answer (hope it's in focus). #edtech14 <http://t.co/zeMnSOH7JD>

#edtech14 participation, quality&relevance, cooperation, funding/governance and integration of research

Five key priorities #edtech14 <http://t.co/PNwMsZylyO>

EU support #edtech14 <http://t.co/wS8GjsrdAp>

#edtech14 EU new guide on ECTS will allow for recognition of all types of learning including online and prior-le

Teaching not valued compared to research, so true #edtech14

#edtech14 love the safety rope.. <http://t.co/rJVEYK2Ue>

Now in Mason, Hayes & Curran Theatre in our building: Margie Waters (@EU_Commission) keynote at #e

What are the issues? #edtech14 <http://t.co/edFKz1GdVf>

#edtech14 looking forward to seeing the new EU review of ECTS, due next year

Teaching undervalued, not used for hiring, promotion compared to "hard" research -Margie Waters #edtech14

#edtech14 "CPD should be a requirement for all institutions to make available to their staff"

All 3rd level staff to have certified CPD training in teaching by 2020! #edtech14 M. Waters

#edtech14 does anybody have a link to this report #margiewaters

enhancing quality - supporting teachers to develop the skills for enhancing teaching and learning #edtech14

@glynmark modernisation report for EU - <http://t.co/RspPT3mpft> I have soft copy also #margiewaters #edtec

Opportunities - personalised... Blended ... #edtech14 <http://t.co/TCPUR336sl>

Appendix 4 -Sample of Conference Backchannel Tweets

Code: conf_smalltalk

#edtech14 is underway and looking forward to meeting conference delegates <http://t.co/c5ND19wEFr>

Eyes down: #edtech14 streaming live now at <http://t.co/2NEiZXH4Jq> from UCD.

What a venue at #edtech14 sutherland building in @ucd very impressive! <http://t.co/1Ek9ckDqhN>

@muireannOK @pgormley123 #edtech14 erm, the fancy swiny chairs!!

Great to see so many of our @NIDL_DCU team and colleagues here at #edtech14

RT @TomFarrelly: What a venue at #edtech14 sutherland building in @ucd very impressive! <http://t.co/r7U2f6OrGX> <- ping @UCDLawSchool

RT @sharoniflynn: #edtech14 will be streaming live today from 10 at <http://t.co/jcJlWg0Zdm> from UCD. I'd better grab my coffee.

#edtech14 Barbara Dooley laments the weather in Dublin. Looking out at blue skies here in Galway :-)

RT @TomFarrelly: What a venue at #edtech14 sutherland building in @ucd very impressive! <http://t.co/1Ek9ckDqhN>

These chairs are great! Something for #DIT Grangegorm? @muireannOK #edtech14

RT @TomFarrelly: What a venue at #edtech14 sutherland building in @ucd very impressive! <http://t.co/FwHP4w1Yu>

RT @NIDL_DCU: Great to see so many of our @NIDL_DCU team and colleagues here at #edtech14

Following the #edtech14 livestream at <http://t.co/jPGYyFukDu>. Looks like a great programme!

RT @sharoniflynn: #edtech14 will be streaming live today from 10 at <http://t.co/jcJlWg0Zdm> from UCD. I'd better grab my coffee.

RT @glynmark: RT @TomFarrelly: What a venue at #edtech14 sutherland building in @ucd very impressive! <http://t.co/FwHP4w1Yu>

RT @donenda: Impressed with the Ex Ordo system that @iltatweets using to manage #edtech14 - have used several (from both sides) and this is...

RT @glynmark: RT @NIDL_DCU: Great to see so many of our @NIDL_DCU team and colleagues here at #edtech14

Loving the swivel chairs! @glynmark: RT @TomFarrelly: What a venue at #edtech14 sutherland building in @ucd.. <http://t.co/t0cH5USYT0>

RT @TomFarrelly: What a venue at #edtech14 sutherland building in @ucd very impressive! <http://t.co/1Ek9ckDqhN>

RT @TomFarrelly: The PIAAC figures provide some food for thought #edtech14

#edtech14 love the safety rope.. <http://t.co/rJVEvYK2Ue>

#edtech14 Lovely UCD campus, great building, signage is non existent though

RT @echancrure: #edtech14 Lovely UCD campus, great building, signage is non existent though

Attending #edtech14 from my attic thanks to livestream from Milta and #ucd. Very different to my 1st edtech in 2000 <http://t.co/QNYAQx1hd>

UCD is becoming my second home, after 7 days straight for #TNC14 I'm back again to stream #edtech14 <http://t.co/G8YdNZJoPI> #heanet

RT @muireannOK: start of #edtech14 enjoying the fancy swiny chairs so far! @pgormley123 welcoming us all to UCD. exploration of Education ...

Appendix 5 - Participant confirmation of case descriptions

Email to participants about interpretations

Dear XXXX

I am emailing about my research again.....it's been a while, some delays with my methodology and how I would analyse and present my data etc.

As I am doing qualitative research I need to ask participants if my interpretations of data (twitter data and interview data) are fair representations of participant's usage of twitter for professional learning

You can provide feedback to me via podcast or through comments on the doc, or I can meet with you to discuss

If you have the chance in the next few days could you review the attached document and let me know if you agree with what I say 'about you' as a twitter user

This is a summary at the moment, but I have included some additional data collection information in this piece, to (hopefully) aid your understanding of the research process. A subsequent chapter will contain a critical discussion of all participants but firstly I need to get participants to sign off on the interpretations that I have made from the twitter data and interviews.

As a participant I have given you the code 'Px' to anonymise data received from you. However I am mindful of the fact that 'you' could still be recognisable from the data. For example if other Irish educators read my thesis, the nature of Irish teaching and learning circles is small, and those of us using twitter know each other quite well. So I believe that anonymity cannot be guaranteed 100%.

This is a common challenge in qualitative research*, and as the researcher I must make you fully aware of this. I must prompt you to think if there are any implications of you being recognised from your data for professional purposes, in relation to your students or in personal ways. I Advise you to mull over this.....

[*Cristina Costa @cristinacost, in her thesis on Twitter came across similar issue, she anonymised research participants but in some cases the participants are recognisable to those very involved in that particular community)

I have summarised your professional status at the beginning of the document – please let me know if there is anything you wish to add or amend

I am aware that this review will take time and I really appreciate your involvement on this.

Many thanks and best wishes
Muireann

----- Forwarded message -----

From: P1

Date: Wed, Jan 28, 2015 at 8:18 PM

Subject: Re: could you read these interpretations?

To: [REDACTED]

Hi Muireann,

Here you go. Reads well and is an accurate reflection of our conversation. Scary to read how many times I say "you know" in conversation!

I've added some comments in the side panel of the Word Doc also.

Best of luck with the rest of the coding.

See you at the next T+L event.

P1

----- Forwarded message -----

From: **P2**

Date: Thu, Jan 29, 2015 at 10:40 AM

Subject: Re: research interpretation

To: Muireann O'Keeffe [REDACTED]

Hi Muireann,

Thanks for this! Hope you're well!

God - all that time invested in my tweets and thoughts!! You must be sick of me....

I can't argue with anything that you've said here. I think it's a fair representation of our discussion as I remember it. Happy to meet to fill out any of those gaps if you want. You know where I live :)

Cheers,

P2

----- Forwarded message -----

From: **P3**

Date: Mon, Feb 2, 2015 at 3:38 PM

Subject: Re: interpretations

To: Muireann O'Keeffe <[REDACTED]>

Hi Muireann,

Thanks for this. This text is a very fair and accurate summary of our conversation and the various points I made. There is nothing I would wish to change about it.... apart from my 'you know what I mean?' verbal habit!

Best of luck with bringing this to the next stage.

Best Regards,

P3

----- Forwarded message -----

From: **P4**

Date: Sat, Jan 31, 2015 at 7:12 PM

Subject: Re: my research interpretations for your review

To: Muireann O'Keeffe <[REDACTED]>

You have captured the essence of the conversation very well. I have no problem with how it is represented and look forward to chatting more about it if and when the need arises.

Kind regards, P4

----- Forwarded message -----

From: **P5**

Date: Wed, Feb 11, 2015 at 1:37 PM

Subject: -case studyV1

To: Muireann O'Keeffe <[REDACTED]>

Hi Muireann,

Added a few comments and additions to yours – see attached.

Good luck!

P5

----- Forwarded message -----

From: **P6**

Date: Mon, Feb 16, 2015 at 9:40 AM

Subject: Re: my research again!

To: Muireann O'Keeffe <[REDACTED]>

Hey Muireann,

The case study reads very well. Fair play in pulling it together.

Comments:

page 1 - Yes I used MOOCs

Page 4 - Quote - can omit some of the words

"Tweeted like 'Oh I learned a lot', like I know I would never get anything from someone Tweeting that I definitely would have liked if they said 'I found this point of this presentation useful'.

The last aspect in providing a support framework - I'm not sure that would change my mind about tweeting in the future to be honest. There is a 10days of twitter going on here in XXX which covers that and I don't have any interest in participating - I guess I might always be a lurker despite what support is given to me!

If you need anything else from me, happy to oblige.

Again my apologies for the delay in getting feedback to you.

Best of luck,

P6

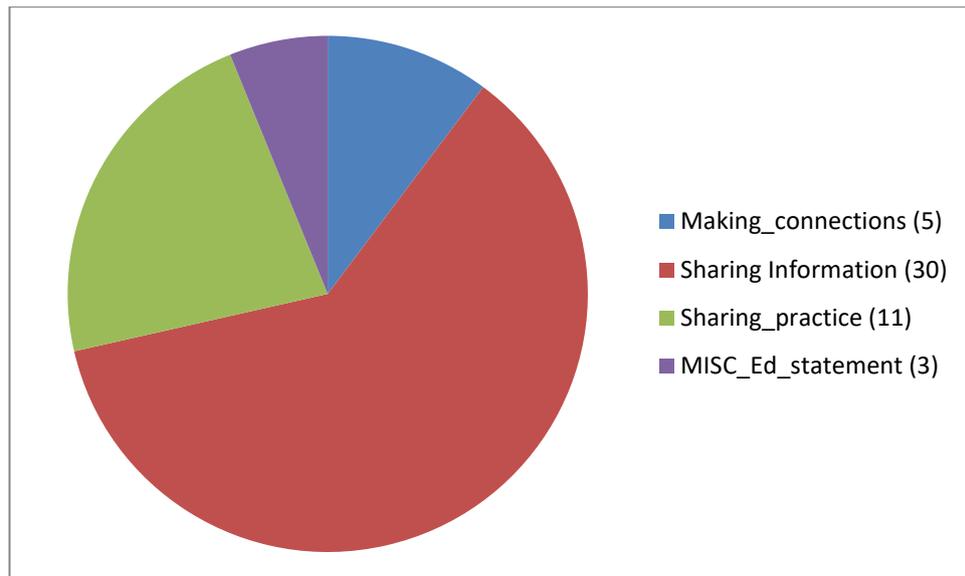
Appendix 6a - Case descriptions – Ben: Resident participant

BEN is an early career academic who has 6 years' experience of teaching fulltime in his scientific discipline. He has excellent IT skills and uses technologies including social media and particularly twitter as an important part of his daily professional work. BEN has completed several accredited professional development programmes aimed at enhancing teaching and learning practices. He has completed a PG Diploma in Third Level Teaching and Learning; the MSc in Applied eLearning and is currently pursuing a Masters in Higher Education. He is a regular Twitter user and in an earlier conversation (Feb 2014, see appendix X) he asserted that Twitter is an integral tool in his professional learning kit.

Analysing BEN Tweets

100 tweets from BEN were harvested in June 2014, and 50 of these Tweets were analysed and coded. During the period of this collection the annual edXXXX 2014 conference was also underway which had impact on the type of activities observed within his tweets.

'Figure 1 - Categories of Tweets' displays BEN's activities coded from the 50 tweets analysed. Using Veletsianos (2012) codes to categorise the tweets I identified that the majority of his tweets related to education and his professional practice. He engaged in 'sharing information, resources, and media relating to professional practice' (Veletsianos, 2012) to the largest extent. The collection of Tweets coincided with a conference and 30 of the tweets pertained to sharing information from the conference.



Categories of Ben's Tweets

10 of the tweets were replies to other Tweeters, some of these were in the context of the conference while Tweets were replies showing engagement with others from an education background. He also retweeted some humorous tweets from @AcademicsSay¹⁹, I created a new code for this type of tweet 'MISC_ed statement'.

My reflections on BEN's Twitter activities

Within this batch of Tweets he involved himself in sharing information, he tweeted 30 times (out of 50) in relation to the edXXXX conference. He retweeted the Tweets of other twitter users 10 times:

*RT @bXXX: RT @tXXX: Another treasure trove list of free stock image sites to enhance # edXXXX slide decks:
<http://t.co/OoOgWXwpIm>*

He got involved in conversation with other conference participants via Twitter, answering questions and making light hearted comments to others:

*@DXXX: #edXXXX tech14 gasta - the Irish form of pecha kucha.
What a blast!*

While I regard him as a Tweeter participating a great deal on Twitter I noticed that he did not pose critical comments about information or refer to his own

¹⁹ @AcademicsSay is a satirical Twitter account satirising academic affairs

opinion in these tweets. I acknowledge that 50 tweets might not be a large enough data set to show all types of activity that he engages in on Twitter. However this prompted me to think of how he (and other higher education professionals) make use of Twitter: do we think critically about the Tweets of others before we retweet, by retweeting are we echoing the thoughts and opinions of others; also do we create tweets ourselves that are informed by our own critical thoughts and opinions.

These points of reflection triggered my own thinking on my philosophy of professional learning which is underpinned by reflective practice and transformation to practice, and I wondered how Twitter information triggered his thinking and reflections on practice. I speculated if Twitter was a surface approach to attaining new information or whether it was useful in triggering new thinking on his professional practices. Overall I wanted to know if he was reflecting upon and/or applying the information consumed on Twitter within his learning and teaching practices.

Semi-structured Interview with BEN

The semi-structured interviews enabled me to follow up on questions that I had arising from the coded Twitter data while also focussing on various points of interest influenced by my own philosophy of professional learning. In the interviews I wanted to broadly explore the following: participants understanding of professional learning, how they used Twitter for professional learning purposes, what activities they engaged in on Twitter, what happened when they found new information via Twitter, how activities or information impacted on their learning and their practice as professionals.

These broad points of interest were used as prompts for analysis of the interviews in conjunction with thematic analysis (Robson, 2011). While I analysed the data seeking evidence for points of interest I also looked for themes arising from the data. I drew on Braun & Clarke's (2006) six phase guide to assist with data analysis, chosen because it offered a means to demonstrate explicit decision making about data in a systematic way.

1 - Familiarizing yourself with your data, 2 - Generating initial codes: 3 - Searching for themes: 4 - Reviewing themes: 5 - Defining and naming themes: 6 - Producing the report. (Braun & Clarke, 2006)

Process of analysis

I listened to the audio recordings of the interviews firstly. When listening to interviews I made reflective notes, helping me further familiarise myself with the data. Once the interviews were transcribed²⁰, I imported the data into qualitative data analysis computer software (Nvivo) and from there I began to generate initial codes with an aim of developing themes. During a second phase of analysis I reread the data, and I reviewed codes creating, grouping them into similar categories. From this I began to review and define themes in order to produce the report on findings (Braun & Clarke, 2006). While analysing the data from interviews, I made notes to consider using when conducting the subsequent semi-structured interview. While I reviewed and reflected on the interview data in a cycle of iterations I was also continuously aware that these were my interpretations of this data, and I looked forward to passing this data to the participant in order to get his view on my interpretation.

From the analysis process 5 themes emerged from BEN

- Understanding of professional learning
- Ease of use
- Community: making connections, opening conversations
- Twitter as a trigger for thinking and changing practice
- Critical thinking netiquette when using Twitter

While these were the themes uniquely associated with BEN, it can be noted that some of these themes were found in other participant cases.

BEN Understanding of professional learning

As an academic developer and as a result of my own background and experience I have a particular philosophy of professional learning but I acknowledged that the participants of this research might have different understandings of professional learning than my own as a result of their backgrounds. I deemed it important that I become aware of participants understanding, so in the introduction to the interview process I emailed all participants and asked them to think about their

²⁰ The interviews were transcribed professionally by a confidential transcription service

understanding of professional learning. I started the interview by asking BEN what he understood by the term professional learning.

BEN stated it was about tapping into available opportunities within his workplace setting. He thinks that formal in-house professional development options are important and values face-to-face learning settings. Within these formal learning settings he referred to the coffee room as being an important informal learning point as it was here he was exposed to different perspectives from other professionals from different academic disciplines, these scenarios enabled him to adopt changes in his own teaching practices.

“We can learn from each other and you know the coffee room is a great place for that kind of stuff as well because we’re on like a three school campus we actually meet people that are from different areas, totally different areas, culinary arts for example, and they would see things with a different prospective, views, and teach in different ways and I find that’s a great way to learn as well, just to bounce ideas off them, listen to their conversations and seeing what they’re doing in their class that I can try and apply it mine maybe as well.”

He also spoke about Twitter being a valuable virtual tool for professional learning, he scans Twitter daily to see if something jumps out and then if relevant takes it and adapts for his practice.

“I’d kind of scan I suppose and then if something jumps out to me as relevant to my area or has been applied in my area before that I can take and use with a different angle”

Overall professional learning for BEN was about learning through engaging in a range of opportunities such as formal accredited programmes, informal chats with colleagues and virtual information gathering via twitter. These opportunities triggered his thinking and resulted in him applying change to practices.

Community: Making connections, opening conversations, working with others

Within the interview data BEN made six references to the term ‘community’. I interpret his meaning of community to be the broader notion of academic community while also including smaller communities formed around common

interest such as Peerwise ²¹ or other assessment and feedback practices. BEN believes that these communities exist in spite of social media, but that Twitter provides a virtual gateway to these communities enabling him to make connection and open up conversations with professionals of similar interest.

“The Twitter link was the key to open the door into that community”

Making Connections

BEN regards that making connections with professionals who share similar interests is of value to his practice. Within the interview he narrated three stories of how Twitter enabled a connection with other teaching academics internationally.

“PeerWise did one and I keep coming back to this because I found it on Twitter, I follow Pxxx Dxxx on Twitter. He’s in Auckland. I’ve never met the guy, I probably never will meet the guy, but you know I’ve struck up a friendship with him through a connection through Twitter first of all and then in the emails and you know in sharing data and so on”

“I made a connection with a guy in University of Ulster and we have now set up kind of a private feedback mechanism where his students will give feedback to my students and my students give feedback to his students, but again we made the connection through Twitter”

“There’s a chemist, Sxxxx Fxxxx, over in Hertfordshire, she was kind of tweeting a good bit last year about her SChemEs, that’s the name of her project....I made a connection with her”

BEN progressed to report how Tweets from these connections initiated further investigation of what these professionals were doing in their teaching and learning practices. BEN discussed how these connections made via Twitter resulted in follow-up discussions about teaching and learning strategies via email or at subsequent conferences and then resulted in him in taking on board new strategies into his teaching practices.

²¹ Students use PeerWise to create and to explain their understanding of course related assessment questions, and to answer and discuss questions created by their peers.

Twitter connections and conferences

“It’s just a handy way to kind of keep a handle on when things get really big you can streamline your tweets. The hashtag, even if you can’t go to a conference you can still follow the tweets from the conference and there’s a conference that I followed on Twitter and then I went to them the following year because I found it so informative through Twitter”

BEN discussed how twitter was an introductory gateway into formal academic conferences. He emphasised that as a result of following tweets from a particular conference that he found informative he attended that conference the following year. Twitter provided potential to expand connections with people attending a conference. Exploration of Twitter accounts of other conference delegates helped him to find other professionals with similar interests and at the conference he could choose to follow-up with conversation.

“Through Twitter you’re exposed to more people and if you go to a conference, again, you’re exposed to the same people but you’ve a chance to actually sit down beside them and say ‘What do you mean by ...’.

BEN acknowledged for him that Twitter at conferences was a powerful networking tool which consequently led to thinking about his own practices and led to changes in practice. BENs use of Twitter before and during a conference is strategic which enables him to learn and develop in his teaching practices.

At conferences he finds Twitter a useful ‘back-channel’ of thoughts and opinions expressed by delegates attending the conference.

“I found that I was spending more time in the back channel looking at the tweets and kind of catching up on what was happening during the talk. It was you know focussed on the speaker not on Twitter so you could be engaged maybe not with the comment that was delivered at the time but engaged with the wider community, people sitting around you”

At one conference the backchannel was encouraged by the keynote speaker and BEN valued that he could read and contribute to the back channel of debate, which enriched his engagement with the conference topics.

“there was almost arguments and debates happening in the back channel where the presenter would say something and people would say ‘Oh I agree with this’ or ‘I disagree with this’ and then that conversation went on backwards and forth and you could follow the conversation thread and even if you didn’t want to input into the conversation you could get people’s opinions and ideas and you could see their thought process in the conversation they were having”

However open critical academic debates do not always occur at conferences. BEN described where people are *“being nice on Twitter because it is a public domain”* or where Tweeters have become critical in a *‘stinging’* manner. BEN went on to say that he thinks Twitter is a platform where critical debate can occur but that *“we should question and challenge”*. He articulated this more fully by saying:

“I’m a believer in the need for debate so ... but I don’t believe in slagging someone off, you know if you don’t agree with somebody’s point, that’s fair enough, as long as you can put your point across, develop your argument and then you know people challenge you back”

Collaboration

BEN gave three examples of making connections with other professionals via twitter. Two of these examples gave rise to collaboration with other academics. BEN connected with a university in Auckland and began to integrate an innovative tool Peerwise as a new approach for student learning. BEN recorded his experiences of using this tool with students and then returned his experiences and feedback to the Peerwise community.

“I’m contributing to the community through publications and my own resources. So you kind of take a little bit at the start and then you give a little bit back to the community as you get into I suppose”

In the second example he related how a collaboration originating on Twitter resulted in designing an activity where students in his class and students from another university provided peer feedback to each other:

“We’re doing something very similar, why don’t we just join forces and allow our students to peer feedback each other”

BEN sees how tapping into a community and collaborating with other professionals is of value to the development of his learning and teaching practices. Exposure to new information triggers his thinking on current practices. Further exploration and discussion enables him to make changes to teaching and learning practices.

Ease of access

BEN described Twitter as a '*handy tool*' that was accessible in situations when he had free time such as during his commute to work.

“For me, like you know you’re on your phone, you can just ... if you’re on the train you have 20 minutes on the train you can just go through the timeline, if something grabs your attention you can dig more into it, you can send the tweet link to your email and then that reminds you the next time you’re on a proper PC you can look up and do a bit more research into it if it’s actually what you want”

Twitter enabled easy access to information in his discipline area and to the proceedings at conferences. Twitter increased the contact with new information and potential learning for him, Twitter "*accelerates the process*".

Although the topic of publications was not specifically enquired about in this interview, BEN alluded to the importance of distributing professional experience and research findings in the public domain. BEN recognised the importance of disseminating new knowledge but believed that publishing in academic ways was only one means of communicating a message, communication via social media should be considered also.

“Publishing a paper is only addressing a small section of that international community. If you can tweet, if you can blog, if you can connect in other ways that’s opening up your research or your programmes”

Twitter was a means for him to distribute information to the communities he was engaged with in an easy informal manner.

Twitter as a trigger for thinking and changing practice

BEN acknowledged that Twitter could provide an “avalanche” of data but he said that he managed this by “*reflect(ing) as you’re reading through the collection of tweets*”. Twitter triggered his thinking, on seeing new information he thought about how it could be relevant for his current practices. If he couldn’t see direct significance he stored it within bookmarks to follow up with later. Sometimes new information did not immediately resonate with his needs, and he used creative thinking to think of possibilities where new information could be useful:

“If I see something on Twitter and go ‘That rings a bell with me’, I can’t see a connection just yet but I can imagine how I can make a connection between that image or that quote or that resource to what we’re doing in class”

He expressed that he would adopt and adapt practices that he saw tweeted by others to suit the needs of his own teaching and learning contexts.

“Something jumps out to me as relevant to my area or has been applied in my area before that I can take and use with a different angle then that’s something that would interest me”

While Twitter triggered his thinking about practice he also asserted that Twitter enabled changes to teaching and learning practices.

“it’s those little nuggets that you do find that definitely do change your teaching, your approach to teaching”

“has definitely changed my teaching for the labs in first year”

BEN seemed excited about all of the new information that he could potentially integrate into his practices and was very motivated about making changes to his practices that he would identify an innovation and implement it into practice:

“So many ideas, you know, one of them will stick with you or resonate with you and you go like ‘that idea, I’m going to try this semester’. I tend to try and try something new once a semester”

Connecting with other higher education professionals via Twitter was vital to furthering and expanding his thinking. Engaging with others enabled reflection on his own practices and instigated change to practices.

“So that to me is the case example I have in mind of how Twitter could make something clear to you that it’s relevant for your

teaching, that it makes you connect with the people that are already using it and allows you to build up that network even though you probably will never meet the people in real life”

In this interview he specifically gave three examples of innovating and changing his teaching and learning practices as a result of Twitter. (1) He implemented Peerwise for students towards a student centred assessment approach. (2) He partnered his students with similar students in another university to enable peer feedback amongst students. (3) The process by which laboratory assessments were designed was altered, so that students were assessed both for having the ability to engage in the process of learning rather than the focus being on finding the answer to the problem.

Critical thinking netiquette when using Twitter

Twitter is held in high regard by BEN as a means to access new information relating to teaching and learning practices from a community of like-minded educators. However BEN was also aware of the downsides to using social media. These included data overload, but also more serious problems such as being open to potential abuse. Ben had not experienced negative behaviours online but was aware of the potential and guarded against it by keeping personal and professional Tweets separate, using sufficient security settings, and keeping usage of his Twitter account for education only content. Awareness and use of appropriate netiquette when using social media was a priority him:

“It’s all about having the correct etiquette and just being a nice person I suppose. You don’t say something on Twitter that you wouldn’t say to someone to their face”

He believed that debate and constructive academic arguments could be facilitated within Twitter and observed and participated in this at a conference where a keynote speaker encouraged debate *“he posed questions on the board and basically challenged us to challenge each other within Twitter”*. In other contexts he witnessed *“people being nice on Twitter because it is a public domain”*; this did not lead to debate on points raised.

P1s Twitter data did not show any evidence of critical commentary within his Tweets but this snapshot of tweets may have been limited to demonstrate a holistic picture of his Twitter activities. In the interview he referred to debate as being crucial to learning *“I’m sure debate develops our own understanding of whatever is being presented”*.

He deemed discussion and argument as important to develop points of thinking and that this could be facilitated online on Twitter with an awareness and use of netiquette.

“I’m a believer in the need for debate so ... but I don’t believe in slagging someone off, you know if you don’t agree with somebody’s point, that’s fair enough, as long as you can put your point across, develop your argument and then you know people challenge you back, it’s fair game”

He believed that academics could be constructive and questioning on twitter but that also a need for a set of skills was needed to help them to become constructively tweeting academics

“a skill set that’s need to be upskilled, you know that’s something that could be looked at, but I generally find with academics, unless they have a particular hobby horse they may be criticising but they’re generally constructive, you know. They challenge but they give a reason or a rationale why they’re challenging”

Perhaps this skillset/ digital literacy can be developed with academics so that could use social networks including Twitter could be engaged with in more critically constructive ways.

Appendix 6b - Denise: Visitor participant

Denise is a learning technologist employed within a university. Denise is very interested in her own learning and development and has completed an MSc in eLearning and has engaged in other professional development activities such as conferences, Massive Open Online Courses (MOOCs) and other accredited modules. She has excellent IT skills and she has a Twitter account, while she checks Twitter on occasion she has never used twitter to post a tweet or retweet other tweets.

Denise and Twitter

The data collection for this study consisted of collection of Tweets in the month of May 2014. Denise had not tweeted during this time frame and for that reason I harvested no tweets from her account. I viewed her Twitter account again in December 2014, it was apparent that she had never tweeted. The lack of activity suggests a dormant account but the interview revealed that she uses twitter to follow other professionals on twitter.

My reflections on Denise's Twitter activities

I was initially surprised that Denise had never tweeted. I became interested in asking her about how she used Twitter, particularly if she used it for learning purposes and if twitter was of value for learning. I was curious to find out the reason why she had no evident contributions on Twitter.

Semi-structured Interview with Denise

The semi-structured interviews enabled me to follow up on questions that I had arising from my investigation of the Twitter data while also focussing on various points of interest influenced by my own philosophy of professional learning.

In the interviews I wanted to broadly explore the following: participants understanding of professional learning, how they used Twitter for professional learning purposes, what activities they engaged in on Twitter, what happened when they found new information via Twitter, how activities engaged with on twitter or new information impacted on their learning and their practice as professionals.

I analysed the interview data seeking evidence for these points of interest I also looked for themes arising from the data. I drew on Braun & Clarke's (2006) six phase guide to assist with thematic data analysis, chosen because it offered a means to demonstrate explicit decision making about data in a systematic way:

1 - Familiarizing yourself with your data, 2 - Generating initial codes: 3 - Searching for themes: 4 - Reviewing themes: 5 - Defining and naming themes: 6 - Producing the report. (Braun & Clarke, 2006)

Process of analysis

I listened to the audio recordings of the interviews firstly. When listening to interviews I made reflective notes, helping me further familiarise myself with the data. Once the interviews were transcribed, I imported the data into qualitative data analysis computer software (Nvivo) and from there I began to generate initial codes with an aim of developing themes. During a second phase of analysis I reread the data, and I reviewed codes creating, grouping them into similar categories. From this I began to review and define themes in order to produce the report on findings (Braun & Clarke, 2006). While analysing the data from interviews, I made notes to consider using when conducting subsequent interviews with participants. While I reviewed and reflected on the interview data in a cycle of iterations I was also continuously aware that these were my interpretations of this data, and I looked forward to passing my interpretation to the participant in order to get their comments.

From the analysis process 5 themes emerged from Denise

- Understanding of professional learning
- Twitter and the conference backchannel
- Information retrieval for professional learning
- Hesitancy to Twitter participation
- Learning to be a Tweeter

While these were the themes uniquely associated with Denise, it can be noted that some of these themes were found in other participant cases.

Understanding of professional learning

As an academic developer and as a result of my own background and experience I have a particular philosophy of professional learning but I acknowledged that the

participants of this research might have different understandings of professional learning than my own as a result of their backgrounds. I deemed it important that I become aware of participants understanding, so in the introduction to the interview process I emailed all participants and asked them to think about their understanding of professional learning. I started the interview by asking Denise what she understood by the term professional learning.

Denise indicated that professional learning is driven by intrinsic motivation to assist with her role at work. She says that she involves herself in professional learning when she networks with experienced colleagues and see what they do so that she can learn from them

those kind of undefined or ill-defined ways of interacting with colleagues who I know know a lot more than I do in an area and just watching what they do, the strategies they employ.

Overall she likes learning through interaction with people.

Twitter and the conference backchannel

Denise finds benefit of the Twitter backchannel at conferences. She finds it fascinating that the backchannel shows differing opinions of delegates at a conference when listening to a keynote or a presentation. She reads the backchannel tweets and she feels that other people's opinions ratify the thoughts she has about particular topics being presented. She is using commentary on the Twitter backchannel to reinforce her opinions and learning.

It kind of reconfirmed what the important points were for things so I noticed those two different ways, yeah.

She uses the Twitter backchannel at a conference to help her understand and make clear to herself why certain points being made by a keynote or a presenter are significant

that's a point that should have registered with myself as to being important.

Nonetheless she asserts that she does not have the confidence to participate on the twitter back channel at conference

I don't have that bravery I suppose to ... if I was at the conference.

Similar to other participants of this study, Denise was a delegate at the annual edXXXX 2014 conference, and she also followed the backchannel of this conference. Denise stated that she was very surprised that some of the tweets on the twitter back channel were from delegates commenting on the 'swingy chairs'. A conference delegate had posted about the 'swingy chairs' while waiting for the conference to get underway and it resulted in several replies on twitter from other delegates.

people were Tweeting about the room, like a particular room for one of the presentations, where the chairs, you could swing back on, but people seemed to be fascinated by the set up of this room

Denise was curious about the reasons why educational professionals would tweet about the room furniture but did not pose an answer to this within the interview. I have analysed the tweets from the conference and I suggest that these trivial tweets acted like an icebreaker for delegates, greeting each other through commentary on the chairs. From this I propose that tweets such as this could be an important part of the socialisation process into the conference backchannel. Perhaps if conferences wish to get more engagement on the twitter backchannel they could consider providing twitter activities to break the ice with delegates.

Denise discussed conference tweets further and she identified her preference for tweets on the conference backchannel that provided opinion on why something was useful. She felt that she was able to acquire more when people posted reasons or opinions as part of tweets

"Tweeted like 'Oh I learned a lot", like I know I would never get anything from someone Tweeting that I definitely would have liked if they said 'I found this point of this presentation useful'.

It is worth noting that tweets that indicate rationale and reason are favoured by Denise and that this mode of tweeting could be brought to people's attention and be scaffolded to help appropriate academic critique via Twitter taking into account best practice in online communication.

Information retrieval for professional learning

She considers Twitter useful for keeping up-to-date as she follows other educators and educational organisations that share information of interest to her professional role. She reads tweets and then sometimes delves deeper to read more information about something if it is of interest to her. As noted from her Twitter account she prefers to be lurker and observe what is going on in the twittersphere. She states that she does not want to tweet her own opinions or share information.

I've kind of made a very conscious decision about ... particularly with Twitter not to Tweet

Denise enjoys being exposed to new information via twitter which she reads and occasionally explores in more depth. Denise describes herself as a newcomer to twitter and for this reason she has not noticed that ideas from twitter have impacted on her practice. Denise stated that she can see others using twitter to more potential but that her use of the tool is less, but it still adds value to her professional learning

I mean I've seen the potential. I suppose has it got value for me right now?

In the interview she described that she enjoyed interacting with colleagues to learn from them, but on twitter she mainly retrieves information and has not interacted or made connections with other tweeting educators.

However she is a member of a closed social media group on Google Plus, a group that shares teaching and learning practices.

If I look back on all of the posts that actually are online like I'm kind of contradicting myself, even in that little community, I've had the most posts within the Google Plus

In the interview she gave an example of posting a question about an EU educational report in the closed google plus group in order to initiate a discussion on the topic. At that time the post did not receive replies and she

wondered if other people on the group understood the tool a means to discuss and comment.

, you know the EU report, the part 2 one, I put that on it and I said do you think does that impact on your ...? Nobody answered it, do you know that kind of way. I don't think we're probably there yet in terms of understanding the tool, that could be different next year.

This opens up questions that I have about the ability of the academic community in being able to participate, question, and discuss in online environments. If twitter is valued for professional learning, and being participants of communities is important to professional learning, then how best do we get academics to engage better in online environments.

Hesitancy to Twitter **participation**

Denise asserts that interaction with colleagues is important to her learning and she sees the value of Twitter to enable connections and share practice with other professionals, However she is not an active participant on Twitter.

She implies that she has decided not to tweet because of the public nature of twitter, on the other hand in the closed google group she posts and shares information. She feels vulnerable in open online spaces and prefers to know who will read and interpret things she says

I'm not confident about it being massively open, the social media, but if I know who I'm talking to I'd be more confident about saying it

Feeling safe on twitter is a big issue for Denise, she stated twice in the interview that she is cautious of being judged by other educational professionals

hyper sensitive of people judging my comments

She narrates a story about a stressful experience where she emailed staff in her university a survey and despite having validated and piloted the tool, she received criticism about the tool from university peers. She took this criticism personally, citing that it caused stress, and as a result does not like to be in the public eye.

Denise recognised that academics in university academic life engage in critique of others practices, but she felt that the critique was sometimes presented in unconstructive ways.

Denise also described an incident at a conference she attended where a sales person was doing a pitch to conference delegates. Conference delegates disagreed with the sales pitch and began to post negative comments to the conference backchannel,

one where it was just going so downhill, it really turned into a very destructive... it ended up being a product pitch which seemed to irk a lot of people and people got... people would rant..... that poor woman, to have seen Twitter at that point in time.

To Denise this was another example of how destructive twitter can be and she described fear of being the target of similar negativity and criticism.

Netiquette

Despite being shocked by this negative tweeting incident at the conference Denise articulated that critique could be conveyed via twitter but should not be facilitated in such a destructive manner

Unless it's done obviously positively or constructively negative and I guess some people were

I interpret that this suggests a gap in online communication skills of those who providing critique. I see that an opportunity exists to enable better communication skills in online settings such as twitter. An opportunity to develop suitable skills for communication and interaction online could in turn help professionals to use tools such as twitter for professional learning more effectively.

[This has triggered my thinking as a researcher - I am interested about this into the future – how can we help professionals use twitter effectively for professional learning....or should we encourage use of the tool?...]]

Learning to be a tweeter

Denise's hesitancy to participate on the Twitter platform is apparent and I have discussed the reasons she cited for this. Nevertheless she sees value in using twitter for keeping up-to-date with current information. She stated if Twitter did not exist that she would miss it as a tool for information retrieval from educational organisations such as JISC.

Denise sees value in the Twitter tool for professional learning and having interpreted this interview I propose that support could be provided to foster her use of the tool. Some suggestions would be to support the development of better online communication via social media such as twitter, principles of netiquette, development of a support framework that would aid critique in online environments such as twitter, supports to enable conference delegates to tweet effectively and provide critique in respectful ways. From Denise: The last aspect in providing a support framework - I'm not sure that would change my mind about tweeting in the future to be honest. There is a 10days of twitter going on

here in UCD which covers that and I don't have any interest in participating - I guess I might always be a lurker despite what support is given to me!

From Denise's data I see the opportunity to develop skills so that academic professionals can participate more fully in online communities such as twitter. Perhaps the development of a skillset which would enable higher education professionals to engage in more critique on Twitter (or other social media) would be useful to support reflective thinking and thus deeper forms of professional learning in the online environment. I will discuss this in more detail in the next chapter.

Appendix 7 - Case ordered display tables

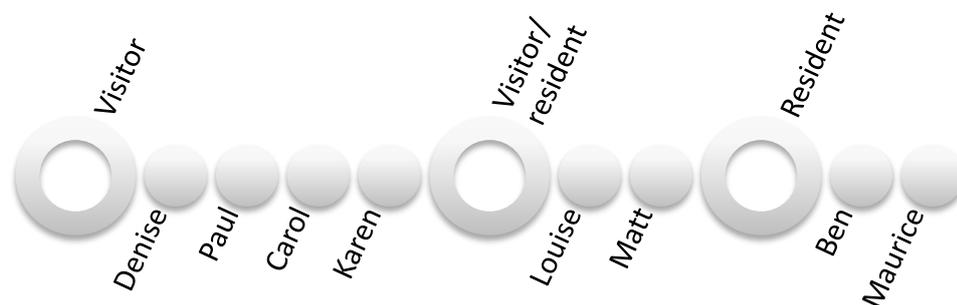
This Case Ordered Display (Miles, Huberman, Saldana 2014) organised similar cases together. Each research participant is treated as a 'case' and I created case-ordered-display tables to generate order among the cases. Having thematically analysed data from interviews, Twitter data and my reflective memos I recognised similarities and differences in themes and I grouped participant cases by associating similar themes together. Using White & Le Cornu's (2011) visitor-resident typology I mapped participants themes with visitor-resident attributes. The Visitors and Residents typology describes the range of ways individuals can engage with the Web. It is a continuum of 'modes of engagement' not two distinct categories. (White, 2015).

I mapped each participant on to the visitor-resident continuum. I acknowledge that this research is only a snapshot in time of the activities of these participants on Twitter and activities and approaches might have changed or evolved in the interim. Nevertheless the Visitors and Resident typology was been useful to categorise and inspire discussion about my participants' use of Twitter for learning.

Visitor and resident attributes paraphrased from White & Le Cornu (2011)

Visitors then see the Web as primarily a set of tools, which they use to attain a specific goal. They are unlikely to have a persistent profile online which projects their identity into the digital space. Individuals who most closely fit the Visitor approach give a number of reasons for not wanting a 'digital identity' due to issues of privacy, fear, and wariness. They describe social networking activities as banal and egotistical. Visitors are users, not members, of the Web and place little value in belonging online.

Residents see the web as a place and are happy to go online to spend time with others. They have a sense of belonging to a virtual community and have a profile in social networking platforms such as Facebook or Twitter. They are comfortable expressing their persona and opinions in these online spaces. Relationships have been formed and extended online. They have a digital identity.



Participant cases mapped on to Visitor-Resident continuum

Display Table 1: Themes from participant data that relate to research questions 1 & 2

RQ₁ - What are the activities of Irish higher education professionals using the social networking service Twitter?

RQ₂ - How are activities on the social networking service Twitter supporting the learning of these higher education professionals?

Participant	What are the activities of Irish higher education professionals using the social networking service Twitter? (RQ ₁)	Observing/ Curating Information from Twitter	Interacting with others	Activity at Conferences	How are activities on the social networking service Twitter supporting the learning of these higher education professionals? (RQ ₂)	
					Twitter: a Trigger for thinking?	How has Twitter influenced your learning about pedagogical practice?
Visitors (show evidence of reading tweets, some curation, no interaction with other people on twitter)						
Denise	Mainly read only activities on Twitter (Twitter as a tool)	She reads the Twitterstream, following Twitter accounts she says are of interest and useful to her professional role	She does not interact with others on Twitter (Twitter as a tool)	She observed tweets on the conference backchannel She liked comparing tweets with her opinions, helping reinforce opinions, she say tweets help her understanding of what is	She says Twitter has triggered thinking about new technology for teaching contexts but did not mention changing practices as a result. Twitter backchannel at conference triggered her thinking but stayed at peripheries.	No mentioned about Twitter having an influence on existing practices.

				being said	Identity related? Not belonging or feeling part of the community to participate? Also not being brave see barrier next table	
Paul	Read only activities on Twitter (Twitter as a tool)	Reads tweets but Does not curate (Twitter as a tool)	He does not interact with others on twitter (Twitter as a tool)	<p>He described conferences as important for professional learning, but doesn't use twitter backchannel at conferences</p> <p>He did mention that he saw a keynote speaker integrating backchannel tweets, but he chose not to tweet</p>	<p>For him reading tweets is interesting but says tweets don't cause him to think about his teaching practices as he feels they are not related to his practice.</p> <p>He follows Tweeters that post inspirational and aspirations thoughts on learning and education, and he likes these, he did not mention his thinking being stimulated</p> <p>(Twitter as a tool)</p> <p>Identity related? not feeling ready or part of the community to participate?</p>	<p>He said there was no impact to practice as a result of reading tweets</p> <p>He does not follow other educators in his professional area of teaching accounting practitioners</p> <p>He follows people that talk a lot about high level educational theory, but cannot relate it back to practice</p> <p>(Twitter as a tool)</p> <p>(He prefers to stay at peripheries)</p> <p>Identity related? Not feeling ready or part of the community to participate?</p>

Carol	Read only activities on Twitter (Twitter as a tool)	Gathering information, curating it for potential use later (Twitter as a tool)	No evidence of interaction with others tweeters (Twitter as a tool)	Observing the Backchannel. Backchannel triggered thinking about conference presenters She reflected on why her opinion was different, she wondered if other tweeters posted genuine opinions?	Yes Twitter info triggers her thinking She collects resources for design of workshops Conference backchannel triggered her to question opinions of others (Her thinking is triggered but prefers to stay at peripheries) Identity related? not feeling ready or part of the community to participate?	She discussed using info sourced on Twitter to design future work related workshops (Twitter as a tool)
Karen	Reads information on twitter mainly. Minimal evidence of posting own opinions on tweets (Twitter as	She mainly reads information. Reading Twitterstream info keeps her up-to-date with subject knowledge of her discipline. She reads Twitterstream looking for content knowledge on subject, not information on teaching learning practices	No interactions with other tweeters (Twitter as a tool)	Doesn't engage with Twitter at conferences No evidence of interaction on backchannel at conferences (Twitter as a tool) (Prefers to stay at peripheries, observing online conversation)	Her thinking is triggered about subject knowledge but not for teaching learning practices	She has not changed her pedagogical practices but has updated subject content (Twitter as a tool)

	a tool)					
<p>For these participants Twitter is a tool they use to keep up-to-date with topics relating to professional practice. The information presented on Twitter triggers their thinking about their professional knowledge but they don't express their thoughts/opinions in the online space. They describe in some instances how they did something new in practice as a result of using Twitter. Their approach aligns with that of a Visitor approach. Twitter is useful to participants' professional roles, sometimes new information from Twitter inspires thinking, sometime they integrate new information into practice. However I argue that while they gain benefit from observing the Twitterstream, if they posted tweets, interacted with others could potentially create deeper learning experience for them. However certain barriers exist for these participants in engaging more fully, See table 2.</p>						
<p>Visitors/ residents - data shows these participant cases portray mainly visitor activities (observing and curating information from Twitter) but they show some evidence of interaction with others. They show signs of connecting into virtual communities.</p>						
Louise	<p>She read tweets mainly.</p> <p>Interacts with others minimally.</p> <p>Posts own tweets occasionally (Twitter as a tool)</p>	<p>She reads, and curates tweets for potential use later. She describes herself as a lurker not a sharer.</p>	<p>In the interview she considered herself as an observer rather than being very interactive with others, but the Twitter data showed she interacted with others at the conference.</p> <p>(Twitter as a tool, she says she prefers to observe/stay at peripheries, but becoming more</p>	<p>Tweets showed some interaction with conference delegates on the conference backchannel.</p> <p>Listening to the keynote (and not appreciating it) and reading the backchannel, triggered her thinking – she felt she was <i>'missing something'</i> – while she didn't like the keynote, other peoples perspectives got her thinking about what she was missing and gaps in her understanding. she wanted to find out more about the keynote topic but she did not post</p>	<p>The Conference backchannel about the keynote triggered her thinking – felt she was <i>'missing something'</i> – when reading other perspectives, she felt she wanted to find out more about the topic, as she did not fully understand.</p> <p>She expressed hesitancy on posting critique or questions, did not want to appear negative (confidence?)</p> <p>(Her thinking was triggered but preferred to stay at peripheries)</p> <p>Identity related? not feeling fully ready or confident to ask questions of the community?</p>	<p>For her Twitter helped her with module/programme design practices. In the interview she listed 3 examples where Twitter resources had impacted on teaching practices (mainly towards learning design) and she has developed and educational technology toolkit for herself (Twitter as a tool)</p>

			connected to others)	questions on backchannel to ask		
Matt	<p>He interacts through RTs and some conversations.</p> <p>He doesn't compose new tweets sharing his own information or practices. He acts like a broker *(Wenger 1998)</p> <p>(Twitter as a place)</p>	<p>He reads tweets and suggests that he might use information from them at a later stage</p>	<p>Socially interactive with others (18 replies, 17 RT's)</p> <p>(Twitter as a place)</p>	<p>Lots of interaction during the conference</p> <p>Social chats with other conference delegates</p>	<p>He said that info from the Twitterstream triggered his thinking.</p> <p>He said he chose not to express differing opinions online on Twitter as it was not good to be critical of others via Twitter. He RT's other tweets that match his interests</p>	<p>He said that Twitter has influenced his professional practices, gave 2 examples.</p> <ol style="list-style-type: none"> 1 Created new collaboration (Twitter as a place) 2 Discovered and implemented new technology into a presentation (Twitter as a tool)

Louise and Matt display a mix of visitor and resident attributes. Louise discussed her use of Twitter, predominantly once using it as a tool, collecting relevant information, but had begun to interact with others, perhaps establishing her sense of belonging in the Twittersphere and starting to interact with others. Thus as time has gone by she seems to be evolving to a more resident approach on Twitter. Matt on the other hand is highly socially interactive; interacting with other educational professionals through light-hearted social interactions, but is cautious about posting opinions about practice or difference of opinion online. It could be argued that he takes a resident approach but I deem that he uses Twitter as a tool for information gathering, and for networking/brokering (Wenger 1998). I suggest that he uses Twitter as a tool, which allows him to broker connections and introduce others, He does not seem to 'reside' on Twitter and this might indicate he does not feel a sense of belonging with others there where he can continuously share and contribute opinions and ideas on practice.

*Broker = a person who provide connections or introductions to other people introducing elements to others (Wenger, 1998, p. 105)

Residents –socially interactive, comfortable expressing their persona and opinions online. Relationships have been formed and extended. Of all participants in this research they have strong digital footprint and have created digital identity.

Ben	<p>He reads tweets, posts about teaching own opinions and interacts regularly with others on Twitter.</p> <p>(Twitter as a place)</p>	<p>He says reading tweets is useful and RT's for archiving them, so he can look back at them later.</p>	<p>He is highly interactive with other people on Twitter</p> <p>(8 RTs, 11@ tweets)</p> <p>(Twitter as a place)</p>	<p>Lots Interaction on the backchannel at conference</p> <p>At a conference he described Twitter as an intro gateway to other delegates.</p> <p>He liked engaging in social tweets at edXXXX conference</p> <p>(Twitter as a place)</p>	<p>He reads tweets, which trigger him to think about issues in pedagogical practice. He sees 'possibilities' He has followed up information more and put certain things into practice</p> <p>He uses Twitter for idea generation and brainstorming through reading the Twitterstream & connecting with others</p> <p>(Twitter as a place)</p>	<p>He described 3 examples of making changes to his teaching practices as a result new information and collaborations about practices via Twitter. (Twitter as a place)</p>
Maurice	<p>He reads tweets, posts his own opinions and interacts regularly with others on Twitter.</p> <p>(Twitter as a place)</p>	<p>He reads the Twitterstream regularly and mentioned that he follows up items later</p>	<p>He showed high interaction on Twitter (24 replies). Mainly social commentary</p> <p>He said that networking on</p>	<p>He describes the Twitterstream as aiding informal learning about topics. Learning at conference comes from further discussion on the backchannel and in person...which in turn enhances his understanding. (Twitter as a place)</p>	<p>He makes a judgment if information on twitter presented is of value to him.</p> <p>Learning comes from further discussion...enhances understanding</p>	<p>He described a time lag in between reading tweets and making explicit change to practice as a result of using Twitter.</p> <p>Change happens at slow pace</p>

			<p>twitter naturally emerged for him.</p> <p>(Twitter as a place)</p>		<p>(Twitter as a place)</p>	<p>Example: new laboratory teaching technique implanted into practice.</p> <p>Other impacts of using twitter: he was invited to write and en educational blog; writes for chemistry education magazine. (Twitter as a place)</p>
<p>I consider that Maurice and Ben use Twitter as a place for having conversations with others. While they see new useful information on Twitter, the conversation with others in that space is important to them, helping generate ideas and brainstorm with others. This approach to the social network impacts on their professional learning and in turn influences their professional practices. These social interactions while supporting their learning are also impacting on their identity as 'educators' Maurice describes being known as a chemistry educator and has been invited to speak and write about issues relating to chemistry education, through using Twitter he has formed a professional digital identity.</p>						

Display Table 2: Themes from participant data relating to enablers and barriers (to answer Research Question 3)

RQ3- what are the barriers and enablers that exist to these higher education professionals in engaging with Twitter for professional learning?

Participant/ (RQ3)	Enablers (factors encouraging use of Twitter)	Barriers (Factors inhibiting use of Twitter)	Issues and questions arising from my interpretation of participant data
Visitors participants			
Denise	<ul style="list-style-type: none"> Ease of access to Twitter Using twitter at conferences enables and reinforces her understanding. 	<ul style="list-style-type: none"> She likes interaction with people but feels cautious about this online Does not feel 'brave' enough to tweet at conferences Her perception of Twitter is a barrier – she was surprised at social tweets describing 'swingy chairs' and people saying hello. She prefers to keep it business only; she does not perceive the social element as useful. (Does not see it as place) Cautious - Does not want to tweet Vulnerability: Openness of twitter (she uses closed social networking spaces such as Google groups) Fear - Experience of Critical incident at a conference reminds her to be wary 	<ul style="list-style-type: none"> She doesn't feel safe using Twitter as it is public, lacks understanding that trivial social matter can be useful in forming relationships online, she perceives Twitter as a tool, rather than as a space where relationships can grow. She takes a visitor approach, using it as a tool, she finds Twitter valuable for keeping up-to-date with information. Stays at peripheries White & Le Cornu (2011) claim that despite differing uses of Twitter benefits can still be gained for individuals i.e. it doesn't matter if we take a visitor or resident approach predominantly, either can be beneficial. Twitter is claimed to be a learning place (Beckingham, 2015) (Gerstein, 2011) (Veletsianos, 2012), but I consider that learning happens socially and informally for professionals (Wenger, Eraut). Thus is it an academic developers responsibility to raise awareness about using social networks such as Twitter effectively, to build relationships and exchange practice online with other professionals? What are the implications of advocating more

			<p>engagement on social networks such as Twitter?</p> <ul style="list-style-type: none"> • How do we support professionals in overcoming lack of confidence and vulnerability in these spaces? • How do we support people to learn the structures of these online spaces, behaviours required and the to foster identities in these spaces? • I have had ideas such as creating tweeting etiquette and have moderation of conference backchannel to encourage engagement but it is more than development a skills set. It is about supporting people in developing their professional identities in the online space.
Paul	Ease of access to Twitter	<ul style="list-style-type: none"> • Data overload from Twitter • Twitter hierarchy – he follows people that he feels are of different/higher status than him in the educational community • Doesn't follow practitioners in his field or involved in similar practices; but enjoys reading theories of education, but can directly apply this to practice • He doesn't feel a sense of belonging within a community via Twitter • He is not comfortable sharing opinion on Twitter • No relationships developed via twitter • He describes his technical competence with Twitter as not good • He doesn't see a place for tweeting at conferences, indicating a lack of sense of belonging 	<ul style="list-style-type: none"> • He describes that he needs more technical competence (seeing it as a tool) • How to manage data overload by curating more effectively (using it as a tool) • He suggested that there could be supported for novice tweeters at conferences(using it as a tool) • I interpret that his needs are more than technical, Does he need to be more '<i>literate</i>' in his use of Twitter; helping him navigate the structures and cultural practices of Twitter while becoming more interactive with others, moving from the peripheries to the centre. • Has he marginalised himself, staying at the peripheries, looking on to the Twitter space rather than joining in? His sense of belonging within this community is linked to his non-engagement in conversations. Also social networking '<i>literacy</i>' might prevent him from following peers, engaging and interacting, and developing relationships. • Does he identify as an educator who could become connected with similar others in the online space?

			<p>(Data shows he shares practice with other educators in face to face just not online).</p> <ul style="list-style-type: none"> • He does not follow tweeters who have practice issues in common with him. He lacks a shared common practice connection with them. How can he find people he has commonalities with? Is he aware of his own identity? Who does he identify as in the online space? • I think Paul's data raises challenges of identity, and shaping our identities in the online space – For me as an academic developer I ask if we should consider supporting professionals in higher education in being online, if we advocate using social network tools for professionals' learning, then perhaps we need to think about the complexities of using these online spaces and develop supports towards these situations. • I assert that Paul's lack of engagement/interaction, connections with similar other professionals on Twitter is linked to matters of identity.
Carol	Ease of access (easier than accessing information from books)	<ul style="list-style-type: none"> • Time: part-time worker, integrating into busy day, balance. • Doesn't like that Tweets cannot be edited • Not comfortable tweeting, Feels vulnerable exposing opinions • Cautious: wants to be careful in what she says, thinks people should be concerned with what we say in order to be constructive rather than just repeating others thoughts • She questioned the authenticity of others opinions on twitter, and if they were really thinking, or echoing other 	<ul style="list-style-type: none"> • How to integrate it into her workflow and time. (Seeing as a tool) • Carol is a part-time worker, and wants to compartmentalise her time • She critically think about how Twitter is used by others and if other people are giving thought or just RT'ing tweets of others without thinking. • She feels that people need to be mindful of their use of twitter. • These comments trigger my thinking as an academic developer, if we (academic developers) are advocating the use of Twitter a place for learning, should we be having critical conversations with higher education professionals to raise awareness of

		peoples thoughts	the implications of being online, issues of identity, all towards encouraging meaningful use of social networks for learning?
Karen	<ul style="list-style-type: none"> • Ease of access (accesses Twitter on commute to work) • RT enables save for later • Keeping up-to-date with content • She describes herself as being 'equipped' to engage with Twitter. 	<ul style="list-style-type: none"> • Time: no time during work • She mentions technical barriers for others - saying that other people are less 'equipped' to use twitter • Has not found suitable people to follow on twitter who post about teaching/learning practices in her subject area (however she does follow content experts in her discipline) • "I was excited about Twitter and I was newer to it you know I'm a little bit more blasé now" – wants to know how else to use it • Doesn't tweet and didn't explain why/give reasons 	<ul style="list-style-type: none"> • She describes herself as 'equipped' to engage with Twitter - she can use the technical functions • Her motivations for using Twitter are for content knowledge accumulation, she sees Twitter a tool for this rather a place for engaging with others. • Her motivations about using Twitter for content accumulation raise my curiosity about how she perceives the role of the teacher, as content expert or about a student centre approach to learning, this is outside the scope of this study. • She says that she feels she could use Twitter to more potential and wants to connect with other educators on twitter about teaching and learning practice -but she does not follow the right people in this area • For me - As an academic developer how can I (we) best support maximising potential of higher education professionals' learning via social networks?
<p>Twitter, as an easily accessible tool is a theme permeating the data. However barriers relating to being cautious, feeling uncomfortable saturate the data relating to using Twitter, this is not unusual and is documented in other research (White & Le Cornu 2011). One participant used the phrase '<i>being equipped to use Twitter</i>'; this resonates with ideas of being competent not just with the technical functions of the tool, but being literate on social network. Some participants highlighted their needs for an ability to be able to connect and interact the right people and how use Twitter to maximise professional learning potential. While all are motivated to use Twitter for learning it is not issues of motivation (White & Le Cornu 2011) that prevent or enable them in engaging to more potential.</p> <p>Denise, Paul and Carol's data highlights their peripheral place within the Twittersphere. Paul's comments emphasise a lack of a sense of belonging; Denise and Carol are cautious about posting and interacting on the Twittersphere. This portrays them as observing from the margins of Twitter, not fully belonging to any particular virtual community. This interests me, as a sense of belonging is strongly associated with a sense of identity (Wenger 1998), in how we see ourselves similar or different to others. Therefore a lack of a sense of belonging is a barrier to these participants resulting in staying at the peripheries and</p>			

observing rather than deeper engagement on Twitter. I consider that issues of identity are core to this and require further investigation.

Visitors/ residents - data shows these participants as having a visitor approach using it as a tool (observing and curating info from Twitter). They show some evidence of interaction and conversation but they choose not to contribute opinions online.

Louise	<ul style="list-style-type: none"> Ease of access 	<ul style="list-style-type: none"> Opinion that giving criticism on twitter is unnecessary <i>“it’s not good to be negative is it”</i> Confidence to raise her opinion on Twitter. She is ‘hesitant’ 140 characters limits how opinions can be expressed, she proposed blogs were better for opinion 	<ul style="list-style-type: none"> As career has progressed she uses Twitter in evolving ways. Initially she used Twitter to collect resources to help her learning. She does interact with others more recently in her Twitter activities. (Her approach evolved from visitor to resident, her motivations on using it changed when she changed from student to professional, is this related to identity?) She is cautious of raising her opinion through posts and hesitant of posting comments that could be perceived as negative towards others on Twitter. She described being more socially networked on Twitter as time progressed. She might be more ‘literate’ in using Twitter; being able to navigate the Twittersphere (as a place) over time. Her identity as an educational professional has evolved over time from student to professional, but her motivations for using Twitter, keeping up-to-date seem to be primarily the same. Data shows that she socially interacts in certain situations, (to ask a technical question, to positively comment on presentations at conference) these are evidence that she is top-toeing tentatively into the centre of virtual communities into the virtual space. As her identity from student to professional has evolved her activities online on Twitter are changing, She was becoming more confident and less hesitant, less of a lurker as time progressed. Her identity changed as her professional practice and status
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			<p>changed, and her confidence(Eraut) seemed to grow also.</p> <ul style="list-style-type: none"> I interpret from Louise's data that identity (both offline and online) are important issues that academic developers need to be more cognisant of. We need to explore and engage identity as part of on-going work with higher education professionals. This is especially needed if we advocate our staff to use online social networks for learning, as their capacity to socially network might be impacted about how they feel they belong to online spaces.
Matt	<ul style="list-style-type: none"> Ease of access Confidence to use Twitter 	<ul style="list-style-type: none"> He described that other people could have technical barriers Others might not be confident to use Twitter Reluctant to demonstrate difference opinion on Twitter, not wanting to go against others opinions 	<ul style="list-style-type: none"> He considers technical competence as important but also mentioned that confidence in ability to use Twitter. He is wary of being perceived as negative, critical or questioning publicly online, this could be because of not wanting to offend others but I suspect that he has not developed his own voice to express opinions online. Instead his RTs show that he prefers to agree with other peoples opinions are rarely posts opinions or shares aspects of his practice. In the previous table I deemed him to be a *broker, He uses Twitter as a tool for 'networking' rather than residing on the network. He is motivated to use Twitter to read information/keeping up-to-date, to RT others tweets and engage in social commentary. These activities meet his professional needs I consider that these twitter activities are a reflection of who he is as a professional, his professional identity. He is a broker of relationships. I deem that he uses Twitter as tool to satisfy his needs rather than sharing his own practice and having conversations around mutual practice. He is

			more of a visitor than a resident, despite being interactive with others.
<p>For these participants Twitter is an easy tool to access information relating their professional roles. They use the tool differently and both show signs of visitor and resident approaches on Twitter. They are cautious of posting opinions and critical thoughts on Twitter, stating that it would not be good to be unconstructive towards others. Matt commented that technical competence and confidence in ability to use Twitter pose barriers to professionals using Twitter for learning. I would have liked to delve deeper on the confidence aspects of using Twitter especially about being able to navigate the social networking structures of Twitter.</p> <p>Louise thinks that 140 characters limits posting suitable opinions. As time has evolved she has contributed to more interactions and conversations on Twitter. Her status also changed from student to professional in this period. Her identity also developed with this period but her motivations for keeping up-to-date are ongoing. I think that this raises questions about identity, that identity affect how we partake in virtual spaces such as Twitter. I think this has implications for academic developers, if we advocate the use of social networks (Twitter) for learning. How are we supporting professionals to have the ability to be on Twitter, to be confident and form identities online?</p> <p>I think we need more conversations around identity on the online space and about the implications for professionals. As academic developers I believe we have a responsibility to open-up critical conversations about identity/digital identity and social networks.</p>			
Resident participants			
Ben	<ul style="list-style-type: none"> • Ease of access (on his commute to work) • Being able to scan, fast pace • Confident in making connections, asking questions, seeing possibilities (Peer wise example) • Technical competency of tool • Knowledge of how to tweet; how to talk with others, ask questions, start conversations on twitter 	<ul style="list-style-type: none"> • ‘Avalanche of data’ – data overload • Conference- not open critical debate • People being too nice • Potential abuse online - security settings 	<ul style="list-style-type: none"> • Technical competence needed but less important than knowing how to interact • Knowledge of how to interact comment, pose questions, have conversations, debate on twitter are very important • The ability to connect and interact within others socially online is important. • He says that he has the confidence to ask questions on Twitter. Other participants talk about caution and vulnerability online. Why does Ben have confidence and others do not. Eraut suggests that confidence increases, as professional identity evolves. I suggest that Ben’s sense of identity as an educator enables him to converse confidently about

			<p>matters relating to teaching and learning online. He portrays himself as being at the centre of a learning network, belonging to a community sharing similar practice issues. He has developed a sense of identity. Further study on this is required and I suggest that exploration of identity (how participants in this study identify themselves) would reveal more/other reasons relating to participation or non-participation.</p> <ul style="list-style-type: none"> • Again I believe that it is important for academic developers to consider identity (and digital identity) as part of the complexities of advocating Twitter for learning. It is not just about technical competence or literacy but also about identity.
Maurice	<ul style="list-style-type: none"> • Easy to use and access • Highly social tool, enables interaction with others • Enjoyment: likes the conversational aspect • Twitter is collegial • Confidence to give personal opinion on topics. • Educational grounding and understanding of education theory enable him to have fruitful, constructive discussions • Important to be constructively critical of ideas and opinions discussions • Disagreement is important it triggers thinking 	<ul style="list-style-type: none"> • Barriers for colleagues – maybe technical or lack of awareness that Twitter exists • Being too cautious. (not being playful?) • Not being cautious enough • Retweeting (RT) without thinking • Tendency for group think, not thinking critically 	<ul style="list-style-type: none"> • He perceives that others need to develop awareness about using twitter and development of the skills in how to use it in nest possible way • He considers that people need to know how to interact with others, pose questions, opinions (knowing how to navigate and socially interact on Twitter is important) • People need to become accustomed in being collegial whilst debating topics on Twitter • Need for people to think before RT'ing, to be more conscious about opinions and posts • More conversation is needed amongst professionals who use Twitter, on how they use it, how else to use it. He describes confidence as being a major factor. This links in with what Eraut says about professionals in learning situations needing confidence, and that confidence increases over time. • This triggers my thinking as an academic developer about how we advocate twitter for learning, its not just about teaching technical functions but about

			exploring a complex intersection of social networking literacies, technical competence and identity work with professionals working in higher education.
<p>Maurice and Ben enjoy socially networking with other professionals on Twitter and they recognise that social network participation is more than technical competence. They discussed the ability to connect and converse with others as vital. Maurice raised that a good grounding in formal education was important and as a result was confident in tweeting posts and opinions. Maurice and Ben have formed online profiles on Twitter and have been asked to contribute to other educational events and opportunities. It seems that they have firmly established identities as educators in this online space. I interpret that other participants especially those with visitor approaches have not developed a strong sense of identity or belonging within spaces where educators meet and this is a barrier to them in engaging more interactively in the online space.</p>			

Comments/Memos from case display table

All participants in this study are motivated to use twitter and find it useful to learning within their professional role.

Participants had purposeful interest in using it (visitors keeping up-to-date, residents more about being part of the network)

However not all participants are using Twitter as a social network (some using is as a bulletin board). Different reasons have become apparent for this, such as being cautious, not having a sense of belonging.

White (2015) state that people are motivated by certain needs to use social network sites, however I believe this is more of an issue relating to identity, the sense of belonging people feel within these places that Twitter brings them into

Also ability to navigate social network spaces is important, this maybe be related to digital literacies of the participants but is outside the scope of this study

Capacity to contribute on Twitter is fundamental to participation outward/socially on Twitter – lack of capacity is a result of barriers, Visitor participants highlight inhibiting factors

Qualities of Resident participants

Confident, collegial but liked to debate with and question others on the social network

Playfulness: Liking social interaction, enjoyment from interactions

Qualities of Visitor participants

Cautiousness, vulnerable, lack of bravery, lack of risk taking, lack of confidence to voice own opinions, fearful of others, less confident in professional knowledge, less confident to develop relationships online