The PARTICIPATORY WEB IN THE CONTEXT OF ACADEMIC RESEARCH: LANDSCAPES OF CHANGE AND CONFLICTS

Cristina Isabel Mendes da COSTA

Ph.D Thesis **2013**

The PARTICIPATORY WEB IN THE CONTEXT OF ACADEMIC RESEARCH: LANDSCAPES OF CHANGE AND CONFLICTS

Cristina Isabel Mendes da COSTA

Salford Business School
College of Business and Law
University of Salford, Salford, UK

Submitted in Partial Fulfilment of the Requirements of the Degree of Doctor of Philosophy, February 2013

The PARTICIPATORY WEB IN THE CONTEXT OF ACADEMIC RESEARCH: LANDSCAPES OF CHANGE AND CONFLICTS

Acknowledgments

I was, and still am, the first person in my family to have graduated from University. For some people University is a family ritual, but for me it was often a dream beyond my possibilities. Throughout the years I have dared to make this dream come true, and I grabbed all the chances I was given. Slowly, I have managed to arrive here. However, my achievements are as much reliant on my efforts as they are on the generosity of those who crossed my path during my academic journey. I would like to give thanks to those with whom I worked or was fortunate enough to meet in the last five years.

First of all, I would like to thank my supervisor, Frances Bell, for supporting me throughout this incredible journey with her patience, expertise and questioning mind.

I would also like to thank my colleagues at the University of Salford, particularly my former line manager Professor Jocelyn Evans who supported and encouraged the beginning of this journey, and my dear friend Dr Victoria Sheppard who patiently listened to the constant personal dramas of a PhD student, me(!). She also went out of her way to proof-read this thesis.

I am most grateful to friends around the world for providing me with a platform for discussing ideas. I want to thank Graham Attwell for the long discussions during the initial phase of my research; Professor Carol Haigh and Dr Lisa Harris for taking an interest in my work and inviting me to join some of their projects at their respective Institutions; Dr Ilene Dawn Alexander and Dr Pascal Venier for the ongoing mentorship; Dr Linda Castaneda and Ricardo Torres for the joint writing opportunities; and Dr Ian Willis and Jaye McIsaac for their words of wisdom.

I am in awe with the kindness and the support I received from my extended networks online. Your encouragement kept me going.

I would also like to thank my friends and family for all their support and for tolerating my absence at important dates. I would particularly like to thank my mother for respecting my immersion in this project and giving me the space I needed to finish it.

Last, but by no means least, I would like to thank all of those who participated in this research. This thesis would have not been possible without your contribution.

Abstract

This thesis presents the results of a narrative inquiry study conducted in the context of Higher Education Institutions. The study aims to describe and foster understanding of the beliefs, perceptions, and felt constraints of ten academic researchers deeply involved in digital scholarship. Academic research, as one of the four categories of scholarship, is the focus of the analysis. The methods of data collection included in-depth online interviews, field notes, closed blog posts, and follow up dialogues via email and web-telephony.

The literature review within this study presents a narrative on scholarship throughout the ages up to the current environment, highlighting the role of technology in assisting different forms of networking, communication, and dissemination of knowledge. It covers aspects of online participation and scholarship such as the open access movement, online networks and communities of practice that ultimately influence academic researchers' sense of identity and their approaches to digital scholarship. The themes explored in the literature review had a crucial role in informing the interview guide that supported the narrative accounts of the research participants. However, the data collected uncovered a gap in knowledge not anticipated in the literature review, that of power relations between the individual and their institutions. Hence, an additional sociological research lens, that of Pierre Bourdieu, was adopted in order to complete the analysis of the data collected. There were three major stages of analysis: the construction of research narratives as a first pass analysis of the narrative inquiry, a thematic analysis of the interview transcripts, and a Bourdieuian analysis, supported by additional literature, that reveals the complexity of current academic practice in the context of the Participatory Web.

This research set out to study the online practices of academic researchers in a changing environment and ended up examining the conflicts between modern and conservative approaches to research scholarship in the context of academic researchers' practices. This study argues that the Participatory Web, in the context of academic research, can not only

empower academic researchers but also place them in contention with traditional and persistent scholarly practice.

Table of Contents

Chapter 1 - Introduction 1
- Introduction 1
- Research overview 1
  - The Participatory Web in the context of Higher Education 1
  - Research objectives 4
  - Research approach 5
  - Research participants 6
- This research project 6
- Organisation of the thesis 9

Chapter 2 - Literature review 12
- Aims and scope of the literature review 12
- The Information Age – an historical perspective 13
  - From analogue to digital 13
  - The tradition of scholarship 15
  - Dissemination and publication of knowledge 17
  - The Internet and World Wide Web 22
  - The incremental shift 26
  - Step changes 28
- The present and future of the Information Age 29
  - The Participatory Web 29
  - Scholarship in the digital age 30
  - Scholarship in transition: tensions and conflicts 31
  - Heterogeneity in scholarly communication – the contribution of the Participatory Web 32
  - Accessibility to research: new trends 34
  - Open access 35
- Scholarship and the Participatory Web explained 38
  - Opportunities and implications 38
  - Forms of association 39
  - Professional identity 42
  - Digital scholarship 43
- Summary 44

Chapter 3 – Methodological approach and philosophical considerations 47
- Introduction 47
- Research objectives 48
- Justification of the research design 49
- Philosophical assumptions 49
  - Positivism 51
  - Interpretivism 51
  - Critical approach 52
- A qualitative research approach 54
- Research considerations: epistemological, ontological and methodological positions 55
  - Justifying my choice for a interpretive-critical paradigm 56
- Research Paradigms 59

Type of Phenomena 59
Researcher's Role..59
Researcher's relationship with phenomena 59
Ontological Assumptions 59
Epistemological assumptions 59
Relationship between theory and practice 59
Modes of Inquiry 59
Research Goals..59
Critical-interprevitist research 60
Methodological choices..61
Academia in a digital world: the contribution of narrative inquiry 61
Understanding narrative inquiry: what it is and what it does 63
The narrative inquirer 64
The value of narrative inquiry...65
The importance of context in researching through narrative inquiry................66
The role and place of the narrative inquirer: me! 68
The research process 71
Recruiting research participants..74
Research interviews...75
Introducing the Bourdieuian research lens 77
Bourdieu's thinking tools 78
Applying the Bourdieuian key concepts to the Participatory Web and academia85
Embedding the Participatory Web in narrative inquiry research 86
Tools for data collection 87
Research ethics: open or closed research? 89
Summary...90
Chapter 4 - Narratives of practice – understanding the Participatory Web in the context of higher education...92
Introduction 92
Data collection 92
Data analysis 94
The process of analysing data..95
Introducing the research participants 99
Anne (Code: RP0) 101
John (Code: RP1) 102
Lucy (Code: RP2) 102
Alex (Code: RP3)..103
Heidi (Code: RP4) 103
Neil (Code: RP5) 104
Hector (Code: RP6)..104
Richard (Code: RP7) 105
Antonio (Code RP8)..105
Luke (Code: RP9) 106
Maria (RP10) 106
Research findings 107
Thematic analysis..107

Themes inspired by the literature review 108
Online participation (and its forms of association) 108
Communication/ dissemination of knowledge 112
(Sense of) Identity 115
Overview of the role of the Participatory Web in scholarly practice 116
Research themes that emerged from the narratives 119
Turning point 120
Polymathic approach 122
Approaches of practice (epistemology) 125
Isolation 127
Position/ role 129
Barriers (to one's approach to practice) 132
Implications (of adopting unconventional practices) 137
(Awareness of) The changing environment 142
Summary 145
Chapter 5 - Exploring landscapes of conflict: a Bourdieuian perspective 146
Introduction 146
A Bourdieuian lens 147
Forms of capital in academia 149
The habitus of digital scholars 151
The field of academic research 153
Modes of domination vs practices of resistance 156
The dilemmas of the digital scholar 160
The promise of the Participatory Web 161
The current logic of practice in Higher Education 163
Summary 166
Chapter 6 – Conclusions 168
Revisiting research objectives 168
Academic researchers' use of the Participatory Web through their personal accounts 168
Implications of the use of the Participatory Web for research participants' research practice 170
The current social, cultural, political and economic context of research participants' narratives of practice 172
The contribution of this research 173
Revisiting chapters 177
Evaluation of this research project 178
Limitations of this study 181
Areas of further research 182
Final reflections 183
Bibliography 187
Annexes 229
Annex 1 229
Information and consent form 229
What the Research is about 229
Who am I 229

Confidentiality and Safety of Data ... 229
Right of Withdrawal ... 230
Consent ... 231
Revocation of Consent ... 231
Annex 2 ... 232
Narrative Interview Guide ... 232
Annex 3 ... 234
Invitation letter sent to research participants ... 234
Annex 4 ... 235
Thick description of research participants ... 235
Annex 5 ... 273
Analysis grid ... 273

List of tables

Table 1 - Basic beliefs of alternative inquiry paradigms (Guba and Denzin, 1994, p.109)......50
Table 2 - Synthesis of research paradigms 59

List of figures

Figure 1 - The iterations of the research project 10
Figure 2 History of scholarly publishing industry 20
Figure 3 - Interview guide is informed by the literature review 46
Figure 4 - The Bourdieuian research lens was introduced to analyse the research themes that emerged from the participants' narratives 72
Figure 5 - The research iterative process 74
Figure 6 - Stages 1 and 2 of the research analysis 99
Figure 7 - Research themes 108
Figure 8 - The introduction of the Bourdieuian lens to aid stage 3 of analysis 147
Figure 9 - The logic of practice in the context of this research 165

Glossary

A glossary of terms is provided to clarity the specialised vocabulary used in this thesis.

Academic researcher

In the context of this research, an academic researcher, or scholar, is an individual who conducts research as part of their work and is employed by a Higher Education Institution.

Academic Practice

Academic practice consists of professional work conducted within academia. It deals with the different elements of scholarship: teaching and learning, research, community and public engagement. In the context of this research project, academic practice is used to mean research practice developed within the context of Higher Education Institutions. It is sometimes used interchangeably with the term “scholarly practice” as a matter of linguistic style.

Affordances

Affordances are the characteristics of a given environment regarding what it “provides or furnishes, either for good or ill” (Gibson, 1979, p. 127).

Digital scholar

In the context of this research, the term “digital scholar(s)” is used to mean scholars, or academic researchers, who engage in digital scholarship.

Digital scholarship

Digital scholarship is defined as scholarship supported and enhanced by the Participatory Web and the movements and ideals associated with it. Digital scholarship is also strongly rooted in a culture of sharing, openness and, transparency.

Internet

The Internet consists of a networking infrastructure that interconnects computer networks at a global scale through the use of a standard Internet protocol.

Open access

Open access means the "immediate, free availability [of research work published] on the public internet, permitting any users to read, download, copy, distribute, print, search or link to the full text of these articles, crawl them for indexing, pass them as data to software or use them for any other lawful purpose" (definition from the Budapest Open Access Initiative[1]).

Open access journals

The Directory of Open Access Journals (DOAJ) defines **"**open access journals as journals that use a funding model that does not charge readers or their institutions for access" [2].

Open access movement

The open access movement is a social movement led by scholars in academia that aims to implement the principles advocated by the Budapest Open Access Initiative to research practice.

Participatory Web

The Participatory Web consists of web and communicating networks, applications and environments on which individuals are active participants as contributors and sharers of information, personal views and opinions.

Republic of Letters

The Republic of Letters consisted of an international intellectual community of the 17th and 18th centuries that used letters as a form of networking and communicating information and ideas with individuals in different geographical areas.

[1] Budapest Open Access Initiative, available from http://www.soros.org/openaccess
[2] DOAJ, *About DOAJ*, available from http://www.doaj.org/doaj?func=loadTempl&templ=about

Research assessment exercises

Research assessment exercises are exercises that are conducted periodically to evaluate the national quality of research and thus determine the amount of research funding that each Higher Education Institution is allocated. Different countries have different mechanisms for measuring research outputs.

Scholarship

Scholarship is a term used to describe the different components of academic practice, such as research as a process and a product, teaching, public and community engagement, lifelong learning and networking, collaboration and establishment of partnerships. For the purpose of this thesis, research practice is the aspect of scholarship of interest.

Web 2.0

The term Web 2.0 was popularised by O'Reilly in 2005. It characterises a second phase of the web. In comparison with the Web 1.0, a read-only online platform, the Web 2.0 provides tools and applications that support social and collaborative environments. Web 2.0 promotes participation and enables multi-directional communication by yielding the control of information creation to the user.

Chapter 1 - Introduction

Introduction

This thesis concerns the Participatory Web and its impact on the practices of academic researchers. The Participatory Web is defined as web-based applications through which individuals come together to discuss, share, learn, and co-create knowledge via different kinds of media (text, video, audio, photography, etc). The Participatory Web is a space of interaction and participation available to individuals that extends beyond institutional boundaries. For this thesis, the Participatory Web is also seen as a social space where new ideas and forms of working are generated. And, in this vein, it is equally a space that can foster contention and struggles. Academic researchers, the research participants featuring in this study, are individuals who actively pursue a research career and are professionally associated with a Higher Education Institution in various countries. For the purpose of this research, the practice of the participants has been limited to their academic research practice.

Research overview

This Chapter provides an overview of the research project, its rationale and its process. It summarises the Literature Review and introduces the original research objectives that guide this study. It depicts and justifies the planned research methodology for the study, and introduces the characteristics of research participants featuring in this research. The full processes of analysis used in the study are also described, and the research lens used for fostering deeper understanding of the social reality under study is also presented.

The Participatory Web in the context of Higher Education

The Literature Review conducted for this research project focuses on the role of the Participatory Web in a knowledge work setting, in particular that of Higher Education. It discusses the tensions between innovation and tradition; and highlights how online networks and communities can influence individual practices and inform practitioners' sense of identity.

The Participatory Web in the context of Higher Education is a growing phenomenon that is stimulating change about which there is still limited understanding. As a result, it is stirring up academic practices in previously unimaginable ways. Although Higher Education Institutions are in favour of innovation, their pace in promoting change and adopting new practices is often slower than other areas and sectors of society (Sheridan, 2010, p.130). Higher Education displays institutional conventions that are often resistant to change (Thomas, 2002, p.431). The practices of constructing and communicating academic knowledge have a long tradition, extending many centuries back. For instance, the Republic of Letters, the intellectual networks of the Enlightenment period, promoted the exchange of knowledge on a free and continuous basis through the use of letters (Goldgar and George, 1996; Goodman, 1996; Burke, 1999). The launch of the scientific journal in the 17th century came to change the way scholarly knowledge was communicated to both specialised communities and wider publics (Atkinson, 1999, p.16). The 20th century brought a new invention that has prompted changes in the way knowledge workers construct and share knowledge. The Participatory Web supports the current knowledge economy (Powell and Snellman, 2004, p.199). As the control of knowledge production starts to shift from the institution to the individual (Eijkman, 2010), and from official to more spontaneous sources and platforms, the long established structures on which Higher Education operates are coming into question (Hessels and van Lente, 2008). The creative work of individuals who are active online is the primary source of content on the Participatory Web (Kylie, 2008). As the possibilities for the construction of collective intelligence and engagement change, so does the practice of those who participate online.

In recent decades we have witnessed transformations in practice and approach in academia. These changes are the effect of different, emerging phenomena in society: from technological to financial changes, the world in which we live and work is in constant change (Owen- Smith and Powell, 2001; Thompson, 2005, Dillner, 2010; Sallee, 2011). In the Higher Education context, the changes affect the way we work, the new goals we are required to achieve, and the tools we use to perform our jobs. In a knowledge based industry, as is the case of Higher Education, the use of computers has come to reform the workplace (Nobel and Lupton, 1998; Townsend et al, 1998). It is claimed that the introduction of the Web, and its evolution from a place for collecting information to a space for collective participation (O'Reilly, 2007) is changing the world of knowledge and knowing (Choo et al, 2000; Brown, 2002; Bonk, 2009; Levy 2009). Recent literature points out that the Participatory Web not only creates new potential for academia and its intellectuals (Weller, 2010; Veletsianos and Kimmons, 2011), it may also help emancipate different groups in society (Kanter et al, 2010): students, communities, and different publics who are ultimately the audiences Higher Education serves and researches.

However, it is important not to forget the dominant political and economic contexts that have the potential of driving or hindering the uptake of the Participatory Web as a new form of working and communicating. Institutions and national and international bodies have recognised the potential of Participatory Web mediated environments in recent decades, and large amounts of funding have been made available so Universities can meet the demands of a society gone digital (Costa, 2011). In this sense, the Participatory Web has been regarded as an unquestionable catalyst of change (Hall, 2011, p. 275) thus creating a need to research the Participatory Web as a "profoundly social, cultural, and political concern" (ibid).

The use of the Participatory Web by academic researchers in their professional capacity is still tends to be conservative (Weller, 2011). Procter et al (2010) found in their study that researchers are starting to use the Participatory Web sporadically but its "frequent or intensive use is rare" (p.46). In many cases it is not seen as a new form of communication and working but rather as wasting time and adopting dangerous practices. Changing practice implies taking risks (Berg and Östergren, 2006), exploring new venues, and doing things differently (Beer and Burrows, 2007; Solomon and Schrum, 2007). In the midst of an economic crisis that threatens job security, decreases promotion possibilities, and limits the availability of research funding and resources (Guarria and Wang, 2011), choosing to go against the norms of the institution is a risk that few academic researchers are willing to take (Carpenter et al, 2010; Harley et al, 2010; Weller, 2011).

New approaches to practice with the use of the Participatory Web challenge individuals' roles and blur the boundaries of control (Conole and Alevizou, 2010). They also question the "current validation mechanisms" (ibid, p 42), and provoke debates about issues such as transparency, ethics and openness of practice (Jenkins et al, 2006). The Participatory Web as a tool that puts individuals at the centre of their activity as autonomous networkers (Couros, 2006; Berlanga et al, 2010; Friesen, 2010; Gauntlett, 2011) "interrupts our usual policies, practices and assumptions"

(Meyer, 2010). Moreover, the Participatory Web disrupts established practice as much as it empowers agency (Kop, 2008).

Academic researchers' active presence on the Participatory Web not only changes their approach to practice, as they embrace the values of digital scholarship (Weller, 2011; Conole, 2012); it also informs their evolving sense of identity (Wenger, 1998) as a result of their participation in networked environments and communal spaces. Individuals adapt to the social conventions of the spaces in which they participate. Identity is a product of socialisation (Jenkins, 2008) that is constantly transformed by the combination of an individual's experiences (Slay and Smith, 2011) and their personality (Cote, 1996).

Research objectives

Given the context of this research project, as highlighted above, this research focused on the interplay between the Participatory Web and the practices of academic researchers engaged online. From the beginning, the research set out the following research objectives:

- To explore academic researchers' use of the Participatory Web through their personal accounts
- To understand the perceived implications the use of the Participatory Web has on research participants' scholarly practice, specifically with regard to academic research
- To situate the narratives of practices collected for this study in the context of the current social, cultural, political and economic context.

Narrative inquiry methodology was used to collect and analyse stories of practice of research participants. As the project unfolded, I started to become aware of the struggles that academic researchers face as they integrate the Participatory Web into the research aspects of their scholarly work.

The research objectives used for this research provided a meaningful entry into research participants' accounts of practice. They allowed me, as a researcher, and the research participants themselves to "think about their experiences in terms of the three-dimensional inquiry space; that is, along temporal dimension, personal-social dimensions, and within place" (Clandinin and Connelly, 2000, p. 128-9).. The accounts of participants' practice reflected their concerns and motivations with the Participatory Web and not necessarily those predicted by the initial literature review. The narratives led to accounts of power relations and struggles. In other words, their personal accounts helped to identify some of the implications of using the Participatory Web but neither the narratives nor the current literature could fully explain them. In order to fully understand these implications and to situate the narratives of practice in their wider contexts, I needed additional critical thinking tools to complete the analysis and fully satisfy the second and third objectives. In my search for a relevant framework to complete the analysis, I found the work of Pierre Bourdieu. The thinking tools (see chapter 3) he developed throughout his research career, as a result of studying conflicts in different social contexts (such as different social phenomena in Algeria and France) provided a useful and original research lens for this study. The development of research objectives also contributed for the iterative process of this research in that it allowed for the research to be (re)shaped by Participants' narratives. Thus this thesis is written up in a narrative style in order to capture the planned and emergent aspects of the research process. In doing so, it aims to provide a faithful account of the research process that can potentially help individuals new to narrative inquiry to deal with the unpredictable nature of researching human subjects contained in a complex social space.

Research approach

My methodology allows the voice of the research participant to emerge fully as him/herself and not just as a smaller part of a wider picture; the research community, for instance. Consequently, I used narrative inquiry for the data collection. As Clandinin and Connelly (2000) understand it, narrative inquiry can be simultaneously a method and an object of study. It is used for this project because it offers an opportunity to explore, construct and reconstruct research participants' narratives of experience through reflexive accounts of their professional lives and develop this thesis as a research narrative that accounts for its entire process.

It was not my intention to use narrative inquiry to look into a more global, collective tendency on how things "are done around here", but rather to narrow it down to a more concrete and detailed perspective, that of individual action, opinion and disposition.

Narrative inquiry helps to situate individuals' stories. It justifies their narratives. It gives individual voices a context. This research has unveiled stories that have remained untold (Richardson, 2008) in order to question the situations research participants narrate (Howcroft and Trauth, 2004). As a result it aims to raise awareness of the realities it tackles (Brooke, 2002; Stahl, 2011). Hence, this research also seeks to promote new ways of thinking to address the issues it helps uncover (Shirley and Kincheloe, 2010).

Research participants

In selecting the research participants, I searched for those whose context present extreme cases (Eisenhardt, 1989). Extreme situations make the issues under consideration more visible (Slay and Smith, 2011). Extreme cases aim to make research more inclusive of the experiences of individuals (ibid, p. 89) who are at the margin of what is considered standard in their practice. Hence, I understand "extreme to mean *unusual*" (Gerring, 2007, p.102). In looking into extreme cases, I aim to access the dilemmas the research participants face based on the choices they make regarding their use of the Participatory Web in the context of their research activity.

The research participants featuring in this study are researchers employed by Higher Education Institutions and are heavily involved in the use Participatory Web as part of their research practice. The research participants took part in in-depth research interviews conducted online. The interviews followed a narrative inquiry approach, a method regarded as appropriate to access the research participants' own experiences and perspectives through their own words and narratives (Bruner, 1991; Clandinin, 2006; Clandinin and Connelly, 2000; Riessman, 2007).

This research project

To examine the interplay between the Participatory Web and the research practices of scholars with an active presence online I ventured into a narrative inquiry study regarding the effect of scholars' use of the Participatory Web in the context of Higher Education. In order to understand how the Participatory Web influences scholars' research practices, or "scholarly of discovery" as Boyer calls it (1990), I conducted eleven in-depth interviews with active researchers associated with Higher Education institutions in several different countries across the world, of which ten were used. The research inquiry proceeded with regular contact with three of the UK participants for an additional period of six months to address the issues relating to the UK research context, explained in The research process section of Chapter 3 – Methodological approach and philosophical considerations. I conducted this study with the conviction that knowledge is a social construction, the meaning of which is dependent on the multi-layered contexts in which it is created.

For this study, I wanted to access the voices of those who actively engage with the Participatory Web as part of their academic work. I wanted to understand their logic of practice, as well as their motivations and frustrations. As the study unfolded, my research goals evolved from wanting to understand the individual and their practices to needing to know more about the individual and their online practices in relation to the institutional structures within which such practices take place. I analysed the relations of power present in their work lives. The deeper I went into the narratives, the more I became aware of the dissonance between institutional and individual perspectives of practice. The power exercised by the institution emerged as an important theme of this research, as did the opportunities the Participatory Web presents for the development of creative and innovative practices. To explain this phenomenon, which had not been anticipated by the literature review, I sought the help of Bourdieu's work. His analysis framework provides relevant thinking tools (*habitus*, *field*, *capital* and *symbolic violence* (introduced in chapter 3)) that enable a thorough explanation to this research project. Bourdieu's thinking tools also make an original contribution to this research in that it has been used in other contexts, such as those of health care, identity, teacher training, religion, to name a few. Yet, to my knowledge, it has never used to combine the phenomenon of the Participatory Web with the topic of research as a component of academic practice.

This research found that the Participatory Web represents a tool and an environment where academic researchers can exercise their creative and innovative spirit. The Participatory Web is a place where they find and congregate with other scholars who share similar professional values. It therefore informs their ways of working and strengthens their social and professional identity as someone who has a modern and practical outlook on scholarly practice. The fostering of collaborative links, the sharing of experiences, and collective participation in open spaces are activities that partially summarise the ways in which research participants wish, and often do, conduct their research practice. Their aspirations to transfer their ideals of digital scholarship to the institutional structures more often than not result in conflict with the rules imposed by the institution. These struggles do not deal so much with the potential of the Participatory Web in creating spaces for networking as they do in developing new forms of communication and dissemination of research outputs. This is due to the fact that collaboration as part of the research process is not a regulated research activity. Dissemination of research, however, has a long tradition. The publication of research in academic journals with established reputations, no longer meets the expectations of those who make use of the Participatory Web as a new conduit of knowledge communication. Throughout the years, research institutions worldwide have developed mechanisms to assess and rate the quality of the research produced by staff. These mechanisms rely heavily, but not exclusively, on bibliometrics and the types of journals in which research is published. Since these exercises also serve to determine the amount of funding each institution is allocated, institutions tend to devise strategies that target the publication of research in high impact journals in the hope to ensure the greatest amount of funding possible. This research demonstrates that this is where institutions put their strategic effort. In the context of digital scholarship this becomes the greatest point of contention. As part of their activity online, participants in this study have developed divergent approaches to the publication of research. They advocate the open access movement. They want to make their research accessible to a wider audience. They want to establish dialogues as part of their work. And they wish their institutions shared their professional values. Research participants' logic of practice diverges from that established by their institution. In this vein, most of the study participants play a "double game" in which they follow the approaches to research practice they have developed through their participation on the Participatory Web whilst also abiding by the rules of the institution. This allows them to keep a position in the institution; the only way they can promote change.

To study and analyse the interplay of academic researchers' online practices in the context of Higher Education I made use of literature in the area of emergent technologies, especially in the context of Higher education. As the study progressed I was led by the data itself to seek further literature that would enlighten the power struggles reported by the research participants. This is when I found the work of the sociologist Pierre Bourdieu, who provided a complementary research lens to this project. The result is a study of personal narratives describing how the Participatory Web transforms academic researchers' epistemologies of practice and how digital approaches to research practice clash with those stipulated by their institutions.

Organisation of the thesis

This Chapter has aimed to set the scene for the research project. It depicts the effects of the Participatory Web on research practice and how it transforms and creates struggles in the context of Higher Education. Although there is already a good body of knowledge about the use of technologies in the classroom (Bonk and Cummings, 2006; Craig, 2007; Greenhow et al, 2009) and the attitudes of educators towards the Participatory Web phenomenon (Rizza, 2000; Kadel, 2005; Wilson, 2011), very little research has been conducted on similar topics in a research context – the component of scholarship on which this study focuses. Moreover, although Bourdieu's thinking tools can be used to explain different social phenomena, their application to the Participatory Web in Higher Education is still scarce. When used, they mainly tend to focus on teaching and learning, learner experience, or the digital divide (Czerniewicz and Brown, 2012; 2012a).

Below I will provide an outline of the Chapters contained in this thesis in order to introduce the reader to the structure of this research project. The Chapters are characterised as following:

Chapter 2 - Literature review (commencing on page 12). This chapter will discuss relevant literature, proving a context for the research project. Guided by the initial purpose of this research, it focuses on the phenomenon of the Participatory Web in the context of research activity in Higher Education. The themes identified in the literature review feed into the interview guide and Stages 1 and 2 of the analysis , Figure 1 - The iterations of the research project.

Chapter 3 – Methodological approach and philosophical considerations (commencing on page 47). This chapter will capture my considerations about my philosophical assumptions and my journey into finding an appropriate research methodology for this research project. It presents the techniques deployed for data collection. At this stage I will introduce the research lens used to analyse the research data. The reason is two-fold: firstly, Bourdieu's thinking tools are used in this research to enhance the methodology; they consist of a framework of analysis that allows me to foster a deeper understanding of the phenomenon presented by participants' narratives. Secondly, as part of this thesis' narrative, Bourdieu's thinking tools are introduced in this chapter to record the process of this research project (as presented in figure 1) as it actually evolved. I not only aimed to be transparent about how I interpreted the research data, but also how I conducted the entire research process (Trahar, 2009). The research objectives and my role as a researcher will also be presented.

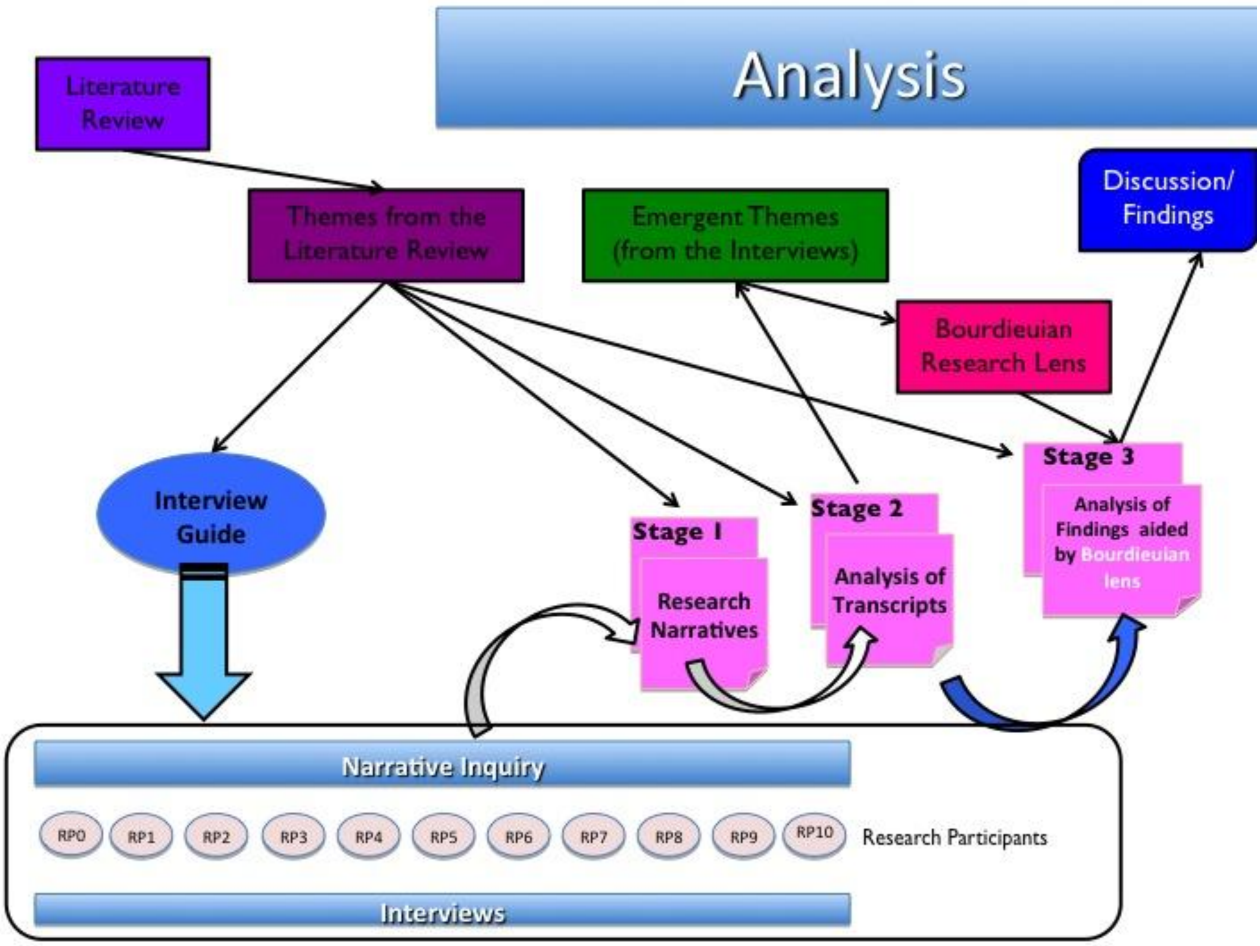

Figure 1 - The iterations of the research project

Chapter 4 - Narratives of practice – understanding the Participatory Web in the context of higher education (commencing on page 92). This chapter will depict the process and results of the research analysis. It will introduce the research participants in detail, and present the themes derived from the analysis of the data and links to relevant literature.

Chapter 5 - Exploring landscapes of conflict: a Bourdieuian perspective (commencing on page 146). In this chapter I will discuss the overall findings of the research using Bourdieu's key concepts as a research lens that helps to complete the analysis of the themes from the literature and those emerging from the narratives themselves..

Chapter 6 – Conclusions (commencing on page 168). The Chapter will consider the contribution made by this research project. In this chapter I will reflect on the research process and considers its limitations. The implications of the findings will also be discussed and future lines of study will be proposed.

Chapter 2 - Literature review

Aims and scope of the literature review

This chapter deals with debates surrounding the interplay between technology and the practice of research conducted in an academic setting. In doing so, this literature review starts with an historical perspective of the information age and its impact on research practice throughout the times. It then filters down to three key components of contemporaneous research practice. These deal with new trends of communication and dissemination of research; forms of association enabled by the Participatory Web; and implications of the Participatory Web on professional practice and identity. The conflicts between web based practices and institutional conventions are considered and discussed.

The rationale for this literature review is that the interaction between new technologies and established practices disclose both innovative approaches and struggles between individual practices and organisations. It aims to explore multiple perspectives of the same reality in order to avoid slipping into a technological deterministic debate in that technology is an autonomous system that affects society independently of human intervention. Yet, this thesis does not try to ignore the importance of technology in the current society. Instead, I attempt to provide a view that consolidates both perspectives. Building on McLuhan's aphorism (1964) regarding the reciprocal effect between technology and human behaviour, I agree that individuals can shape technology and that the technology that individuals use also shapes their practice and approach. This literature review seeks to provide a social understanding of the effects of technology in contemporaneous research environments.

Some sections of this review build on peer reviewed published journal articles and book chapters produced or co-authored by the researcher of this project (Costa, 2011; Costa and Torres, 2011).

The Information Age – an historical perspective

Although the Information Society is a late concept, all eras of history can be seen as Information Ages. Their evolution is a direct result of a society in continuous expansion and transformation. The technological advancements of the late 20th Century mark a turning point in how individuals cultivate knowledge and engage in communication (Turner, 1986; Castells, 2003; Cardoso, 2006). The web has shaped the socio-cultural, historical, and political landscape of our society, and in turn we have appropriated it to suit our own purposes (Salzmann and Rosensthal, 1994; Williams and Edge, 1996). For instance, the Participatory Web can be used to extend current business or even set up new ones; to augment current teaching practices or provide new learning environments, etc. The Participatory Web can be disruptive in this sense (Christensen and Eyring, 2011). It can change practices, and not always in a positive way (Naughton, 2012). Nevertheless, it is not the first time technology has made a difference in how information is used and managed, or impacts on society both positively and negatively. In doing so its purpose and value are questioned (Drucker, 1998).

From analogue to digital

The need to create, record and provide information has been a basic need for humankind. Throughout the times we have embraced different forms of communication, and the tools used are a reflection of the periods and affordances, or the ways, in which information is used and produced. Hence, it is not the first time that humankind has witnessed a major transformation in how information and communication is established and impacts on daily life, the workplace (Cowan, 1976), and scholarship (Eisenstein, 1980, p.3). In fact, throughout history, people have used and appropriated the technologies emblematic of their time to advance the society they inhabit. For instance, the Industrial Revolution may have been one of the most prominent periods of history when it comes to the production of new communication channels through which information could flow (Mantoux, 2006). Examples of this were the railway (Cairncross, 1997), and later the telegraph (Winston, 1998). Nonetheless, these innovations, built on earlier forms of communication, have led to changes in the contemporaneous era.

One of the oldest examples of writing known to humankind comes from Mesopotamia around 3300 BC (Horbart and Schiffmann, 2000). It was further developed by the ancient Egyptians who were inveterate record keepers and letter writers (David, 2003). In the 15th century there was another important turning point regarding the capture of information. Through the hands of Gutenberg, the replication and dissemination of information acquired a new dimension with the advent of the printing press, and the possibility of mechanical reproduction of the written word. This change overturned the well established information industry in Europe that was then under the control of Monasteries (Drucker, 1998). The development of the telegraph, in the 18th century, arrived as a response to the demands of a society which was increasingly accelerating its pace and demanding more and faster access to information (Winston, 1998). The invention of the transistor, a semiconductor device used to amplify and switch electronic signals, has also been considered to be of great importance for the information world. Riordan and Hoddeson (1997) have gone as far as to suggest that the transistor is the genesis of the Information Age. However, the Information Age is not the product of a given epoch or emblematic of a single invention. On the contrary, the Information Age operates almost as a continuum, even though it has evolved through different techniques and means; through the technologies prevalent in those given times.

Each new era of inventions contributes to the advancement of the Information Age. The computer, the Internet, and the Web as we know it today are key players in the current society. The cultural and economic transformations they have brought about have been quickly assimilated into everyday life (Wellman and Haythornthwaite, 2002; Yoo, 2010; Conrad, 2011). They have transformed workplaces across societies. In the first instance, computers provided automated support in the workplace (Hakken, 1993). The growth of Internet working eventually connected workplaces and accelerated their transformation (Wallace, 2004). In its wake new working habits have been established and new expectations have also been created.

Each innovation of Information Technology has had impact in its time and has served society (Headrick, 2000). In the current socio-technical context, the production of information online has led to public, and sometimes cooperative participation. Thus, in the context of the 21st century, the debate about the Information Age acquires a new dimension that operates through an emergent culture of participation and co-production of knowledge with a very strong socio-cultural and political element (Shirky, 2011).

Inevitably, these new models of participation are transforming practices (Slevin, 2000), and also creating tensions. The web has become a site for the aggregation of individuals in distributed environments (Steinfield et al, 2009; Ferron et al, 2010). It has shifted the main topic of the socio-technical debate from reproduction and transmission of information into one of participation, engagement, and distributed communication. With the widespread use of the Participatory Web, collaboration takes on different facets, with technology being appropriated for that effect. Collaboration is no longer restricted to formalised partnerships; it can take the shape of sporadic connections and associative links, spontaneous assistance, guidance, advice, etc. The Web as a communication medium permits such immediacy and serendipity in the way individuals establish contact and communicate. That is where its real potential lies (Lewis et al, 2010). At the same time, it also presents disadvantages regarding power relationships or accessibility, to name but a few.

The tradition of scholarship

Scholars have a long tradition of sharing and communicating their research and scholarship with peers in their fields. Networks have always been an important element of scholars' practice, even before the advent of digital technologies. Networks of correspondence were extremely precious in previous centuries, and especially useful before the invention of the scientific journal, in the 17th century. The Republic of Letters meant a direct connection between scholars in different countries and locations (Daston, 1991; Goodman, 1996), in a rather personal way. This form of communication was informal, slow in comparison with digital communication, and restricted to one-to-one communication: a clear limitation when compared to the possibilities of today. However, it was a meaningful way of sharing ideas, constructing knowledge and connecting like-minded people. The most prominent example of the benefits of having a personal network of letters is Charles Darwin, who used the epistolary genre to effectively share his findings and firm his theories within his scientific community, admirers and friends, whilst away researching on the other side of the globe. As Pearn (2007) points out "letters were absolutely essential [to Darwin's research] (...). This is how he gathered data, how he gathered ideas, how he discussed ideas". Moreover,

> *Darwin became a public figure, and the number and the social and geographical range of his correspondents increased accordingly. Letters conveyed public reaction to Darwin, as people who were often complete strangers to him wrote offering their own minute observations on plants and animals, their own theories, sometime elaborately worked up, or their religious doubts and*

concerns for Darwin's own soul. Darwin himself used letters as a research tool, building up networks of animal and plant breeders, and distributing throughout the non-European world a questionnaire on the expression of the emotions. Darwin also continued to confide in his closest friends and associates by letter. The letters (...) speak directly to modern controversies over evolution, intelligent design, and the conduct of science, as well as providing a portrait of a humane and thoughtful man, fascinated by the natural world and deeply embedded in a many-layered and complex society. (Burkhardt et al, 2008, n/d)

Darwin used the technology of his day to meet his needs. It allowed him to communicate and make sense of his research and interests. Letters helped him convey his human and social side. His letters have become a source of knowledge and a resource for other scholars, as they have been archived. Erasmus of Rotterdam was another scholar who had links with peers from all over Europe via mail correspondence (Berkvens-Stevelinck et al., 2005). Voltaire, was also a distinguished networked scholar (Pehn, 1999). The epistolary genre as a form of communication was advantageous in that it generated "ongoing interdisciplinary contestation" (Cook, 1996, p.140.) It had a downside too. The Republic of Letters only allowed exchange of information from one sender to a selected addressee; a clear disadvantage when compared with the evolution of the communication channels we now have.

In short, the Republic of Letters differs from the current digital communication channels especially regarding speed with which information can be created and exchanged. It also presents disadvantages regarding the size of the audiences it can reach. With the advent of the Participatory Web networking has taken on a new dimension. However, the research agenda to which academics have to answer today is rather different from that experienced by scholars in previous eras. The modern University, professions, and concepts developed in the 19th and 20th Centuries (Bornman, 1998) have affected the way research is communicated. The rules of dissemination are more contained and structured as a result of the current socio-cultural, economical and political contexts in which academia is currently included. Research assessment exercises to which Higher Education Institutions are subjected are an example of this.

Dissemination and publication of knowledge

The tradition of formally publishing periodical research has a long tradition (Burdick and Willis, 2011, p.93). It goes as far back as the second half of the 17th century with the creation of a new research communication channel: the journal. The first scientific journal was published in France in 1665 as *Le Journal des Sçavans (Andrade, 1965)*. It served to record and communicate current advancements and events in the Sciences to a wider public of learned individuals, scientists, and "the lay reading public" (Ornstein, 1913, p.235). Later in the same year the newly formed Royal Society in London followed the lead with the publication of the first *Philosophical Transactions*. The 17th and 18th centuries witnessed great change and innovation in terms of both the epistemological and methodological stances of the learned class towards Science (Gotti, 2006). The scientific journal was a direct by-product of the formation of modern Science (Bazerman, 1999), especially since the thinkers of the Enlightenment period, who were starting to loom above the clerical domain, needed a platform to circulate their ideas and discoveries in a more efficient way than personal correspondence.

Private correspondence, as the only form of intercommunication prior to the scientific journal had its flaws. It relied "too much on friendly or hostile feeling" (Ornstein, 1913, p. 232). Additionally, it was restricted to a scholar's acquaintances, making the discussion and dissemination of new knowledge patchy and eclectic. The creation of scientific journals aimed to address this need as it bridged the distance between scientists through printed communication. It helped disseminate new knowledge faster and to a larger audience in a more effective way (Potter, 1964).

Although the printed press had been invented two centuries before (Eisenstein, 1980), the Royal Mail in Britain was only launched a couple of decades before the start of *Philosophical Transactions*. If print technology offered the opportunity to create periodical literature, the Royal Mail introduced public access to an international correspondence system. Both inventions contributed significantly to the quality and opening of knowledge to the public (Willinsky, 2003), since "it was clear that this open and public scrutiny of science only augmented the quality of the science, while expanding the interest in and support for it" (ibid, p.7).

Ornstein (1913) noted that scholarly societies were the original sponsors and advocators of both the sharing and publishing of scientific knowledge. With the shift from long monographs and books to the journal, scientific publications were issued more frequently thus increasing the pace of exchange of new knowledge (Bazerman, 1988). Scientific journals created a new genre for the dissemination of science and academic work (Kronick, 1990) through the use of shorter texts on a frequent basis (articles and news that reported on the progress of scientific experiments, discoveries and reviews of books). The French journal targeted both scientists and the learned society (McCutcheon, 1924; Fiering, 1976) whereas the British equivalent focused more on practising researchers. Both shared the main goal of promoting and disseminating research.

The publication of scholarly knowledge through journals started a new process of documenting and sharing new findings that persist in today's research dissemination strategy (Gross et al, 2000; Spielvogel, 2011). The model of such a form of communication prevailed and was duplicated across western countries (Bazerman, 2000) as it generated value to the scientific discourse:

> *Frequent controversies over moot theoretical issues directed experimental interest to the testing of the conflicting theories; new hypotheses were broadcast; recent scientific works were critically reviewed; and plans for initiating research along certain lines were made public. The result was a distinct increase not only of interest in science, but also of scientific achievement.* (Merton, 1938, p.583)

Furthermore, the publication of knowledge also helped raise the credibility of scientific contributions over religious arguments and claims (Merton, 1938, p.583), in which the Bible predominated as a literal truth.

It is important to note that the first scientific journals were spaces "(...) of many historical contingencies, contradictory and particular interests and dynamics, ideologies and beliefs, and individual careers" (Bazerman, 1999, p. vii). Yet, it is believed that periodicals such as *Philosophical Transactions* served their original purpose of making knowledge accessible by and for the scholarly community as well as to the lay reading communities.

Around the 1960s and 1970s the scientific journal started to gain the attention of commercial scholarly publishers who began to acquire the already established, high-quality journals run by non-profit scholarly societies (Edwards and Shulenburger, 2003). This led to a business model that charges for the access to knowledge produced by the scholarly community. Although it would not be fair to assert that the first journals were fully inclusive of a wider society and widely accessible by different audiences, they achieved their goal of reporting scientific achievements to the larger community of scientists, patrons, and even the reading lay community through the most effective method of their time: the printing press. This proved to be the easiest mechanism for the distribution of new knowledge amongst those who belonged to such scientific circles, or had a genuine interest in science.

The current situation of scientific journals is rather different from the first scientific journals. With research journals published by commercial publishers, dissemination of scientific work is impacted by the provision of knowledge as a commodity for sale. With the exception of open access publications (see page 35) and other emergent forms of scholarship (see page 38) access to published work is usually made through paid subscriptions; a cost that is often carried by institutions' libraries. Yet, the production of knowledge is usually done at the cost of the time institutions allocate to individual researchers, or linked to funded research. Hence, Universities end up subsidising the academic publications for which they are charged, which makes this a rather unusual business model (Peek, 1996). If we consider that the outputs of publicly funded research are often commercialised with limited benefit to its producers or funders, both in terms of remuneration and accessibility to produced work, then this raises serious issues regarding the rights of the wider society in accessing knowledge. It also questions the role of researchers as public intellectuals (Godson, 1999).

There is a stark distinction between the periodicals created over the centuries and today's conventional scientific journals. Through the launching of the first periodicals, the researchers themselves, via their own scientific societies, exploited the latest technologies to serve the purpose of communicating knowledge more effectively, whereas now academic literature is mainly ruled by publishing houses that make use of modern technology to restrict access to new knowledge in order to maximise their profit, as **Error! Reference source not found.**[3] illustrates. he disparity is therefore two-fold: on the one hand, the monopoly of knowledge has changed hands, from its original creators and patrons to distributors of knowledge. On the other hand,

[3] Figure 1 is featured in a white paper by NAGPS entitles *A summary of the FRPAA and open access debate,* available at http://www.nagps.org/files/FRPAA%20and%20open%20access_0.pdf

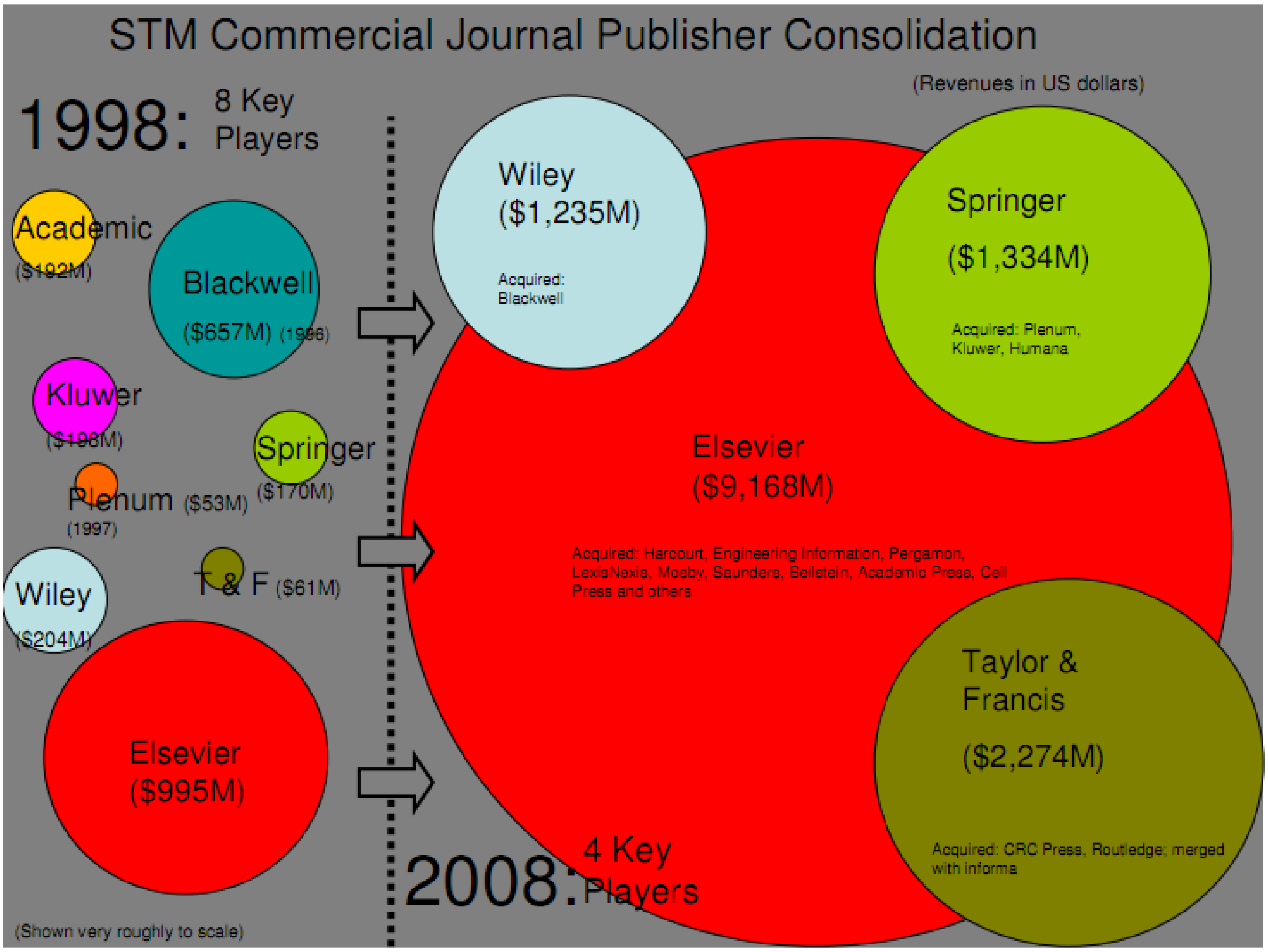

Figure 2 History of scholarly publishing industry

technology is being employed not to widen the access to knowledge, but rather to limit it. Such practices are rather ironic, especially if we take into account that we live in an age that celebrates the advancements and benefits of Information and Communication Technologies to provide opportunities for instantaneous communication (Shirky, 2009), communal and distributed learning (Wenger et al, 2010; Bonk 2011), and sharing in virtual environments increasingly open to many.As depicted in the sections below, alternatives to subscription journals and other forms of scholarly communication are starting to emerge. Examples include the open access movement (see page 35), personal sites, and the use of other Participatory Web tools, such as blogs, wikis and social networks. Nonetheless, the weight of the closed journal is still too great for other emergent initiatives to have a significant impact in the world of formal research assessment exercises on which academia is dependent. Such is the case of the Research of Excellence Framework (REF) in the UK or the Excellence in Research for Australia (ERA) in Australia. These research assessment exercises regulate the research income Universities are allocated annually from public funds. In the case of the UK, the research income each research institution receives is largely defined though the number of peer reviewed articles researchers publish in established research journals; a monopoly which, as seen above, was purchased by several printing houses during the 1960s and 1970s. Since open access journals still do not benefit from the same reputation, given their relative newness (Björk, 2004), researchers continue to look for journals with a longer and established reputation (Rowlands et al, 2004; Schroter, 2005; Bernius et al, 2009). This tends to reinforce the supremacy of subscribed journals and restrict the rise in reputation of open access journals. During the Republic of Letters, knowledge was restricted to the researcher's personal and private network of correspondence given the close nature of letter communication. Thus the link between authorship and readership was weak. Nonetheless, the commercialisation of journals also creates silos around knowledge elites in that individuals who belong to more economically powerful institutions are also the ones who benefit from a greater wealth of knowledge, as they are able to afford a wider range of journal subscriptions.

Today the academic journal is still regarded as one of the most noble forms of scholarly communication. It is the core output of research work worldwide (Man et al, 2003). It aims to attest the quality of academic work as it is formally assessed by a peer review mechanism that precedes the publication of the article in a specialised journal. This practice has become ingrained into academic research practice as a standard performance (Harnad, 2009).

With the current global financial crisis that has led to funding changes within Higher Education Institutions, there is an even greater pressing need to regulate research practice in such a way that institutions are able to meet the criteria established by their national research evaluation systems. These systems serve the purpose of assessing the quality of research in Higher Education, thus informing the allocation of research funding at a national level. It also assists in mapping out the prestige of Higher Education Institutions nationally and internationally. Overall, the quality of research outputs continues to focus primarily on conservative metrics, such as the use of citation information derived from journal articles, as it is believed that "(...) there are no robust indicators for research impact similar to bibliometric analysis of research publications and citations." (Grant et al, 2009, p.83).

Although the Participatory Web is starting to permeate different aspects of society, the promise of establishing a new set of practices through which academia can communicate their research and engage with peer communities and the public is yet to be fulfilled. Nonetheless, new approaches started to emerge with JISC[4] requiring the projects they fund to share their processes via open blogs, and research councils advocating open access publications. The Wellcome Trust has come to issue a statement concerning their support for "open and unrestricted access to published research"[5]. And the European Commission has also developed an Open Access Policy to ensure publicly funded research is accessed widely[6].

The Internet and World Wide Web

The Internet and the World Wide Web have deeply influenced new forms of information production and information dissemination, and also how communication is established and achieved. The digitisation of information has started to transform the practices of knowledge workers (Lynch 2002; Newhagen and Rafaeli, 2006).

Although the terms are often used interchangeably, the Internet and the World Wide Web, also known as "the Web", are not the same. The Internet consists of a technological infrastructure that houses numerous interconnected networks in a virtual space underpinned by open standards (Simon, 2005). Its function is to connect computers globally so computers can access and communicate with other connected computers worldwide[7].

The idea of a virtual network was first announced in the 1960s through a series of memos written by Licklider (1962) where he presented the idea of an "Intergalactic Computer Network". Licklider foresaw a very important step regarding the sharing of information and communication via interconnected computers on a global scale. However, two decades prior to Licklider's memos, Vannevar Bush had already written an article where he discussed the way the human mind works - by association - and the need to learn from it in order to organise and manage information in a more efficient way. His essay, "As we may think" (1947), was an important document for the steps ahead of what would become the Internet, although, at the time, he would call it "memex". As it

[4] JISC (2009) *JISC Open Access for UK Research, JISC's Contribution*. Available from http://www.jisc.ac.uk/publications/programmerelated/2009/openaccesscontributions.aspx ,
[5] Wellcome Trust (n/d) *Open Access Policy*. Available from http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTD002766.htm
[6] OpenAIRE (2011) *Open Access Policies and Mandates*. Available from http://www.openaire.eu/en/open-access/mandates-a-policies
[7] W3C (n/d) *The World Wide Web Consortium*. Available from http://www.w3.org/

can be seen in the following extract from his article, Bush invites the reader to imagine a new tool and form of information management:

> *Consider a future device for individual use, which is a sort of mechanized private file and library. It needs a name, and to coin one at random, ``memex'' will do. A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory* (Bush, 1947, p. 14).

In a nutshell, what Bush envisaged was a personal virtual environment for effective management and access of information. However, what was lacking in his conceptualisation was the capacity of distribution and a multi-user interface which would be theorised with Licklider's idea of interconnecting machines in different geographical areas. The years and actions that followed would decidedly mark a new Information Era. Licklider's proposal of the creation of a kind of virtual network saw him moving from MIT to the Defense Advanced Research Projects Agency (DARPA) to lead on the computer research programme based on the ideas expressed in his memos, i.e, the proposal of an "Intergalactic Network". That would enable the interconnection of several computers in order to make information easily accessible to other individuals in different locations.

Bush and Licklider's visionary ideas bore fruit in the decades ahead. Their proposals for artificial memory and interconnected intelligence pioneered a long and complex process of developing a new technology. It changed the flow of information in a radical way through computational languages known as "protocols". Its impact would later reach beyond academia and the military, affecting and changing industry and society in equal parts (Leiner et al, 1999). The pace of transformation and advancement of the technology acquired continued to increase in the 1960s. In 1964 Paul Baran published a paper on "Distributed Communication Networks" where he proposes a digital data communication system based on a packet-switching solution. By 1965, Ted Nelson would have coined the term "hypertext" (McAleese, 1999) as a direct contribution of the Xanadu project that aimed at the deep connection of electronic documents with unique addresses[8]. 1969 witnessed the creation of the first software for the connection of computers to the ARPANET (McQuillan et al, 1978). UCLA and Stanford Universities were the first nodes to be

[8] http://xanadu.com

connected in the USA (Castells, 2000, p.383). The first international link with ARPANET would happen roughly four years later with University College London in the UK (Gillies and Cailliau, 2000). In the following two decades we would see an exponential increase in the number of Internet hosts, as the concept and practice of networked computers grew popular. By 1989 the number of Internet hosts reached 100,000 (Howard, 1997). In 1990, Tim Berners-Lee invented the World Wide Web; the system that sits on the Internet infrastructure (Conole, 2012). The Web would revolutionise the information world progressively and steadily. The Web would come to solve issues of system compatibility and promise access to remote sources through an information-rich, global network. Progressively, the Web would become a space for accessing, and also creating information; socializing and learning; networking and trading. Berners-Lee (2006) asserts the Web has "many potential social and economical impacts" (p.1, 2006). The web would also prove to be a very relevant conduit for cultural and socio-political debate.

In the first phases of interactive participation, bulletin boards and mailing lists were extensively used to connect people (Whatley and Bell, 2001). New forms of communication and interaction were established (Bell and Zaitseva, 2005), providing participants with new spaces for aggregation of social capital and collective intelligence. And the tensions and power relations of face to face communication were also felt in online environments (Dalhberg, 2001; McSporran, 2001; Bill 2006).

Despite the fact that the web was first foreseen as a system for personal use with collaborative features, its purpose was soon shaped to meet the needs and visions of web developers around the world, who, as Berners-Lee (2006) recognises, "made the maintenance of global Web interoperability a continuous task. [Nonetheless] this has also created a number of areas into which research must continue" (p.1), as new possibilities for development and improvement keep emerging.

The mesh of information available was made possible through the use of hypertext and the HTTP web protocol. This enabled users to navigate from page to page and through interconnected pieces of information in a rather rapid fashion. In 1993 the first web browser - Mosaic - was created by the National Center for Supercomputing Applications (NCSA) at the University of Illinois, USA (Vetter et al, 1994). The launch of Mosaic marked a new milestone in the history of the Web as it accelerated its already fast growth (Schatz and Hardin, 1994). In 1995 Microsoft

Explorer for Windows was invented. This was also the year Amazon was established, thus paving the way to newly commercial opportunities via the web (Spector, 2002, p.69). 1998 registered the formal launch of the search engine google.com by students at Stanford University (Sergey and Lawrence, 1998). Ever since Google has had an ongoing influence regarding what the web has become and is today, and probably what will come of it. As the web grew both in number of hosts and developments, the number of users also increased proportionally. Its access soon extended beyond the monopoly of Universities and research to give access to anyone with a suitable devise and internet connection. This provided new opportunities for the world of information, regarding the accessibility of data and the contributions of single individuals to the greatest pool of knowledge ever. It also has implications regarding privacy, surveillance and security, and freedom of information (Naughton, 2012)

Projects such as the Wikipedia or Wikileaks are good examples of this. Founded in 2001, Wikipedia is a multi-user, collaborative encyclopaedia project that relies solely on user-generated content (Lih, 2004; Bruns, 2008a). Any individual willing to make a contribution to a new knowledge topic, enhance, or rectify an existing information entry can do so through Wikipedia. Wikipedia takes an open knowledge, open contribution approach, relying on transparency (Burns, 2008; Voss, 2009) and on the critical participation of the crowd. Such approach has started to transform the canons of knowledge creation by supporting a new model for the sharing of information (Nov, 2007) in an open space with distributed communities of contributors. It has stimulated the practice of knowledge workers who are empowered to contribute to collective intelligence in an easy-to-edit and spontaneous way. And it has also proved to be a space of contention and power (Gerhardt et al, 2010; Kostakis, 2010) through the engagement of elite groups who tend to dominate the editing of content (Panciero at al, 1999). Alongside with this project that aims to put individuals at the centre of their activity (Aikat, 2000), many other projects have been developed to make the transition from the initial rather static web to the Participatory Web (Gruber, 2008; Kim et al, 2010).

The Participatory Web is epitomised by the emergence of social network sites, multi-channel communication, different types of content (Krishnamurthy and Cormode, 2008), and a diverse and wide range of users spread across the globe who make sure to set the context of their participation. The new web puts the stress on the user whilst highlighting human, not computer, experience. Hence, the coining of the terms Web 1.0 and Web 2.0. They aim to differentiate the initial stage of the web from the current one, i.e. from a web mainly based on static websites with hyperlinked pages to interactive environments that are co-created and co-dependent on individuals' contribution and participation. The web 2.0 is known for its social features and individuals' simultaneously independent and collective activity. Although the coining of the term *Web 2.0* is often associated with the O'Reilly (2005) team, it had already been published by DiNucci in 1999. In it he sketches the beginning of a new web landscape:

> *The first glimmerings of the Web 2.0 are beginning to appear (...). On the front end, the web will fragment into countless permutations with different looks, behaviours, uses, and hardware hosts. The web will be understood not as screen full of text and graphics but as a transport mechanism, the ether though which interactivity happens. (...) But the realty is that the days of the one-size-fits-all pages are over(...).* (p. 32)

All of a sudden the web is not only a personal library as Bush had envisaged, nor is it solely used for planned collaboration and formalised partnerships, as Berners-Lee had initially anticipated. Building on Millard's (2011) words, the web has still a short existence; yet it has affected our households, workplaces and social spaces considerably. For knowledge workers in particular these technological transformations are slowly having implications on their practices.

The incremental shift

As a consequence of the technological changes, employers are starting to feel the pressure to accommodate and actively engage with the Participatory Web as a new communication and business medium (Kaplan and Haelein, 2010; Tuten, 2010). Businesses are drawn to the digital world in an attempt to reinvent their practice (Qualman, 2000). Creative and knowledge based industries and institutions alike are striving to make sense of the web phenomenon, as it destabilises their long established and formally successful communication norms and strategies (Burgess, 2011). The Participatory Web demands a new dynamics that is totally different from the requirements of any previous means of communication (Solis and Breakenridge, 2009). The stress is no longer on the broadcast of information through a formal, hierarchical communication strategy; but rather on contextualised social engagement. Understanding the effects of the Participatory Web on different aspects of society is key to this research project in that Higher

Education Institutions need to be part of the current knowledge economy in order to respond to the needs of the society it aims to serve and inform.

We can conceive of the Participatory Web as a space for collective participation. On the Participatory Web human experience is conveyed largely through personalised narratives that are based on the relationships individuals experience through their participation in shared environments. Those who seize the opportunities are creatively advancing into new directions (Schmidt, 2011) at the same time they are faced with the challenges it presents. Evidence of this is particularly clear in creative industries and Higher Education Institutions. The digitisation of music, for instance, has transformed the canons of music distribution (Hesmondhalgh, 2009). The music industry monopoly has equally been shaken by a Do It Yourself (DIY) culture (Spenser, 2005) in that music is streamed online without the stamp of a music label (Fox, 2002). There are, of course, issues of copyright breach and piracy of music. This is one of the challenges of other emergent practices such as the remixing of content (Lessig, 2008). As artists start using social networking sites such as Myspace, Facebook and Twitter to promote their work, they enable the creation of a kind of fan base where stories are shared and connection between artists and amongst fans is established (Baym, 1993, 1997, 2010; boyd and Ellison, 2007). AVAST! an antivirus company, is also engaged in bringing their community of fans together via sites such as Facebook. As reported on their blog (Mashak, 2011), their Facebook page has a massive increase of user numbers, escalating from 20,000 to 300,000 fans on the networking site in the space of a year. This growth is also represented by users' active presence, i.e, engagement with the AVAST! team via "feedback (...) [and] comments [that] bring fresh ideas and help [the team] to continually improve avast!" (ibid). The web has become a place for "marketing conversations with customers and new influencers reinventing industry" (Solis and Breakenridge, 2009, p.7). The influence of the Participatory Web is also reflected in other services such as healthcare, in which new media is "reengineering the way doctors and patients interact" (Hawn, 2009, p.361). These social tools can bring opportunities (Eysenbach, 2001) as they empower patients (Hawn, 2009), but they can also present challenges regarding privacy and legal issues (Nemati. 2010).

The same applies to Higher Education Institutions. They are slowly adopting new technologies to modernise the curriculum and create alternative channels for accessibility (Grosseck, 2009) and responsiveness (Atkins et al, 2007). Such is the case of Open Educational Resources (OER) (Stacey, 2007; D'Antoni, 2008, 2009). The Participatory Web is also being exploited for recruitment (Pearson, 2009) and visibility (Papacharissi, 2011).

The Participatory Web has come to question the structures and systems on which practices are based. As models of engagement for business and education shift, "simply digitizing old models doesn't work" (Qualman, 2010, p.36). There is a need to attend to the demands and impact of the Participatory Web and its engaged community. The Participatory Web is about doing things differently. Therefore, the Participatory Web provides knowledge workers and society in general with new possibilities (Schneckenberg, 2009) for casting communication at a highly personalised level, and engaging with peers, target communities, and wider publics more effectively. The Participatory Web also presents new challenges. These are particularly concerned with changing the rules of established systems; habits with history that give practice its identity (Wenger, 1998), and policies of power (Schneckenberg, 2009).

Step changes

As part of this literature review, I characterise the current Information Age as having evolved, even if indirectly, from the previous Information eras via the needs and expectations they created. This new phase is distinct mainly through its digital features, the affordances it provides, and the participatory culture it has stimulated (Jenkins, 2006; 2009; Jarrett, 2010). Moreover, this is probably the first time that the medium has become largely accessible by wider and more distributed groups (Deuze, 2006; Harrison, 2009). Yet, it is important not to forget that although it may seem that the Participatory Web has become almost an ubiquitous technology amongst teenagers and young adults, especially in developed countries (Lenhart at al, 2010), online participation is unevenly distributed in the global community, and it is far from being an idyllic environment (Naughton, 2012) for the full exercise of freedom of expression. The participatory Web is also governed by control policies (Deibert, 2009; Liang and Lu, 2010). Power relations and politics do exist online. They are transferred from face to face practices into the online environments (Cammaerts, 2008). Nonetheless, the Participatory Web has also proven to be a conduit for self and collective expression (Levly, 1997; Surowiecki, 2005), social activism (Hjorth and Arnold, 2011; Jones, 2011; Ray, 2011; Shirky, 2011), civic engagement and citizenship (Rheingold, 2007; Zimmer, 2008; Bennet et al, 2011). This is its greatest potential: to provide a space for empowering and emancipating the common individual, and even the masses.

In the context of academia, the Participatory Web has also suffered from similar dichotomies. Whereas some see it as empowering (De Roure and Goble, 2009), others regard it as disruptive (Eijman, 2010). Its potential is yet to be fully exploited by the global academic community. This is particularly notable since several knowledge topics have emerged from the phenomenon of the Participatory Web as research themes, and even sub-disciplines. For example, Technology Enhanced Learning, e-Learning, Cybernetics, Information and Communication Technologies, E-commerce, Knowledge Management, Social Media, Media Psychology etc. Nonetheless, there are pockets of excellence and innovation in academia regarding the use of these technologies to achieve impact within and beyond the research communities. There is a general understanding that progressively the Participatory Web will permeate academic practice both as a research theme and a research tool.

The present and future of the Information Age

The Participatory Web

As mentioned in the sections above, the Web has continued to evolve in the past 20 years. It has acquired different names tag throughout its evolution as people attempt to capture its essence in an accurate way. The term Web 2.0 was popularised by the O'Reilly team in 2005. It highlights the difference between the initial Web, as a rather static information resource, and its subsequent phases that focus more on its social features. Soon after the term Web 2.0 came into use, other terms started to grow in popularity. For instance, Social Media is a term extensively used, as it encompasses both the web and mobile applications, and tools with interactive functions. The Participatory Web is also another term that came into use. This is the preferred term I have chosen for the purpose of this research as the word *participation* hints beyond the idea of socialisation into the concepts of contribution and engagement. For the purpose of this research project, which aims to look at the effect contemporaneous technologies have on research practice, I consider this to be the most appropriate term.

Scholarship in the digital age

The Participatory Web has the potential to put the individual at the centre of their practices as part of their lifelong learning and professional activity. The proficient use of these new technologies can have an impact on individuals' professional profiles (Costa and Torres, 2011) as they become more noticeable and accessible to others, and thus more visibly engaged with relevant networks. Regarding the transformation of scholarship, the Participatory Web can potentially become an agent of change and innovation. However, despite its believed potential, the Participatory Web does not seem to have yet been adopted by academia to its full potential (Wouters, 2007). Many and different practices co-exist in academia that are modelled by different approaches, disciplinary traditions, and also external and internal rules and assessment frameworks. The conventions and regulations by which Higher Education Institutions abide, rather than promoting change and innovation, often become agents of continuity of practice as they aim to regulate and standardise academic activity for national and international measurement (Muller, 2011).

Previous research has pointed out that the use of networked technologies to start and sustain new learning and research environments have not been deployed across the entire educational realm, with the rates of adoption in academia being fairly low in comparison to expert predictions (Conole et at, 2000). Additionally, with international and national information and communication technologies (ICT) policies focusing mainly on the teaching and learning agenda, little attention was initially given to research as an area that can also benefit from the advancements of the Participatory Web. Moreover, most of the studies linking the phenomenon of the Participatory Web with research practice focus on the use of the Participatory Web as a platform to make research outputs available rather than on the processes of research practice (Fry, 2004, p.305). Such is the case of studies on Institutional Repositories (Foster & Gibbons, 2005; Johnson, 2002; Swan, 2010) or online research journals (Swan, 2005). However, very little is known about more interactive forms of communication (Palmer, 2005), such as communication, participation and networking in distributed environments. The same applies to the way academic researchers are deploying the use of the Participatory Web in a research environment increasingly dependent on new technologies (Kemp & Jones, 2007).

The Participatory Web can be an alternative channel for the communication of scholarly knowledge (Weller, 2011). It allows for diversity and creative practice in the sharing and construction of knowledge. Research blogs and social networking sites (SNS) such as Facebook or Twitter provide new hubs for the congregation of social capital (Ellison et al, 2007) as well as the development and enhancement of cultural capital, even if in a rather informal and spontaneous way (Ji et al, 2010; Prieur and Savage, 2011). Pockets of practitioners keen on exploiting the Participatory Web are slowly starting to give attention to the role of networked technologies in assisting research collaborations and dissemination. Recently, new emphasis has been put on digital scholarship and the use of the Participatory Web to produce new forms of research dissemination (Can et al, 2010). Funding bodies such as JISC (Joint Information System Committee) and the European Commission, as well as research support organisations such as Vitae UK, have been pushing forward the idea of virtual research environments, digital laboratories and scholarly driven networks and communities as a form of supporting and promoting academic practice and research. In addition, community and public engagement have become a critical item in the agendas of Higher Education Institutions (Marris and Rose, 2010; Bauer and Jensen, 2011; Neresini and Bucchi, 2011). This is a case where context influences practice (Oreg, 2009).

Traditional ways of measuring research practice tend to overlook new forms of communication and engagement, as the benefits of digital scholarship are not always perceived (Greenhow et al, 2009; Xia, 2010). Although there is an increasing movement in this direction, its influence is still minimal (Nichols, 2009). And opposition to it can be rather fierce.

Scholarship in transition: tensions and conflicts

We are currently living in a turbulent phase in which jobs, roles and practices are being redefined (Savikas, 2000; Lippmann, 2011). The move into the knowledge economy requires the acquisition of new skills, and the use of modern technology. Although knowledge work has always been the business of academia, academics seem to have been slow in their uptake of new forms of communication and engagement with audiences (Blin and Munro, 2008). This can probably be justified by academia's long tradition. Many scholarly practices are the legacy of their historical past. They become accepted norms that are inculcated in scholars from generation to generation. Those practices are also a reflection of the appraisal and reward systems that are in place and which influence people's attitudes toward change, innovation, and to a certain extent, risk taking (Williams, 2001).

In order to develop new approaches, improve practice and, above all, transform the working culture and mindsets of knowledge workers, and their institutions, it is crucial not to neglect their context and individuals' personalities (Oreg, 2009). Such transformations present medium to long term challenges, as each disciplinary area has its own pace and rhythm of adaptation. Nonetheless, such transformations may offer sustained results on how technology can be deployed to maximise the learning experience and the research process, and thus capitalise on its outcomes via interactive dissemination and communicative means. Fostering understanding of the current changing world in which academia is placed will contribute to the goal of this research in trying to access the research practice of scholars.

Heterogeneity in scholarly communication – the contribution of the Participatory Web

Given that knowledge is not "a homogeneous whole, but a patchwork of heterogeneous fields" (Fry, 2004a, p. 1), scholarly communication practices can be as diverse as the disciplines they represent. Different areas of knowledge feature different conventions. These differences are largely determined by the very nature of the field as well as the rituals and practices associated with it (Fry, 2004). As Cronin (2003) confirms "the world of research and scholarship comprises many disciplines and a mélange of epistemic cultures. This heterogeneity of behaviours and practices mean that ICTs are deployed differently" (p. 13), and at different paces.

Taking a broader view, disciplines that require greater levels of interdependency are more open to establishing collaborative links than those whose research practice presents lower levels of mutual dependency (Whitley, 1984). For example, in biological sciences scholars tend to work in teams and rely on those links for the advancement of knowledge. This often tends to lead to a separation between the so called hard and soft sciences (Biglan, 1973). Nevertheless, as the web becomes more prominent amongst scholarly practice, academics are progressively reconsidering "some of their ingrained practices" (Cronin, 2003 p.14). The open access mandates (see page 35) are a good example of this as they have triggered more knowledge to be made available in the open and as academics have been mandated to cooperate with these measures in order to respond to institutional goals. Nonetheless, we can also analyse it as a form of power being exercised by the institutions rather than academics embracing different forms of agency and scholarship.

Becher (1989) concludes that academia comprises distinctive academic tribes with characteristic knowledge territories. Within these territories the ways in which “arguments are generated, developed, expressed and reported” (Becher 1989, p.23) are peculiar to each tribe and territory. Each academic tribe marks its territory by establishing its own rules and following its conventions. It is not only the field of knowledge that distinguishes them, but also the practices that are associated with it.

The Participatory Web may offer a set of new tools and services for the exchange of knowledge and human congregation. Yet, its appeal is not universal. The adoption or rejection of such practices can be, in part, linked with the nature and traditions of the disciplines and knowledge fields to which researchers belong (Fry, 2004; Kling & McKing, 2000) rather than the availability of the technology itself. Each area of knowledge, and the structure on which it is based, has its own conventions and traits that influence the way that people practice. In many cases, academic research practice online is a mere reflection of one’s face-to-face practice (Kling and Mckim, 2000), i.e., disciplines that have a greater tendency to collaborate and share ideas in physical settings are more likely to establish an online presence for the same purpose than those that tend to depend less on collaborative links. In other words, the online practices of academic researchers are most likely typical of the collaborative nature of the disciplines they represent and in which they are embedded.

Bearing in mind that we are moving towards a heavily inter- and multi-disciplinary world (Wilson, 2010; Hubbard, 2011), the need to collaborate and engage with different areas will become even more important than it is today. Digital technologies and the literacies associated with them are a central component of the current curriculum innovation strategy (Merchant, 2007; Hague and Payton, 2010). It is also a core aspect of interaction and cooperation between different fields of expertise, sectors and institutions. Therefore, it is imperative to understand the differences between disciplinary approaches (their habits, traits and cultural identity) as to develop theories and frameworks that will help us understand how we can best introduce and mentor academic researchers from different epistemological backgrounds as to the benefits and implications of the Participatory Web in contextual ways (Costa, 2011).

Accessibility to research: new trends

Another recent feature of the 21st century that affects the global society, and from which the academic world is not exempt, is the current global economic crisis. This also compromises existing practices. The announced research funding cuts in the UK[9], for instance, provide a serious setback for the progress of research, given the pressure it puts on Higher Education Institutions and researchers alike to gain funding. The time spent chasing decreasing funds is at the expense of research. As libraries' journal subscription budgets shrink, so does the potential audience for a subscribed journal. In terms of research impact, this has repercussions at a global level too. The fewer journal articles to which researchers have access, the less impact research will have on the wider research world as articles published are not read widely. The issue of accessibility of research becomes a critical problem that needs to be tackled. If on one hand, there is the issue of *serial cost* (Posser, 2004*),* also known as *journal affordability,* on the other hand, there is increasingly a loss of readership and visibility of publications that require a subscription (Harper and Corrall, 2011). Libraries are starting to struggle to cover the costs of all the periodicals to which they subscribe. Moreover, this impacts on the publishers who see their business decrease, and need to seek new markets in countries with a developing academic sector. However this also offers new opportunities for the open access movement to cement itself once and for all as an important component of the dissemination of research. The questions then are: (1) is academia ready to move from the venues in which their research has traditionally been published?, and more importantly even, (2) are publishing businesses ready to change their business models and yield the control back to the researcher and enable access to a wider audience? Although publishing business models are not the focus of this research, this is an important issue to be raised as they do impact on researchers' practices. Issues of openness are starting to impinge on academic identity and practices with discussions of the digital scholar (Weller, 2011), open research and scholarship (Getz, 2005; Willinsky, 2006; McAndrew et al, 2010), the open data in science principles (Murray-Rust et al, 2011), scholars' boycott of closed academic publications (boyd, 2008; Weller, 2010; Wheeler, 2011) as they vow to publish in open access journals, Universities' open access mandates, and "JISC Open Access Vision". All of these ideas - some proclaimed in a tone of manifestos - portray well the emergent epistemic culture regarding the

[9] The Guardian (2010) University Budget to be slashed up to 14%. Available at http://www.guardian.co.uk/education/2010/mar/18/university-budgets-slashed

reinvention of communication of research outputs and its processes. These parallel campaigns support and value open scholarship, as explained below (see page 38).

Open access

The open access movement embodies the principles of knowledge sharing as a public and common good in spaces that provide wider accessibility (Lepionka, 2008). This idea, however, isn't new. Enabling knowledge to be widely accessible has its roots in much earlier history. As Willinsky (2006) points out, the responsibility of extending knowledge beyond the institution and to all of those who might benefit from it

> *(...) has a history that dates back to the great libraries of the past visited by scholars, whether one thinks of the fabled collection at Alexandria founded in the third century b.c. or the mosque libraries, such as the one at al-Azhar in Cairo, which flourished in and around the sixteenth century, or the small-town libraries that spread through nineteenth- century America.* (p. 25)

Another version of this approach had its expression through the invention of the scientific periodicals in the 17th Century, which extended the ideas exchanged though letters and private learning networks to a larger audience through printed journals (see page 13). In the age of digital communication it is understandable, and desirable, that contemporaneous technologies are used to opening knowledge to a wider audience. Thus, the open access movement advocates the publication of information in a digital format, which is accessible online without the need for passwords or payment of fees. It also protects authors' intellectual property rights by advocating the use of inclusive licenses, such as Creative Commons (CC) licenses. These licenses promote use of the published work, whilst also providing full credit and ownership to its original creator. These rules are more congruent with a philosophy of open sharing (Henry et al, 2003; Fry et al, 2009) and the emancipation of the individual as co-producer of knowledge, rather than passive recipient. With it a *Free Culture* (Lessig, 2004) starts to take shape. Following Lessig's work, the cultural movement the Participatory Web is bringing about is not one that advocates an information world free of charge, but rather one that aims to liberate the producer and their creations from publishing monopolies and closed environments. The ethos of the open access movement is to provide free access to knowledge, not use closed resources to generate income. The open access movement seeks to create a positive impact on the knowledge workers community by promoting transparency and accessibility to information, and more opportunities for publication. For academics this constitutes an important strategy to disseminate their funded work more widely. For the publishing businesses however this shift towards open publishing represents a major cut in profit (Bergstrom, 2001) that inevitably leads to the rethinking of their business models.

In December 2001 The Budapest Open Access Initiative (BOAI) was declared. It proposed to make research articles from all fields freely available online as a form of serving the interests of research practice and researchers worldwide. Its goal is to be attained through two parallel publication strategies: self-archiving and open access journals. The self-archiving, also known as the green route, aims to make journal articles published in closed journals available via research repositories (Björk, 2009), whereas the open access journals, also known as the gold route, aspires to stimulate a new format for academic publishing that is completely open (Guédon, 2004). Many open access journals observe the rights of the authors by enabling them to retain or share copyright whilst licensing the work for publication in an open access format (Hoorn and van der Graaf, 2006). Such is the case of open electronic journal articles such as *First Monday*[10] and *InEducation*[11].

Since the start of BOAI, many academic institutions have subscribed to the initiative by issuing an open access mandate. Open access mandates demand that all research publications produced by academic staff be deposited in their institution's research repository. In the majority of the cases, institutional repositories use the green route to open access rather than promoting the gold route (Mackie, 2004). Indeed, this is the greatest bone of contention that needs addressing. If on one hand institutions are making an effort to liberate knowledge from closed journals, on the other hand they are bound by the prestige closed publications still enjoy; something institutions require to keep their economic and cultural capital.

A study conducted on open access by Eysenbach in 2006 demonstrates that articles published in open access journals are acknowledged faster and more often referenced than articles in toll accessed journals. These findings have been validated by other recent studies that confirm the increasing impact of open access publications. For instance, Norris et al (2008) have discovered that open access articles are getting a greater attention by academics in developed countries, thus increasing the numbers of times these publications are cited. Open access publications are also

[10] First Monday (n/d), *Copyright Notice*. Available from http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/about/submissions#copyrightNotice
[11] InEducation (n/d), *Submission Guidelines*. Available from http://ineducation.ca/submission-guidelines

reaching audiences which otherwise might not have had access to that knowledge. The authors (ibid) note that academics from lower income countries favoured open access publications. Herb (2010) asserts that open access may help narrow the digital divide. It not only widens the access to information by making it open to a larger audience; it can also potentially increase the numbers of research productions by academics in developing countries. This is an important “side-effect” of open access publications in the sense that it promotes the craft of writing research.

Davis and Walters’ (2011) research also makes a critical contribution to the open access debate regarding impact and outreach of current research. The researchers found that open access articles are downloaded more often than toll access journals. Nonetheless, the same does not necessarily apply to citations. This is a fact that is corroborated by Davis in a study published in 2010. This comes to contest a number of earlier studies that claimed the opposite (Harnad et al, 2004; Brody et al, 2006; Hajjem et al, 2006; Bernius and Hanauske, 2009). Davis and Walters (2011) assert that the comparison of the number of citations between the two types of publications is rather ambiguous as there is not a clear system as to how this phenomenon can be accurately measured. Their most critical contribution to the open access debate however is on its outreach role. They note that there is a need for research on the impact open access might have on a broader readership, i.e., non-research contexts. This is unquestionably a very pertinent issue given that the Participatory Web, as a medium through which research is disseminated, is accessed by millions of people, the scholarly community being just a tiny percentage of the web user population. Considering that research is supposed to advance and support society, what role does the web play in creating opportunities for communication with non-specialised audiences? Moreover, what role does the open access movement play in making “research language” more accessible to the public? Will it have the same effect the printing technology and the scientific journal had in broadening the scope of the research discourse to a larger group of people interested in research findings?

Although open access abides by the standards of quality assurance through a peer review process, it has yet to enjoy the same kind of prestige traditional journals do (Swan and Brown, 2004; Campbell, 2008). This is clearly a disadvantage as open access journals compete against the long established reputation of journals that enjoy the stamp of historical prestige. Until open access journals acquire the same kudos, the majority of publications will remain under the control of toll accessed journals, simply because these are the journals which will bring the most recognition from the research community (Northcott and Linacre, 2010). Featuring as an author in the so called high quality journals will not only help the institution in their research ranking; it will also place the researcher in a better position for their next job, promotion, or tenure (Miller et al, 2011). Hence, if the open access movement is to prevail and to fulfil the purpose of conducting research in a more accessible and transparent world at a global level, it is imperative that the rules through which research is measured and the work of researchers is acknowledged change so that academia can live up to the new forms of disseminating and communicating scientific work. The success of this initiative is related to the structures that impel the change or stagnation of practice. It is equally related to the habits developed in academia.

The use of the Participatory Web to communicate scientific knowledge is probably one of the major transformations academic practice has gone through in the last decade. It is a rising movement that is changing academic communication, not only through the opening of formal research, but equally through the possibilities it provides for informal communication, debate and networking with and beyond the professional circles of academics.

Scholarship and the Participatory Web explained

Opportunities and implications

The combination of scholarship and the Participatory Web suggests new forms of conducting practice (Wenger et al, 2010), learning and networking (Mason and Rennie, 2007; 2008). It grants new opportunities for collective work (Eysenbach, 2008; Hemmi et al, 2009; Rhoades et al, 2009) and distributed partnerships (Mcloughlin and Lee, 2007). It provides ownership and autonomy to the individual as it yields a greater degree of control to the single user as a participant in a wider social environment (Franklin and Harmelen, 2008). But this type of autonomy has a price. The Participatory Web produces different forms of agency and power relationships (Jarrett, 2008). It has the potential to empower people as much as it can expose them. The Participatory Web is a complex environment in which openness can interfere with privacy and security issues. The sharing of data and intercommunication may also imply more opportunities for surveillance and control (Naughton, 2012). And access to these new forms of working and communicating may well widen the digital divide gap and thus create new forms of inequality (ibid). In the context of Higher Education the Participatory Web can encourage individuals to question established norms and adopt new philosophies of practice that challenge conventions implicit to the Institution or subject disciplines. We are living in a moment of transition where these differences between the advantages and implications of working and being online are present in our daily life, and we are yet to understand what kind of impact they will have in the long term. Nonetheless, we cannot ignore that they have a role in our future and it is therefore important to take a long term view on this matter.

The transformation of practices is a progressive process, the speed of which varies between contexts (Kling & McKim, 2000). We are currently experiencing a moment of transition in which approaches antagonistic to the web and web-based practices co-exist (Fry, 2004; Matzat, 2009). These contrasting practices distinguish individuals in both their approaches and epistemologies of practice. It helps define how and where they network, collaborate and communicate in their field. The next subsection reflects on these aspects in the context of the Participatory Web.

Forms of association

Networking, learning in collectives (Dron and Anderson, 2007), or forming social bonds with other individuals interested in similar topics online is an emergent practice on the Participatory Web. Dron and Anderson (ibid) analyse three emergent forms of association online:

(1) **Groups**: developed around joint activities individuals need to achieve or create
(2) **Social Networks**: formed around individuals with similar interests. Social networks are fluid systems of knowledge exchange that are in constant evolution
(3) **Collectives**: defined by sporadic contributions to topics of interest, being the biggest difference between collectives and social networks and groups the fact that the sense of belonging is far more loosely than in the first two forms of association mentioned above.

The different forms of association emerging from the participation in joint environments influence individuals' approaches to working and help to shape new ways of learning in informal ways (Amin and Roberts, 2008; Greenhow et al, 2009). Individuals' participation in online environments also informs their professional identity as they start developing practices that are congruent with the ideologies of the groups with which they interact online.

During the last two decades the concept of Communities of Practice (CoP), as part of individuals' professional and personal development, has grown popular. Lave and Wenger (1991) conducted research on how people learn in organisations and workplaces and discovered that one's learning and professional development is contextually and socially bounded.

Individuals join groups of interest and congregate in social circles when they feel they can benefit from the experiences that are shared and the stories and artefacts (Wenger, 1998) that are built as part of that same social practice. i.e., a share repertoire. Such learning circles are often formed informally and maintained at the cost of peer participation. These forms of association often grow organically, beyond institutional constraints (Hara et al, 2009). They are based on individuals' learning needs and the willingness of like-minded people to co-develop deeper understanding and practice about relevant areas. When Lave and Wenger started looking at this phenomenon they based much of their fieldwork on face-to-face communities, i.e., circles of people with close bonds, who shared the same geographical space, belonged to the same company or were connected for a specific reason. Usually this reason was closely related to the involvement in similar practices, the sharing of interests and learning goals, or their initiation in a new craft. Since then, the concept of and approach to communities of practice has gained a new dimension. The Participatory Web created a new space for collaboration, sharing and congregation of collective intelligence (Ardichvili, 2008; Davies and Merchant, 2009; Grabner-Kräuter, 2009). And parallel to Communities of Practice, we have witnessed the emergence of other forms of association whose nature is more loose, spontaneous, and just in time. Through participation in such environments individuals develop what Granovetter identified as weak and strong ties (1983). These ties consequently inform their sense of identity within a certain community (Wenger et al, 2010) or their sense of self within given networks (Giddens, 1991; White, 2009).

As the Participatory Web becomes more open to user-generated activity, there is an increase in the number of online networks that support individual interest and learning provision. Seminars, conferences or local reading groups, for instances, are no longer the only way knowledge workers and learners in general have access to learning and networking opportunities, or make their ideas and practices known. The Participatory Web has helped develop new contexts for the constitution of personal and professional learning networks (PLNs) in a social space. These new forms of association provide the individual with personalised forms of cultivating connections and participating in events relevant to their own practice, based on their own needs and choices. Warwick (2009) refers to a PLN as:

> *an individual's topic-oriented goal, a set of practices and techniques aimed at attracting and organising a variety of relevant content sources, selected for their value to help the owner accomplish a professional goal or interest. (slide 3)*

The participation in such social learning systems produces new landscapes of practice (Wenger, 2010, p.3) and new boundaries are formed that help to structure that landscape. Participation in such social systems leads to different modes of identification (ibid, p.4-5):

- **Engagement** – developing an identity of participation or non-participation. In the context of the Participatory Web and scholarship this can be translated into the levels of participation in online environments which distinguish those who have a web presence from those who do not
- **Imagination** – the constructed image of the world and an individual's place in it. In the remit of this research this can be interpreted as how academics develop their sense of 'professional self' and what they perceive as being the purpose of their role in academia
- **Alignment** – coordination between theory, practice and context. In the context of this study this item refers to how online experiences inform and affect practice through the development of new approaches, negotiation of rules, proposal of new activities, etc.

The Participatory Web has come to augment academic practice in non-standard ways, providing scope for creative and personalised initiatives. Collaboration, as one of the central activities on the Participatory Web, has become key to harness the challenges of the networked society in that it provides individuals with the advantages of collective knowledge (Foroughi, 2011; Wolf et al, 2012). The new forms of online association lead to several dilemmas, especially those related to the communication of information and the construction of knowledge in given disciplines. The way individuals operate online is not always compatible with the practices and working cultures of the disciplines and institutions single individuals represent. Hence, such activities are not always seen as a natural approach to certain academic practices. Changing academic practice is therefore a complex process, which requires a deep understanding of one's own context, as well as professional and cultural identity. Additionally, the personal and social traits of the individual also have an impact on how scholars regard the use of the Participatory Web in their practice.

As a direct result of the advent of the Participatory Web, a new literacy has emerged (Glister, 1997; Lankshear & Knobel, 2006), and new skills need to be acquired (Jenkins et al., 2006; Solomon, 2007). Working and interacting online requires a new set of soft skills that will enable individuals to participate in collective spaces and contribute to collective intelligence. As a result, they not only transform their approach to practice; they re-invent themselves in the process of doing so.

Professional identity

In the context of scholarly practice, the Participatory Web has raised awareness about another topic that is relevant to this research: professional and digital identity. Professional identity can be defined as the ongoing personal and social understanding of one's professional role based on a set of beliefs, values and experiences that occur over time (Schein, 1978). Hence, identity is not a static concept of the self, but one that rather evolves, according to "work role changes" (Ibarra, 1999, p. 765) and the personal and social meanings that are derived from that process.

Professional identity is most likely to be transformed as a result of career changes. Individuals respond to the challenges and responsibilities of new roles by negotiating their adaptation to the new situation (Schein, 1978; Hill, 1992; Ibarra, 1999). This consists of an interactive process in which the individual adjusts to some of the demands of the new workplace at the same they try to retain "valued aspects of their identity" (Ibarra, 1999, p. 765). Research postulates that this dynamic process is affected by both internal and external structures that regulate one's sense of self (Cote, 1996). These can be reflected in job specifications, regulations, social practices, and even in role models. However, the circumstances in which individuals work are not enough to fully model the professional identity of individuals. One's sense of self can also be shaped by one's self-conception (Ibarra, 1999), i.e., who individuals think they are and what they would like to become. Hence, professional identity can be seen as a social construction (Jenkins, 2008) that positions individuals in a given role and places them within their professional structures and the wider contexts in which they act.

Slay and Smith (2011) posit that the self-conception of professional identity is shaped in three different ways (p. 87). Professional identity is:

- Social(ized) (individuals are socialized into the meanings of a given profession)

- Changeable (individuals adjust and adapt their professional self to different roles and jobs)
- Modelled (individuals' work experiences and narratives of life help construct one's perceptions of the self and thus determine priorities and directions)

Research also claims that professional identities are influenced by socio-cultural and historical contexts (Markus and Nurius, 1986). Cote (1996) points out three levels of identity formation: he asserts that an individual's identity designates his/her position in the social structure, in which the political and economic systems are also included (p. 417); it is represented by the individual's experiences (also within the institution) (ibid, p. 420); and by individual's personality.

Within the context of the Participatory Web, professional identity has acquired a renewed importance, and a new term has been coined as a result. The term "digital identity" describes the phenomenon of participating and developing a sense of self online. It can be understood as the combination of how individuals present themselves online and the meaning others attribute to it. Participation online implies the creation of a digital presence, which evolves over time and across the distributed spaces in which the individual interacts (Wenger et al, 2010, p. 180). It provides a new conduit for individuals to raise their profiles (Goode, 2010) and establish a reputation.

Digital scholarship

Scholarship has changed over time. In 1990, Boyer defined scholarship around four different concepts:

- *scholarship of discovery* - associated with the practice of conducting research and discovering new knowledge (p.17);
- *scholarship of integration* - aiming to cross different areas of knowledge and inquiry (p.19);
- *scholarship of application* – referring to the need to link research inquiry to "real" problems via engagement with different publics (p.21);
- *scholarship of teaching* - referring to the practice of passing on new knowledge to others (p.23).

Today scholarship is still in transformation (Pearce et al, 2010). Weller (2011) revisits scholarship in the context of the digital society. He proposes three new features: (1) digital, (2) networked, and (3) open scholarship (p.5). With the growing access to new technologies, scholars have distributed access to “a growing body of research data and sophisticated research tools and services” (Conole, 2012, p.16). The opportunities to retrieve and contribute to a living, dynamic, and evolving knowledge database are multiple. The Participatory Web assists in the flow and management of information (Borgman, 2007) in open networks. It provides scholars with a new conduit for the dissemination and storage of research data and outputs in an environment where different publics can converge. Scholars are also enabled to participate in online communities and networks that not only link them to their research interests but can also connect them to new research and collaboration opportunities. Hence, a digital scholar can be understood as an individual who explores connections beyond traditional boundaries and becomes engaged in activities that will benefit their scholarly interests and practices as well as those of others.

Yet, being a digital scholar is not as simple as it might seem, as a cultural change is required (Becher, 1989; Cronin, 2003; Fry, 2004; Kemp & Jones, 2007; Whitely, 1998). This makes the transformation of scholarship in the digital context a slow process. It is important to remember that transforming practices is a gradual and challenging process that needs to be based on a logic that corresponds to the epistemological background of the culture being transformed. It is not only a matter of perception; it is also a matter of need, support, and institutional culture.

As online participation starts to get more attention by scholars, because of its “affordances and reach” (boyd & Ellison, 2007), there is a need to conduct further research on this emergent phenomenon. Most studies focus on the formal dissemination of research online via pre-prints and repositories. Yet, there is very little research on the informal interaction and networking activity of scholars in online environments (Palmer, 2005). The digital scholar as an active participant in an open, highly interactive culture of shared practice and knowledge creation is still in the early days of development.

Summary

This literature review aimed to frame the context of this study. It commenced by providing a historical perspective on how research activity has evolved throughout the times and the role technologies have had in that process. The review takes the reader through different periods and techniques employed to connect knowledge worker to their peers and disseminate the knowledge they produce through a wider community. The Republic of Letters and the first scientific journals are offered as early examples. The argument is then taken forward to the present, and I introduce the Internet and the web as new platforms and environments for the support of scholarly practice. I briefly introduce the different stages the web has gone through until it achieved its participatory status. The third and final section of this literature review depicts the different forms of association and connectivity that are made possible online. Through the access to different means of communication online, scholars are able to create and cultivate their networks and communities of interest in a much faster and effective ways than scholars in the 19th Century and earlier would have been able to. The collaborative spaces they are able to create online are simultaneously more distributed and more connected than in the past. The Participatory Web not only mediates connectivity and communication, it also provides a sense of presence. Professional identities are also discussed in the context of digital scholarship. As scholars start to participate online as part of their academic endeavours they not only extend the results of their work to a larger audience, they also portray their social being. Their professional identity is shaped by their participation online as it brings together the different elements that constitute their practice.

In conclusion, the Participatory Web has become a prosperous environment for the development of interconnections, co-construction and communication of new knowledge. It presents scholars with alternatives to scholarship (Weller, 2011). It provides opportunities to further develop academic work and extend scholars' influence.

So far, very little has been published on the use of the Participatory Web and approaches used to enhance one's academic research experience and practice. Literature on the online practices of researchers, their appropriation of the Participatory Web for dissemination and valorisation of one's research, engagement with the wider public, or raising of one's profile as a researcher is still scarce. Moreover, how this particular group, academic researchers, develop and nurture their informal networks and identity beyond the boundaries of the institution is an area that needs further examination (Redeker, 2009). The majority of studies to which I had access focused on the use of Participatory Web in the contexts of teaching and learning (Mutka et al., 2008). As mentioned in this literature review, even studies focusing on the activity of academic researchers focus their attention particularly on the publication of research results rather than on different forms of online participation. This study aims to bridge that gap by looking at the narratives of practice of academic researchers highly embedded in a culture of sharing and collaboration as part of their intense use of the Participatory Web for scholarly purposes.

This literature review has informed the research guide that will be used to collect information about the emergent phenomenon and practices with the Participatory Web (Figure below illustrates the research process of this research)

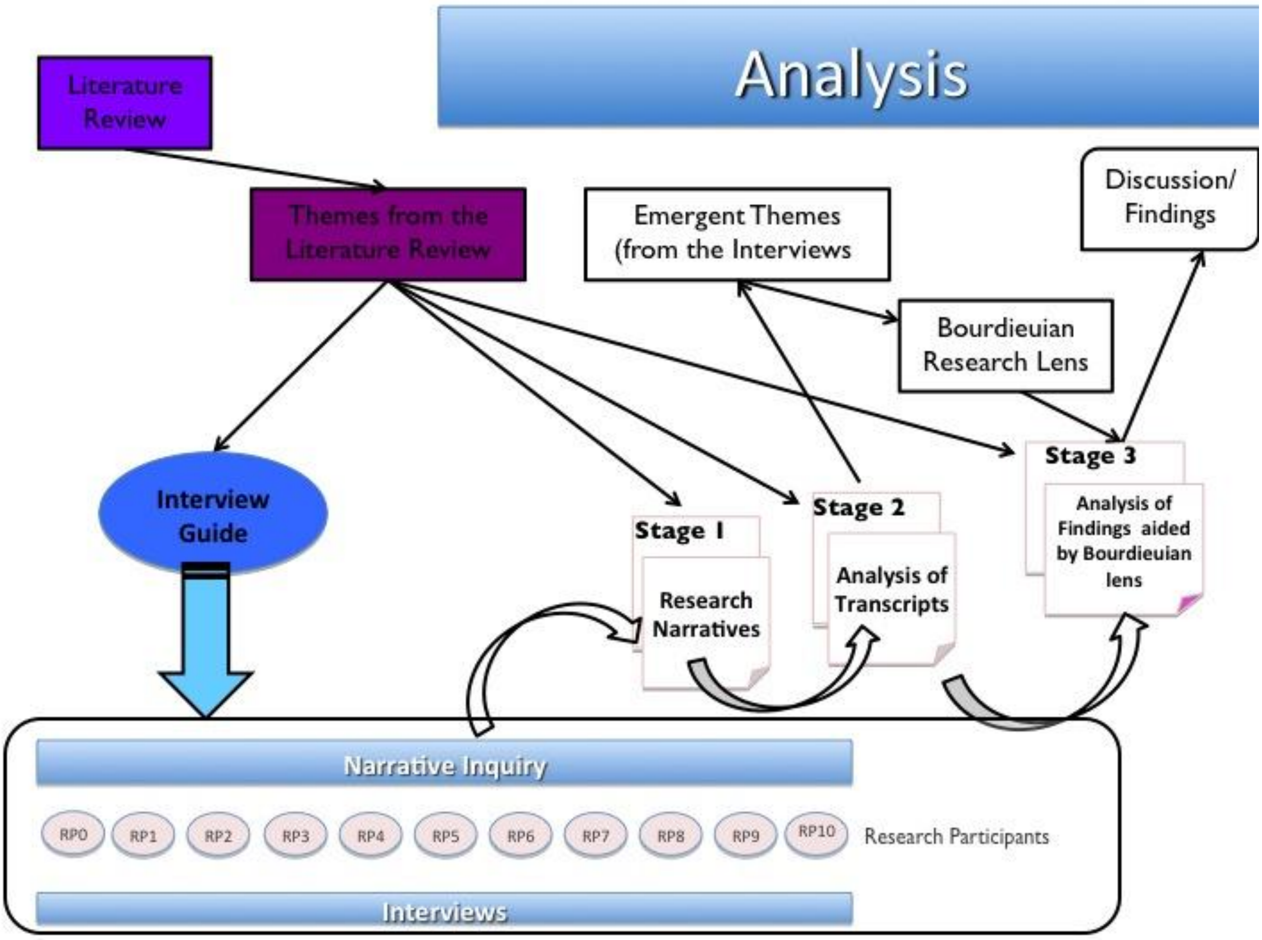

Figure 3 - Interview guide is informed by the literature review

Chapter 3 – Methodological approach and philosophical considerations

Introduction

In the previous chapters, I set the background of and justification for my research.

I developed a perspective based on online communication and networking processes that can potentially develop new forms of working at the same time as it questions the value of such approaches. I also highlighted the advent of the Participatory Web and academic researchers' engagement with it as a possible catalyst for changing of one's professional identity.

In this chapter I present my research methodology and describe my motivations for choosing such an approach. I discuss my ontological and epistemological positions, as they inform my methodological choices. I explore and reflect on the use of narrative inquiry as both a methodology and as a technique for understanding the research practice of academic researchers. Research data is derived from an information-rich process of narration in the first person, through the use of in-depth interviews with a focus on the career life histories of research participants. The narratives derived from this process are verified via online communication with the research participants regarding my understanding of their stories. Additional follow-on testimonies from three of the research participants were also collected a year after the first interview took place. For a period of six months they provided reflective updates to their stories covering their practice and approach based on current events related to their academic practice.

The process of gathering and understanding research participants' narratives of practice identified the need to seek additional literature to enhance the understanding of the phenomena the narratives were disclosing. The research lens introduced to aid the analysis of the research data was Pierre Bourdieu's thinking tools: forms of *capitals*, *field*, *habitus* and *symbolic violence*[12]. They helped to formulate the research context within those concepts and help with the analysis of the collected data (please see Chapter 4, page 92, and Chapter 5, page 146).

[12] Bourdieu's key concepts are highlighted in this thesis through the use of *italics*. This is a technique used by other researchers (see Grenfeel, 2008) in order to differentiate Bourdieu's thinking tools from general prose.

This chapter finishes with a reflection on the value of conducting narrative inquiry. It considers the ethical issues with which I had to deal as part of this project. It also discusses the advantages and implications of using the Participatory Web to do so.

Research objectives

Initially, the goal of this research was to study the use of the Participatory Web by academic researchers and the implications that such habits have for their practice in a dynamic socio-technological environment. As the study progressed, the research evolved to analyse the power relations that are developed in the context of Higher Education regarding the interplay of research practice and the Participatory Web. Deep understanding of research participants' perceptions of practice in academia with the Participatory Web was sought through personal stories. The use of narrative inquiry enabled me to access research participants' epistemologies of practice and analyse the interdependence between their use of the Participatory Web and their professional activity.

This main objective of this research is to increase the understanding of the online practices of academic researchers (see page 235 for thick description of research participants) and how it affects their wider practices in the context the *social mileu* in which their experience and perspective has been embedded as a continuum.

As highlighted in the Introduction Chapter (see page 4) of this thesis, this research aims to:

- explore the use of the Participatory Web by academic researchers through their personal accounts
- understand the perceived implications the use of the Participatory Web has on the scholarly practice (research) of research participants
- situate the narratives of practices collected for this study in the context of the current the social, cultural, political and economical context.

Additionally, I want to understand how the 'experiential continuum' (Dewey, 1934), which represents their experiences and justifies their practices, connects to their transformation of practice in the current times, and how this is reflected in their identity as researchers and practitioners.

Justification of the research design

First and foremost it is important to declare that this research project adopts a qualitative approach. It is not my goal to quantify any of the findings that might derive from this study, but rather to develop a rich picture of the practices of research participants, and thus foster understanding of the phenomenon under focus. Hence, my research design is based on a qualitative research methodology that allowed me to collect the research data in an iterative way. I made use of narrative inquiry as the main data collection technique, as explained in later sections of this chapter. Existing documentation (research participants' CVs and access to their open online presence), field notes, and data generated from the interactions with the research participants through scheduled interviews and follow up dialogues, as part of the research process, were also used in this research project. Considering the complexity of the study of the "Logic of Practice" (Bourdieu, 1990) which provided for carrying out this study, a qualitative methodology provided a more suitable approach to engage with the research participants and their personal narratives of practice.

Philosophical assumptions

Conducting research on how the use of the Participatory Web affects the practices of academic researchers means, for me personally, entering territories I have often frequented as part of my professional practice as a Learning Technologist, but which I have not necessarily explored through a research lens. It demands that I look at my own practice in its dynamic environment. It represents an opportunity to explore a reality I am immersed in through the eyes of others: my research participants. In doing so, I can disclose my own research philosophy and start to sketch my own research profile with regard to what type of researcher I am. Below, I consider different research paradigms that help me understand my philosophical standpoint as a researcher. Consequently, this understanding helps me design a research methodology that is congruent with my own ontological and epistemological stance.

In the existing literature, there is a historical ongoing debate regarding the classification of the research paradigms. Burrell and Morgan (1979) propose a matrix of four categories for organizational analysis: (1) functionalist, (2) interpretative, (3) radical humanist, and (4) radical structuralist. Their work has been much acclaimed (Goles and Hirschheim, 2000) in that it has played an important role in discussing and conceptualising philosophical approaches. Yet is has also been contested given that Burrell and Morgan's grid fails to "draw attention to important differences in research programs" (Deetz, 1996, p.191). The strong emphasis on the conceptualisation of research as subjective and objective "reproduces a neo-positivist philosophy of science and obscures the nature of other research programs" (ibid, p. 194).

Guba and Denzin (1994), on the other hand, have outlined four distinctive paradigms and framed them into the ontological, epistemological and methodological discussion: (1) positivism, (2) postpositivism, (3) constructivism, and (4) critical (see table 1).

Item	**Positivism**	**Postpositivism**	**Critical theory et al**	**Constructivism**
Ontology	naive realism - "real" reality but apprehandable	critical realism - "real" reality but only imperfectly and probabilistically apprehendable	historical realism - virtual reality shaped by social, political, cultural, economic, ethnic, and gender values; crystalised over time	relativism-local and specific constructed realities
Epistemology	dualist/objectivist; findings true	Modified dualist/objectivist; critical tradition/community; findings probably true	transactional/subjectivist; value mediated findings	transactional/subjectivist; created findings
Methodology	experimental/manipulative: verification of hypotheses: chiefly quantitative methods	Modified experimental/manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	dialogic/dialectical	hermeneutical/dialectic

Table 1 - Basic beliefs of alternative inquiry paradigms (Guba and Denzin, 1994, p.109)

For this research project, however, I analyse three concurrent research philosophies: Positivist, Interpretive, and Critical, following the work of Chua (1986), Orlikowski and Baroudi (1991) and Myers and Klein (2011). I discuss the core strengthens and weaknesses of the three research paradigms. In doing so, I have developed a table that illustrates my understanding of the highlighted research philosophies (please see table 2 in this chapter).

Positivism

The positivist paradigm assumes that there is an objective world that can be observed through experience (Coleman and Briggs, 2002, p.15). It uses research methods that aim to measure and describe the nature of a specific phenomenon with scientific precision. Positivism relies on research approaches that aim to make the object of research, the researcher, its environment and related context separate entities (Cecez-Kecmanovic, 2005). This often, but not exclusively, recurs in a quantitative approach given its need to differentiate between 'scientific theories' and 'people's tales'. The positivist philosophy stresses the desire of objectifying reality (Chamaz, 2003) through studies that can be replicated or allow the observation of the same phenomenon through different prisms whilst obtaining comparable results. It equally grants its validity and proves its replicability. Positivist research is grounded on assumptions of impartiality and unbiased research. Hence, it advocates empirical methods of inquiry (Hirschheim, 1985; Laverty, 2003) that aim to study the research phenomenon objectively (Rosenfield, 1998). As a result, the researcher is not included in the research process. Positivism looks into testing a theory or developing a new hypothesis, as it aims to formulate law-like conclusions in an attempt to make robust generalisations (Robson, 2002, p.34).

Interpretivism

The interpretive paradigm aims to access a reality that is socially constructed (Walsham, 1995), be it through language, shared feelings, or personal perceptions derived from experiences. Interpretivists stress the importance of the perspective of the research subjects and the meaning that they personally attribute to the phenomenon under study (Snape and Spencer, 2003, p.21). Interpretive research focuses on the complexity of human interactions in the context of given situations and the meanings that are derived from it. It contrasts with the positivist approach in that interpretivism focuses on understanding rather than predicting (Bryam and Bell, 2007, p. 18).
The interpretive researcher is not deprived of their values (Walsham, 1995a, p.77), but rather, the role of the researcher is explicitly considered in the research process (Klein and Myers, 1999). The interrelationships between individuals and external structures play a role in making sense of a

reality that is bound to a social context. There is, therefore, a need to acknowledge the inter-subjectivity within the research process, as the interpretive approach seeks to develop understanding as to how individuals, within the context of their social groups, act and communicate meaning (Taylor, 1994, p. 196). The development of such knowledge requires contextual research methods that an objective approach would not be able to provide. Nonetheless, interpretative research does require the development of criteria that attest to the validity of research. This is achieved through the development or adoption of a conceptual framework that provides the criteria for a logical consistency (Chua, 1986), whilst allowing for subjective interpretation of actions. In a nutshell, the interpretive paradigm aims to describe and understand how social phenomena are produced and reproduced in a given social system. Interpretative research does not aim to produce generalisations. It rather aims to generate relevance at a local level. Its findings are 'highly contingent on specific characteristics of the environment being studied' (Kock et al, 2002, p. 331)

Critical approach

The critical paradigm argues that the research subjects are observed and understood within the social context that surrounds and affects them. In looking at the dynamics that occur in the social space, it also focuses on the conflicts and contradictions that affect one's actions and perception of reality (Alvesson and Deetz, 2000). Critical research understands the world as a subjective construction experienced within objective structures.

Critical research has an interpretative side, but it 'adopts a critical point of view regarding the research question' (Baker and Bettner, 2002, p.293). In doing so, it perceives reality as a social construction with an historical legacy that is produced and reproduced by the individuals that constitute it (Kincheloe and McLaren, 2002, p.88). Thus, the critical researcher always takes into account the socio-historical context of the reality being studied as well as the different forms of domination (economical, social, cultural, political) that condition or prompt agency. He/she seeks to enable a dialogue where the different stakeholders are contained, instead of defining an authoritative understanding of the research phenomenon (Alvesson and Deetz, 2000, p.139). The critical researcher is implicated in the reality he/she studies, and aims to enact on it. Moreover, the critical paradigm questions the status quo of the reality under the research lens in an attempt to transform it. Critical research is explicitly political, and it has its ultimate goal the 'emancipation' of organisational members - the development of new lines of thought and practice that may enable undistorted dialogue and resolve unjust power asymmetries. (Taylor and Trujillo, 2000, p. 168). Critical research looks at the potential of social reality in an attempt to release it from its oppressive structures. Critical research aims to empower. Its core purpose is to reveal inequalities through the development of a social critique, whilst creating instances for 'emancipatory change' (Martin, 2003, p. 70) and improvement of current conditions (Smith, 1993; Stahl, 1998). Critical Theory is used as a framework of reference through which the critique is developed and enhanced.

Alvesson and Deetz, (2000) highlight three core elements to the development of critical research:

- Insight - the interpretation of the research phenomenon based on a process of observation and exploration of 'depth meaning' (p. 148);
- Critique - the addition of political meaning to the insight, highlighting 'elements of constraint and degree of interest carried out by particular phenomena' (p.150). Critical research showcases a propensity for developing interpretations in 'terms of power and domination' (ibid);
- Transformative re-definition - development of discourses that challenge and offer alternative views to the phenomenon under study, and which can potentially inform and influence the definition of reality, new agendas, and decision making (p.161).

Critical research as a research paradigm is used relatively infrequently, to the point that Richardson and Robinson (2007) argue critical research will possibility not become part of the mainstream research approach in the near future. Avgerou (2005) attributes this to the 'emphasis on methodological accountability [that] may well inhibit criticality' (p.103). Cecez-Kecmanovic (2007), on the other hand, argues that the low use of critical research is related to researchers' background knowledge, beliefs, and positions, as well as to the structures that support such research:

> *being critical in IS research also means having a much broader historical, social, and political view of the IS discipline and seeing how economic and managerial interests, ideologies and discourses, assisted by educational and research funding institutions, shape and construct IS research* (p.1455).

In making such claims, the author also provides a definition of the critical researcher:

Critical IS researchers are concerned with the purpose, use and misuse of IS research outcomes in organizations and society (ibid).

A qualitative research approach

A qualitative approach was selected for this research as it aimed to access human perceptions in-depth. Qualitative research is an inquiry approach, anchored in methods that aim to describe, analyse and understand human experience (Bogdan & Biklen, 2006; Friesen, 2009). Although qualitative research may still not enjoy the same reputation and acknowledgment in certain fields of research as quantitative research, it has been widely used in social and human sciences. The areas of Knowledge Management and Information Systems have used it extensively (Trauth, 2001; Myers and Avison, 2002; Chen and Hirschheim, 2004; Kaplan and Maxwell, 2005; Myers and Newman, 2007). Qualitative research can provide the structure for an incisive and meaningful approach towards subjective fields of knowledge, i.e., human attitudes, experiences, social and cultural perspectives as well as the reasons underlying the practices of research participants. Furthermore, "(...) qualitative research operates in a complex historical field (...). Accordingly, qualitative researchers deploy a wide range of interconnected interpretative practices (...)" (Denzin, Lincoln et al, 2005, p.4) in order to acquire a deeper understanding of the phenomenon being studied. Likewise, "each practice makes the world visible in a different way" (ibid), which also justifies the application of a critical lens to aid the interpretative endeavour of attributing meaning to the research data.

Qualitative research differs from quantitative research design in that quantitative research, within the remit of this research, would focus on measuring and quantifying people's "attitudes, perceptions, views, opinions (...) as opposed to what they know and can do" (Black, 1999, p. 215). Quantitative research provides mainly answers to yes/no, what kind? and/or how many? questions. The scope of this research, however, is to go beyond any quantitative meaning and delve into the hows and especially the whys of the phenomenon under study. Furthermore, to encapsulate the meaning of qualitative research within this research it is important to note that qualitative research is established as:

a commitment to some version of the naturalistic, interpretive approach to its subject matter and an ongoing critique of the politics and methods of postpositivism. (...) Qualitative researchers stress the socially constructed nature *of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry* (Denzin and Lincoln, 2003, p. 13).

Research considerations: epistemological, ontological and methodological positions

Whilst both qualitative and quantitative research approaches are valid in different contexts and for different purposes, they do represent different research paradigms (Cresswell and Miller, 2000). Hence, each research approach must be considered and applied in accordance with the researcher's epistemological and ontological stances. Guba and Lincoln (1994) deliberate about the nature of such paradigms as a set of soft assumptions based on "basic belief systems" (p.3) that are deprived of factual, tangible evidence. The authors go on to assert that research paradigms are pure human constructions which 'represent simply the most informed and sophisticated view that its proponents have been able to devise, given the way they have chosen to respond through the three [interrelating] defining questions': (...) (p.4, ibid), of research practice i.e.:

- **the ontological question**: the essence of reality under study (how I, as a researcher, see the world in which I attempt to develop new knowledge, both in its form and nature);
- **the epistemological question**: the essence of knowledge (how and where knowledge takes place, and what is the relationship between the knower and knowledge);
- **the methodological question**: the source and tool of new knowledge (the means through which new knowledge can be attained).

The 'research paradigm' is a set of beliefs that inform what and how a phenomenon is studied, and by whom. In choosing a qualitative approach, I share Firestone's views that qualitative research focuses on phenomena 'socially constructed through individual or collective definitions of the situation' (1987, p.16). I assume that no research activity is devoid of its researcher's point of view. Humankind is influenced by, and influences, the world in which they live. It is therefore important that the experience of the researcher and the perspectives research subjects offer through their narrations are both taken into account. Depriving the researcher from considering the subjective world in which he/she lives in is to account only for one side of the research process. Realising and accepting my role as a researcher, as depicted in a later section of this chapter, allows me to design a research approach in which my views as an informed researcher also matter. Like Anderson and Kanuka, as a "net-enhanced researcher [I acquired] an attitude of curiosity, a critical but accepting attitude towards [technology], and a willingness to look at the world (…)" (2003, p.1) both through my research participants' eyes (see chapters 5 and 6) and the theoretical lens used for this study (see section on Bourdieu's thinking tools on page 78).

Justifying my ontological and epistemological positions as a researcher provides me with the answer to the methodological question of this research. Such answers also aid and enlighten the research analysis as informed and well argued human constructions (ibid), whilst providing a method for validating of the research through the concept of knowledge as a social construction (Kvale, 2002).

In the next section I will depict my philosophical standpoint, providing an insight into my ontology and epistemology. They provided the foundations of the research methodology and research analysis deployed for this project. They also explain my standpoint whilst revealing my own context of practice.

Justifying my choice for a interpretive-critical paradigm

From the three research perspectives (see Philosophical assumptions on page 49), positivism is the one that least appealed to me, given positivism has its strength in testing and objectively describing the research phenomenon (Johnson and Duberley, 2000), rather than understanding and critiquing the "multi-dimensional complexity of social reality" (Fisher, 1998, p.129).

When I started this research project, I was certain I was going to follow an interpretative path, because I felt it was necessary to have access to the reality of the research subjects. I hence developed an interest for research paradigms that account for the subjectivity of research (Schultze, 2000, Walsham, 2006). As I went through the journey of rediscovering research methodologies and methods, I interacted with paradigms that were new to me. The process of data collection took me through different paths. The narratives of the research participants disclosed realities I had not fully anticipated as part of laying the grounds for this research project. As a result, I saw myself looking for new literature that would help me develop a better understanding of the reality being reported to me. It was in this process of seeking new tools for understanding my research data that I found the work of Pierre Bourdieu. Bourdieu opened a new world to me in terms of understanding reality and positioning my research. His work offered a set of thinking tools that allowed me to refine the understanding of the practices of research subjects and their extended contexts (see Bourdieu's thinking tools on page 78).

I take an interpretive approach but I also adopt a critical stance in order to allow in-depth examination of how academic researchers engage with the Participatory Web, and how it affects their own epistemologies of practice. Hence, this research allows me to interpret the social reality of my research participants while it enables me to review the objective world to which the practices, perspectives and dispositions of the research subjects are submitted. It lets me assume a value position. And it gives me with the opportunity to critique prevailing assumptions (Richardson and Robinson, 2007; Myers and Klein, 2011).

Below, Table 2 illustrates the three research paradigms depicted above. It is a synthesis of the questions I asked myself regarding the different research paradigms. The headings featuring on the table were influenced by the work of Morgan (1980), Morgan and Smircich (1980), Chua (1986), Orlikowski and Baroudi (1991), Klein and Myers (1999); Creswell and Miller (2000), Richardson and Robinson (2007), Myers and Klein (2011).

The table focuses on positivist, interpretive and critical philosophies. For each one of them I tried to sketch out which type of research phenomenon each philosophy is most likely to study. Whereas positivism favours objective reality, interpretivism values a reality that is socially constructed. The critical philosophy enhances that perspective by considering the structures that influence that same social reality. This led me to speculate about the role of the researcher and their relationship with the research phenomenon. The positivist philosophy assumes a value neutral position, thus creating a distance between the researcher and the research object. On the other hand, interpretivists see themselves implicated in the phenomenon they study, and critical researchers allow themselves to advocate the transformation of the social phenomenon through their critique. The ontological and epistemological assumptions pertaining to each research philosophy are also considered. Positivist researchers see the world as an objective phenomenon, and new knowledge is attained through empirical practices. The Interpretivists are context focused. They research reality within a subjective world. New understanding is derived from their interrelationships with the social world. Critical researchers acknowledge a subjective world supported by objective structures. Knowledge is attained through the understanding of how objective and subjective structures interact.

The relationship between theory and practice is important to denote as it also informs the modes of inquiry. The approaches range respectively from theory-independent to theory related. As such, positivism privileges empirical methods, where interpretivism relies more on the observation of phenomena. Critical research builds on interpretivism and adds a historical and political dimension to its inquiry.   This led me to reflect on the research goals of each research paradigm. Positivism aims to generate law-like findings, whereas interpretivism wants to provide explanations of the social phenomena. The critical approach puts its emphasis on the critique of the status quo as it aspires to promote social change.

Research Paradigms	Type of Phenomena	Researcher's Role	Researcher's relationship with phenomena	Ontological Assumptions	Epistemological assumptions	Relationship between theory and practice	Modes of Inquiry	Research Goals
Positivist	Single, tangible, fragmented (Orlikowski and Baroudi, 1991)	To test or contest theories/ hypothesis Assumes a value free position (Orlikowski and Baroudi, 1991; Klein and Myers, 1999)	Researcher and object of inquiry are two separated identities (Chua, 1986)	Objective world (Morgan and Smircich, 1980; Chua 1986) Independent of participants (Chua, 1986) Context nonessential (Orlikowski and Baroudi, 1991)	Meaning derived from empirical practices (Orlikowski and Baroudi, 1991)	Technical: empirical testability of theories Theory-independent (Chua, 1986)	Sample surveys Controlled experiments Statistical and mathematical methods (Chua, 1986; Orlikowski and Baroudi, 1991)	To generate law-like generalisations (Morgan and Smircich, 1980; Orlikowski and Baroudi, 1991)
Interpretive	Multiple, social realities within a given context (Klein and Myers, 1999)	To understand phenomena through meaning participants assign to them (seeking relativist, shared meaning of phenomena) (Morgan, 1980; Orlikowski and Baroudi, 1991) Assumes a value position	Researcher is implicated in the phenomena (Klein and Myers, 1999)	Subjective world Dependent on social actors Context aware (Klein and Myers, 1999)	Meaning of reality derives from social interactions	In-depth examination and exposure to the phenomena (Chua, 1986) Use of theoretical concepts to justify phenomena Theory-related	Field studies (Orlikowski and Baroudi, 1991) Emphasis on observation and discourse (Chua, 1986)	To produce interpretations and explanations that deconstruct the phenomenological processes (Hassard, 1991) and account for subjective meanings of the reality studied To formulate plausible and convincing arguments through thick description (Creswell and Miller, 2000) related to theoretical concepts (logical reasoning) (Chua, 1986; Klein and Myers, 1999)
Critical	Multiple, social realities enveloped in forms of social and historical domination (Klein and Myers, 2011)	To critically evaluate and transform social reality To expose hidden contradictions between social reality and external structures (Richardson and Robinson, 2007) Assumes and advocates a value position (Myers and Klein, 2011)	Researcher is implicated in the phenomena; Researcher can enact on the social phenomena (Orlikowski and Baroudi, 1991)	Subjective world with objective structures Social agents, historical background and underpinning structures of power are interdependent Context and socio-historical, and political structures bound (Chua, 1986)	Meaning of social reality derives from social and historical practices	In-depth interpretation of the phenomena under study, complemented by the critique of external structures of domination Theory-dependent (Chua, 1986)	Emphasis on detailed historical explanations, ethnographic studies, etc (Chua, 1986)	To critique the status quo with the aim of transforming reality and promoting social change (Orlikowski and Baroudi, 1991; Richardson and Robinson, 2007) To challenge prevailing Assumptions (Richardson and Robinson, 2007; Myers and Klein, 2011) To formulate plausible and convincing arguments supported by a critical theoretical frame of reference

Table 2 - Synthesis of research paradigms

Critical-interprevitist research

Within the qualitative research paradigm, I assume that meaning making of a given phenomenon is co-dependent on the structures in which it is embedded. These structures, grounded on economic, socio-cultural, political systems, inevitably influence and shape reality as well as the perception of it. They constitute context. From an ontological point of view this means that my understanding of the world, as reality, is a biased interpretation that is based on my interpretations of the social world through the theoretical lens I chose to analyse that same reality with. Moreover, such an assumption informs my epistemological position, in that I see knowledge as a direct by-product of social constructions with an historical, social, cultural, economic and political contextual background. I am contained in that reality as both a product and a co-producer of the reality being researched as I operate within that research space. Denzin and Lincoln (2003) capture my assumptions of:

> *a relativist ontology (there are multiple realities), a subjectivist epistemology (knower and respondent cocreate understandings), and a naturalistic (in the natural world) set of methodological procedures.* (p. 24)

In my interpretation of the social world I cannot ignore the power relations that operate within that space. Hence, my research approach draws on critical-interpretivism. Critical-interpretivism is based on three main principles (Doolin and McLeod, 2005, p.244):

- the construction of detailed, local, and empirical interpretation
- a reflective approach that reveals and disrupts assumptions and certainties that reinforce the status quo in organisations
- the connection of interpretation to the wider historical and societal context, and considerations of power and control

The interpretative facet of this research project is enhanced with a new layer of understanding in that “pre-conceptions of power [that] impact on present and future events” (ibid, p. 248) are also considered and analysed. In doing so, this research focuses on a data-driven rather than on a data-centred approach (Alvesson and Sköldberg, 2009, p.284). That is to say that data is “not regarded as raw but as a construction of the empirical conditions, imbued with consistent interpretative work” (ibid). The combination of interpretive and critical paradigms aims to understand and unsettle the social realities that were disclosed through the research inquiry. Moreover, developing a critical approach to interpretivism impels my research beyond description. It moves it into the realm of activism, “even if only at its most basic level, fostering awareness of the participants’ experiences and circumstances” (Shankar-Brown, 2008, p.14). The main feature of critical-interpretivism is to examine what kind of organisational practices and meanings are deemed as undesirable because they are opposed to an individual disposition. In doing so, “it seeks to differentiate between value orientations that achieve happiness or those that produce unhappiness” (Heath, 1994, p.120).

In short, by positing my research approach in-between the interpretive and critical research paradigms I not only access and interpret the reality presented to me; I also question its status quo, and provide recommendations regarding new working practice that are congruent with the context of the digital economy, as reviewed in chapter 2. The goal of this research is beyond understanding the state of the present social reality; it also seeks to disclose emergent forms of scholarly practice, thus encouraging changes to the way the use of the Participatory Web in academic research practice is evaluated and rated.

Methodological choices

The first sections of this chapter illustrated my ontological and epistemological standpoint. In taking a critical-interpretivist research approach I now seek to explain the methodological choices adopted for this research: narrative inquiry. I also outline the research process taken for this research project and the techniques adopted.

Academia in a digital world: the contribution of narrative inquiry

Narrative inquiry is presented in this chapter as a form of meaning making. The aim is to capture the experiential process of academic researchers who are advocators and active users of the Participatory Web within the context of their research practice. Narrative inquiry helped trace their experience through the extraordinary shifts in learning and research caused by the exponential growth of the web. It also aimed to capture how research participants negotiated their involvement in a dynamic environment and how that impacted on their practice.

The digital world is having a growing influence on the practices of knowledge workers (Heery, 2009; Conole, 2010). As access to web technologies, with special emphasis on the Participatory Web, starts to be more prevalent in the work lives and social spheres of knowledge workers (Jones, 1998; Tapscott and Williams, 2006), personal stories have acquired a renewed relevance in this area. The web provides multiple means for communication of individual voices in collective spaces. It has enabled new possibilities. It has helped with the emancipation of the individual, as a networked learner (Couros, 2006), and a knowledge consumer and /or producer, i.e. a *prosumer* (Bianco, 2009; Hartley 2010). Yet, it has also created new forms of control and limitation (Leadbeater, 2010). If on the one hand, the Participatory Web has brought about a new landscape of interaction, on the other hand its reach is still restricted to those who are already well connected (ibid, p.2). The interactive, many-to-many Web, may have created new potential through the development of spaces for collective intelligence to converge and evolve, but has it penetrated the workplace in the same way? Moreover, has it really innovated practice and emancipated practitioners?

In the context of academic life and practice, the Web as a vehicle for the congregation of individuals in distributed knowledge networks offers numerous possibilities for the collective production of different types of capital. Cultural and social forms of capital (Bourdieu, 1985), for instance, are visible on the Web. It provides opportunities for the dissemination of knowledge (Weller, 2011). It also helps in the development of one’s digital reputation and digital footprint (Costa and Torres, 2011); i.e., social-professional identity. The choice for narrative inquiry is justified by the fact that it provides a richer picture of lived experience as it is perceived by those who live it. It also puts the narrators centre stage (Larson, 1997). For this project, in particular, the access to personal narratives provide an opportunity to understand the perspectives, the motivations (Ritchie and Wilson, 2000), and also the frustrations of academic researchers participating in this study.

In the next section I justify the use of narrative inquiry for this research and present my methodological choices.

Understanding narrative inquiry: what it is and what it does

Studying lived experience through narratives can be tracked as far back as Aristotle's *Poetics* (Friesen, 2009). Present in the life routines of ordinary people as a form of passing on knowledge from generation to generation, group to group, person to person, it was kept for many centuries as an informal way of learning and sharing experiences. Only recently (in the 20th century) has narrative inquiry entered the scholarly world as a research methodology to capture and study social life (Clandinin and Huber, n/d.; Connelly and Clandinin, 1990; Riessman, 1993). Having its scholarly roots in the Humanities, it is seen by many as a way of acting in opposition to the positivist standpoint (Bruner, 1991; Shekedi, 2005). Bruner (1991) values narrative inquiry, as a way of knowing, and also as a way of researching, i.e., as a way of "constructing and representing the rich and messy domain of human interaction" (p.4) through a first person voice.

Narrative inquiry is a form of meaning making of social experience. It brings attention to the perspective of the narrator, i.e, the research participant (Riley and Hawe, 2004) as the first interpreter of the experiences narrated (Atkinson, 1998). It focuses on specific situations, practices and individuals (Friesen, 2009, p.27). It enables the narrator to reconstruct their experiences in a reflective and dialogical way whilst providing a conduit to activate their voices (Taylor, 1989, p. 47). Narrative inquiry privileges context and individual backgrounds (Scwab, 1996, p.179). And it also seeks uniqueness (Ospina and Dodge, 2005, p.150). Each narrative is a singular representation of practice as experience (McCance et al, 2001), and each narrator attributes different meanings to it. Hence, no "experimental repeatability" (Friesen, 2009, p.27) is expected. Rather, it is the interpretation the narrator has given to their own lived experience, and which he/she offers to the researcher as their own life story (Atkinson, 1998) that really matters. Narrative inquiry explores reality as a socially constructed phenomenon. Narrative inquiry has mainly been used in disciplines whose main goal is to understand human experience and attitudes in the "first person" within the cultural group and social environment in which such narratives take place (Dewey, 1938). Thus, narrative inquiry has the individual as its focus. Narrative inquiry "has been particularly useful in developing feminist and critical theory" (Marshall and Rossman, 2006, p.118). It is also frequently used in health, psychology and education through an interpretative lens.

Narrative inquiry does not aim to merely look at what happened, but rather to access the meaning the narrator attributes to it (Clandinin and Connelly, 2000). The act of narrating can instigate a reflective process. It can also be a conduit for the expression of thoughts that had already been rehearsed to other non-research publics. Meaning is never fixed, but rather dynamic and alive: it is context bound. Unlike many other research methodologies, narrative inquiry does not aim to understand group activity, but rather individual approaches within a given social group and situation. That is also the reason why this methodology was chosen. This research focuses on the voices of individuals.

The narrative inquirer

The narrative inquirer seeks to collect, interpret and understand the "longitudinal and lateral aspects of experience" (Dewey, 1934, p. 44) through a flexible mode of inquiry. The goal of the researcher is to elicit lived experience through conversation. Personal narratives become a direct by-product of that process (Riessman, 1993, p.31). Researchers provide research participants with the opportunity of being the main actors of their narratives. Research participants are left to guide the plot of their narrative within the topics that frame the research questions. Narrative inquiry provides the researcher with the opportunity of getting a clearer understanding of the individual's enterprise, their thoughts, practices and approaches as opposed to the activity of the groups in which he/she may co-exist. Narrative inquirers aims to capture life journeys (Webster and Mertova, 2007, p.15), personal voices and views (Chase, 2005; Dodge et al, 2005; Freeman, 2006) through the narration of events and actions that allow individuals to "claim identities and construct lives" (Reissman, 1993, p.2). Narrative inquirers also take into account "the larger social context" (ibid, p.21) that may shape and influence individual agency. Core to narrative inquiry, as a research method, is the wish to understand the contexts (Webster and Mertova, 2007, p.32) - social, cultural, economical, political, professional, institutional, etc - in which the phenomenon takes place. It supports the narrative inquirer's understanding of the reasons that justify those very same personal perceptions, and how they impact on participants' practice.

The value of narrative inquiry

"Narrative constructions can only achieve verisimilitude" (Bruner, 1991, p.4). Research narratives cannot be explained in a scientific fashion, in terms of cause and effect. Human experience is coded in our own perception of the reality we narrate. Narratives can only be perceived to the extent that we - both the narrator and the researcher - are able to create meaning from the experiences that are reconstructed through the act of narration. Narrative fills the space between "what happened" and "what it means" (Kramp, 2003, p.4). Narratives achieve the purpose of organising and sharing lived experiences as they have happened, as they have been apprehended, and as they are told and understood. Narrative knowing is based on the meaning individuals attribute to experience (Bruner, 1986). Narratives can be important research data in that they can inform the researcher about the participant's world, from their personal point of view (Mattingly and Lawlor, 2000).

Narrative inquiry has, however, raised questions of validation, because it relies on individual perceptions. Mishler (1990) talks about the validation of narrative research through a process of "trustworthiness". This return us to the argument that knowledge is socially constructed (ibid, p.417) and that inquiry-guided research needs to oversee a process of practice that is reliable. The trustworthiness of this form of inquiry does not end with the research methods employed. It covers the commitment of reciprocity that is established with the research participants (Harrison et al, 2001), from accessing their narratives to the negotiating of meaning through an iterative process that aims to make the research process more transparent (Fossey et al, 2002; Porter, 2007).

Blumenfeld-Jones (1995) uses “fidelity” as a criterion for practicing and evaluating narrative inquiry (p. 25). This also contrasts with the concepts of positivist research validation such as truth and fact, measurement and replicability (Boudreau et al, 2001). “Fidelity” privileges the point of view of the narrator. It aims to capture “what [the narrative] means to the teller of the tale” (ibid, p.26). The criterion of “fidelity” relies on the preservation of the links between the narrator and the listener, and how the former is honest about his/her story and the latter honours the personal narratives with which he/she is presented (ibid. p.28). This dialectic and interdependence between both parties is crucial to the research process and is also observed in the selection of participants as trustworthy sources.

The importance of context in researching through narrative inquiry

Narrative inquiry aims to access and analyse narratives told within the socio-cultural context in which they are generated. Through narrative inquiry research participants provide the researcher with the answers to why things are as they are or have come to be through the “whats” and “hows” that sustain the plot of their stories (Riessman, 2007). Mattingly (1998) builds on Riessman’s notion by proposing three essential features of the narrative form. These features help understand how the “whats”, the “whys” and the “hows” are formed as part of the narrative plot. Narratives are: (1) event-centred, (2) experience-centred, and (3) units of experience with a past. In other words, narratives elicit the telling of specific situations within a specific time and space.

Clandinin and Huber (n/d, p.3) also draw attention the three commonplaces of narrative inquiry:

1. The need to consider temporality in narrative inquiry comes from the observation that the “formal quality of experience through time is [seen as] inherently narrative” (Crites,

1971, p. 291) (as quoted by Clandinin and Huber (n/d)), and that individuals are constantly revising their life narratives as a continuum that evolves as part of their experience.

2. Narrative inquiry must also acknowledge the research subject as a social being embedded in given social circumstances. Hence, the personal conditions of both the inquirer and the research subjects must be taken into account. These relate to feelings, wishes, ambitions, values and moral dispositions (Connelley and Clandinin, 2006; Clandinin et al, 2007).
3. For the narrative inquirer, place is seen as a boundary within which the inquiry takes place. This helps structure the topic of inquiry. As Clandinin and Huber (n/d) assert it is crucial to recognise that all events take place in a given place.

Bruner (1991) raises additional issues regarding context. The first relates to “intention”: the reasoning behind how the narrative is told and when, and how and when it is interpreted. I would also add another question: “by whom”. The other interesting point made by Bruner (ibid) regards the background information the research participant and the researcher have about each other, and how each party is influenced by it in the way they engage in dialogue and negotiate the meaning of the narrative. Narratives are complex in the way they allow both narrator and researcher to situate it in the context of the intersubjectivity that is developed in the construction of narratives of experience, and which typifies human knowledge.

Bourdieu, on the other hand, also made use of life narratives (Reed-Danahay, 2005, p.4) to explore and contrast the lived experiences with the contexts in which these were developed. Revealing the power structures of the social contexts in which personal narratives developed was also central to his studies (Bourdieu, 1998a). For this research, I build on the work of Hooley (2009) who uses the reflexive sociology of Bourdieu in narrative inquiry. In doing so, the concepts of *habitus*, *social capital*, *field*, and *symbolic violence* “are read in association with the narratives produced” (ibid, 183) in order to get a new understanding of practice, as explained on page 77 where I introduceIntroducing the Bourdieuian research lens.

Narratives are knowledge units representative of particular experiences expressed through the individual's own perceptions, beliefs, values, and the circumstances in which those experiences are 'made' and comprehended. They are equally shaped by the situation in which the narrative is prompted and constructed. Narrative inquiry is context dependent and this can be seen as a vulnerability, as expressed above. At the same time, however, this can also be regarded as its main strength, as the goal of narrative inquiry is to capture narrative truths, which consist in individuals' understanding of the lived reality, through their personal lens and within the contexts in which they co-exist. As pointed out in the first section of this chapter, this research follows a critical-interprevist approach. It understands reality as a social construction. Following Bourdieu's work (1989) (see page 77 for a comprehensive explanation of the Bourdieu's thinking tools), this research takes into account that such constructions are firstly not carried out in a social vacuum but subjected to structural constraints; secondly, that structuring structures, cognitive structures, are themselves socially structured because they have a social genesis; thirdly, that the construction of social reality is not only an individual enterprise but may also become a collective enterprise (p.18). Equally crucial is the position I assume as a researcher within this project. The section that follows aims to address this issue.

The role and place of the narrative inquirer: me!

In the approach I take regarding narrative inquiry, my role consists, firstly, in identifying individuals with stories worth telling. Secondly, it involves eliciting the sharing of those stories and converting them into coherent units of meaning which will then be worked into research narratives. Narrative inquiry seeks first and foremost to transform lived experiences into tangible units of interpreted information. These narratives can take the form of written documents (letters, journals, etc), audio and/or video recordings, or even visual artefacts that are representative of the stories their authors attempt to portray.

Nonetheless, narrative inquiry is more than the collection of data. The steps defined above are only a simplistic way of introducing the role and place of the narrative inquirer. Narrative inquiry seeks to go beyond the mere gathering of stories. Hence, narrative inquirers must have a clear understanding of their role in eliciting stories and in interpreting the "hows" and "whys" of each narrative. The narrative inquirer's attention should equally be directed to the involving context in which that experience occurs and is reconstructed. That is exactly the starting point for narrative inquirers (Clandinin and Connelly, 2000; He, 2003): the research context, in which the researcher is included rather than excluded.

Narrative inquiry as a learning journey into the research participant's world can be a blurred path, especially when we bring ourselves as researcher-practitioners into that process, and not as merely research-theorists, detached from the world we aim to study. As researchers, we cannot ignore the 'baggage' we bring with ourselves when starting this kind of research. As Clandinin and Connelly (2000) remind us "(...) as narrative inquirers we work within a space not only with our participants but also with ourselves" (p.61). Our experiences, *habitus*, and social and cultural capital (Bourdieu, 1990), will determine our epistemological and ontological positions, and thus influence the way we perceive the world around us (Clandinin and Rosiek, 2007). Hence, it is important to be aware of this condition as a researcher who practices in the same field, and who sees 'experience' as the starting point of the research inquiry. In fact, my purpose in using narrative inquiry is that of wanting to develop understanding regarding how the continuity of experiences, which Dewey (1934) names 'experiential continuum', is represented in the narratives of practice, how it justifies the current professional activity of the research participants, as academic researchers, and how it connects to their transformation of practice throughout the times in an attempt to connect research with practice. The Bourdieuian lens, as presented below in page 77, is used for this effect.

Consequently, I, as a researcher, must engage with the reflexive process of my own stories and be aware how the "hows" and "whys" of those stories influence and shape my interpretation of the stories of the participants. This is the tension with which the narrative inquirer struggles, and which has prompted Petra Munro-Hendry (2007) to suggest that narrative researchers need to listen, just listen, and trust the storyteller. Hence, how I consciously situate myself, as researcher, within the context of the research environment, is therefore crucial for my understanding and interpretation of the narratives of experience I engaged with as part of the project.

Another important aspect I cannot disregard in my role as a narrative inquirer, are my beliefs regarding knowledge construction, as presented in an earlier section of this chapter (see page 55). I see reality and knowledge as being socially constructed. And I believe in the use of dialogues (between the researcher and the research participant) as a form of knowing, understanding and advancing one's practice. Through conversation, I develop views and perspectives that inform and assist the understanding of my own practice, whilst eliciting the reflections of the narrator. At the same time, I am conscious that those same conversations may condition my understanding of the research participants' life narratives. As I place my research in the familiar comfort zone of my own practice, I challenge myself to approach it from different angles in the hope new perspectives and understandings might emerge (Clandinin et al, 2007). That is also the reason why the Bourdieuian thinking tools, as depicted below (see page 77), were chosen. They give a 'critical edge' to the research lens.

Being inserted in the same context in which I conduct this research I face the risk of not being able to contemplate the whole of what the research aims to portray, as a simple observer might. I am myself contained in the picture I aim to study, as I work with academic researchers and try to support their use of the Participatory Web in their research practice. Nevertheless, I have the advantage of having access to particular and detailed components of that picture. I am not an outsider to the reality I want to study; quite the opposite, I am inside the scope of my own research (a fact I must not ignore nor forget, but rather be conscious of as part of my role as a narrative inquirer and a practitioner in the area I research). Even so, narrative inquiry seemed to have been the right path to follow, as it allows me to foster conversational links with research participants in the role of a researcher who is involved in similar practice and puts research into action.

The research process

This section presents the research process undertaken for this study and elaborates on the details of conducting research with and on the Participatory Web. The research process followed an iterative process as I explain below and as represented in figure 4.

The literature review, presented in Chapter 2, helped situate this research project in the context of the Networked Society (Castells, 2000), and unveiled the gap in knowledge that this research aims to address. The literature review underwent several iterations as part of the activity of conducting research and communicating it clearly. As Richardson (2005) asserts in her own PhD project, doing research is not a linear process and the writing of the chapters that constitute this thesis is a proof of this.

The literature review informed the development of the interview guide (see Narrative Interview Guide on page 232). The interview guide supported the conduct of the interviews with the research participants. All interviews were recorded for post-listening and later transcription. During the interviews I took notes as a form of documenting my thinking at the time. Those notes, along with repeated listening to the interviews informed the writing of the research narratives that were then shared with the research participants for their approval and commentary. This constituted stage one of the research analysis. The interviews were also transcribed and became part of the stage two of the analysis of the research data. Stage three involved the use of the Bourdieuian thinking tools as an additional research lens to foster understanding of aspects not contemplated by the literature (see Figure 4 below). The research analysis iterations and respective stages are described in chapter 4 (see page 95)

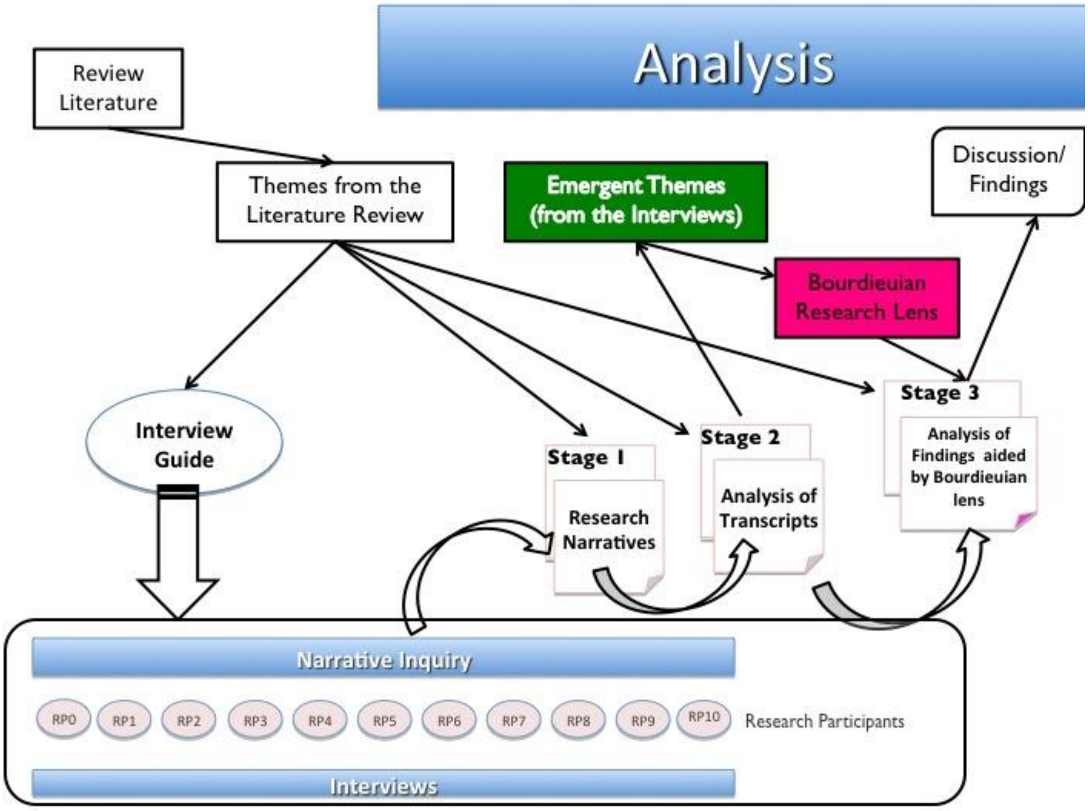

Figure 4 - The Bourdieuian research lens was introduced to analyse the research themes that emerged from the participants' narratives

The acquisition of the research data generated issues that I had not anticipated, such as power relations, struggles and conflicts between individuals' practices and institutional expectations. Hence, I was faced with the need to seek new analysis tools to help me develop a deeper understanding of the phenomenon being reported by the research participants. The work of Bourdieu came to the forefront to aid in this process as presented in the section below (see Introducing the Bourdieuian research lens on page 77). It provides a thorough lens regarding power relations and the dichotomies between agency and structure, which I used to analyse the interview transcripts further.

One year after the first research interviews, I contacted three of the research participants who had featured in the first phase of the study for follow up dialogues. The purpose of this second intervention was to go even deeper into my understanding of the selected research participants' narratives of experiences, with the advantage of now having the Bourdieuian lens to shape my inquiry. The choice for the three research subjects, who took part in the second phase of study, was based on their location (UK), availability, and willingness to continue participating in the study. Narrowing the study to UK based academic researchers was an obvious choice given the data collected during the first phase of field work. All the UK based researchers that were interviewed in the first phase of this research had expressed their concerns, feelings and frustrations about an eminent phenomenon that was gradually impacting on their research practice. In one way or another, all UK based researchers had mentioned the Research Excellence Framework (REF) exercise that British Universities are preparing themselves for in their narratives. As this topic was shared and significant I wanted to analyse it further in order to understand how the REF affected their research practice and what role their use of the Participatory Web had in it. Hence, I maintained contact with the three selected UK based academic researchers for a period of six months in order to follow their perspectives of practice, and those related to REF, for that extended period of time. I contacted them on a regular basis during those six months for relatively brief conversations by Skype [13] or exchanges of emails depending on their availability and preference of communication. During those conversations we discussed their practices and approaches regarding their (research) practice with the Participatory Web in the run up to the REF. The goal was to capture their perspectives and any changes to their practices, since the first interview, as research participants were planning their research submission for the forthcoming REF. The opportunity to establish further contact also allowed me to explore further the research themes that emerged during the first phase of research interviews.

Figure 5 depicts the research design employed for this study. As presented above, this research consisted of an iterative process in which the literature review communicated with the research guide and research interviews and vice versa. As I progressed in the collection and interpretation of data I was able to revisit the literature review, seek new sources of

[13] Skype is a Voice Over IP service provider that allows users to communicate with peers by voice, video, and text chat.

knowledge, and identify the need for further contact with research participants in order to seek deeper understanding of the phenomenon in which they have a significant role.

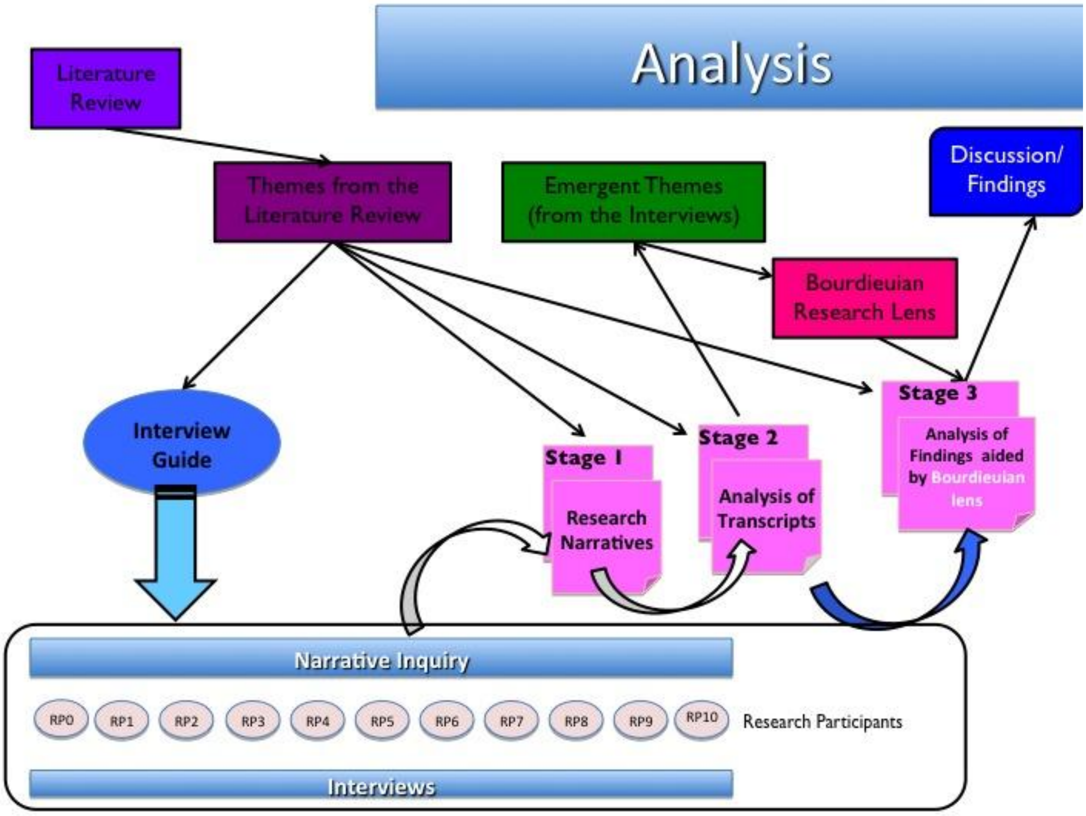

Figure 5 - The research iterative process

Recruiting research participants

The research participant sample for this study consists of 10 research participants. The participants were recruited using a purposive sampling technique. This allowed me to select research participants who featured given characteristics that make them a representative group of academic researchers engaged online (Topp et al, 2004). The value of this technique is in acquiring a more focused amount of information that is directly related to the project's research purpose. The potential of purposeful sampling is in “selecting information-rich cases for study in depth” (Patton, 1990, p. 169).

As part of choosing a group of research participants that met the purpose of this research, criteria were established for the recruiting of participants. To qualify to be part of this research, participants had to:

- Be an active academic researcher. Research participants are academic members of staff who are actively engaged in research activity. Researchers operating outside the Higher Education realm were not considered.
- Be a proficient user of the Participatory Web: it was an essential criterion that research participants were actively engaged in online environments and online networking practices.
- Have a web presence online: it was an essential criterion to have an established presence online though online tools and applications used for communicating, networking and sharing of ideas and practice.

Research participants were invited to take part in this research via email. A template letter (see Invitation letter sent to research participants on page 234) was sent to each individual informing them of the purpose of the research and requesting their participation. As part of their involvement in the research, participants were also asked to send their Curriculum Vitae prior to the interview. Eight of the research participants provided a link to their web- presence instead, while the remaining two research participants provided a hard copy of their updated C.V.

Research interviews

An interview guide as developed, in accordance with the literature reviewed for this study (see Chapter 2 on page 12) to assist the interview process (see Narrative Interview Guide on page 232), and thus contemplate the themes emerging from the literature review. The guide provides a range of open questions that aimed to elicit the experiences and perceptions of the research participants. The questions also sought to capture the meanings participants gave to their use of the Participatory Web in both the context of their research practice and of their role in a Higher Education Institution.

Each interview started with a generic question about the participant's professional background and "history of practice" as a form of positioning the participant within his/her narrative of experience and research activity. All interviews followed a spontaneous pattern of conversation as a form of providing the narrators with ownership of their stories of practice. However three themes were used to guide the personal narratives. These focused on (1) dissemination of research and knowledge (see page 17), (2) collaboration (see page 39); and (3) professional identity (see page 42). From those, additional themes emerged, as depicted in the following chapter of this thesis.

In my analysis of the interviews, first from interpreting the audio recordings and then from coding the transcripts, I felt the need to look for additional literature that would help me get a better understanding of the realities narrated by the research participants. During this search I found the work of Pierre Bourdieu, whose thinking tools I would eventually use as a research lens for the stage three of the research analysis and discussion of this research project, as the issues began to focus not just on individual agency but also showed issues such as the REF that constrained and enabled their agency.

In the section below, I introduce the Bourdieuian lens adopted for this research project. In doing so I depict some of the key concepts developed by the French sociologist Pierre Bourdieu, namely forms of *Capital*, *Field*, *Habitus*, and *Symbolic Violence*. Bourdieu's theory was chosen for this research because it provides a useful framework to study practice within the restrictions and possibilities of the current changing Higher Education environment as highlighted in the previous chapter. Throughout his research enterprise, Bourdieu tried to reconcile practice and theory as interdependent entities. His critical sociology is an attempt to understand and represent practice within the constraints of the social world, in that it seeks to bridge the difference between the subjective and objective social worlds (Jenkins, 2002, p.25).

Subjectivity is attributed to the world of the individual who, as a social being, understands a reality in accordance with his/her experiences and living context. The objective world, on the other hand, can be seen as a world that lies beyond the influence of a single individual through the social, economic, cultural, institutional, and power structures in which that individual practices. Bourdieu's contribution to the social sciences has been one of studying, discussing, and empowering society regarding the, frequently hidden, conflicts between structure and agency (ibid, p.20). Bourdieu conceives reality and knowledge both as a structuring and structured structure in which the logic of practice can be understood. As Bourdieu himself asserts

> *the principle of practices has to be sought (...) in the relationship between external constraints which leave a very variable margin for choice, and dispositions which are the product of economic and social processes (...). (*1990, p.50)

Bourdieu's key concepts used for this study provide a framework for analysis of the phenomenon under focus. They shed a new light on the understanding of the Logic of Practice of academic researchers working in a changing environment.

Introducing the Bourdieuian research lens

Pierre Bourdieu's thinking tools are used for this project because of the research lens it offers to understanding the social phenomenon under study. Throughout his research career, Bourdieu attempted to overcome the dichotomy of practice and theory. He studied society through a double lens, using both individuals' perceptions of life and the structures on which their experiences were based as filters for his understanding of the social world. The combination of both worlds provides a deeper understanding of the phenomenon under study. It enables a richer account of the social world being researched as well as of its surrounding context. It can potentially also encourage its critical change, as it also advocates the emancipation of the individuals featured in it. As Richardson (2005) reminds us in her thesis, Bourdieu was a "resister" (p. 61); a political activist who attempted to raise awareness of the social structures, if not to change them. His goal was always to raise issues pertinent to the society of his time.

The debate about the dominating and dominated realities was Bourdieu's prime cause of study and advocacy. By bringing these issues to the conscious level he could advocate the emancipation of those who were oppressed by the reality in which they were inserted. I too find important to scrutinise beyond the perceptions of the individuals in search of structures and inherent contexts that trigger or hamper their practices.

The contribution of Bourdieu's theory to this research is three-fold: (1) it provides a set of thinking tools which can be used as a conceptual framework for analysis of the phenomenon under study; (2) it allows for a rich meaning-making approach in which both organisational systems and human perceptions, objective and subjective worlds, are interdependently analysed; (3) It provides a renewed perspective on the practices of the Participatory Web in the context of academia, since the Bourdieuian lens does not seem to have been used extensively to address the combination of the two topics.

Bourdieu's thinking tools

Bourdieu's sociology covers a wide range of areas of knowledge and practice. His interests included philosophy, education, politics, and more recently media and culture production. In engaging with such topics he developed key concepts, often regarded as thinking tools (Jenkins, 2000). These thinking tools helped him explore society and the practices of individuals contained in it. Those key concepts have become research lenses through which social phenomena can be understood and explained. In this section I present the concepts of *field*, *habitus*, (forms of) *capital*, and *symbolic violence*. Although Bourdieu centred most of his work and research on French society, the ideas he put forward throughout his career can be carefully 'appropriated' to other realities, provided they are justified in the contexts they are applied to.

The concepts of *field*, *habitus*, *capital* and *symbolic violence* are interrelated and will therefore be used here in conjunction whilst pursuing understanding in the context of the research practices of academics and their use of the Participatory Web to support their research activity. These concepts provide a lens for understanding practice and knowledge, not as separate entities but rather as interlinked factors and conditioners of agency and structure within the social and professional contexts in which they take place.

Habitus

Habitus consists of internalised behaviours and perceptions that each individual has implicitly acquired and will continue to 'accumulate' throughout their existence. It is part of the experiences they have and the rituals, norms and approaches to which they are exposed or involved in. It is also related to the social and professional environments they participate in and which inevitably also influence and are reflected in their practice. *Habitus* can also be broadly defined as the evolving process through which individuals act, think, perceive and approach the world and their role in it, i.e, the way individuals develop their conduct of 'being' and participating in a given environment. As such, *habitus* does not exist on its own. It connects the individual to the social environments in which they exist and perform, and their practice is materialised. *Habitus* is assimilated past without a clear conscience, i.e., it is an internal, progressive record of personal experiences rooted in the distinct aspects of individuals' social journeys that justify their practices. In addition, *habitus* is history that produces history (Bourdieu, 1990, p. 54). It is a set of individual and shared structuring dispositions developed in practice that justify individuals' perspectives, values and actions. In this sense, *habitus* can be seen as an agent of continuity and tradition. Yet, depending on the context and individual dispositions, it can also be an agent of innovation and transformation of practice. Bourdieu points out that "early experiences (...) tend to ensure its own constancy and its defense against change" (ibid, p.60). *Habitus*, however, is not necessarily stagnant nor impermeable to change. Bourdieu also states that "as an acquired system of generative schemes, the *habitus* makes possible the free production of all the thoughts, perceptions and actions inherent in the particular conditions of its productions" (ibid, 55), thus providing scope for alteration and evolution in practice and approach. Moreover, the *habitus*, as an evolving structure with a past and a present which informs and influences future practices, provides unlimited scope for the production of new ideas, views, and approaches based on the socio-historical context in which they are generated. Nonetheless, the situational environment in which practices are produced can constrain those same individual practices, as the context in which they are applied will have its own logic of practice and inherent regulations. As such, "the *habitus* may be accompanied by a strategic calculation tending to perform in a conscious mode the operation that the *habitus* performs quite differently" (Ibid, p. 53). Indeed, it is in the presence of 'alien' environments that individuals' *habitus* becomes easily identified or deliberately silenced. *Habitus* is, in this sense, also influenced by the *field* to which individuals belong as well as the different types of capital that make up their existence and practice.

Forms of Capital

The concept of *capital* takes on different forms. Bourdieu (1985) talks mainly about three types of capital:

- *social capital* (change and increase of network links and social bonds; interrelationship amongst individuals)
- *cultural capital* (educational and cultural assets individuals acquire also within their family and social circles – historical background)
- *economic capital* (epitomised mainly by financial wealth).

Social capital is visible in the relationships established between individuals. The heart of one's *social capital* is in their spheres of influence, i.e., the networks individuals are able to foster, the level of trust they are able to cultivate, and the norms associated with the groups to which they belong. Communication is a vital currency of *social capital*. Keeping information channels open helps sustain network bonds, as communication is the glue of social interrelationships between social actors. They can be seen as transforming individuals' practices:

the reproduction of social capital presupposes an unceasing effort of sociability, a continuous series of exchange in which recognition is endlessly affirmed and reaffirmed (Bourdieu,1985, p.250).

Nevertheless, Bourdieu asserts that the principal focus remains on *economic capital*, which inevitably informs and influences all other forms of *symbolic capital*. All forms of *capital* also impact on the position the individual acquires within the *field* in which he/she moves about.

Field

As it happens with *habitus*, the *field* entails an historical background that explains its existence, records its changes, and explains its evolution or lack of it. The *field* features traditions which justifies its rules. A *field* can be seen as a social space where its agents occupy a given social position. Each individual occupies a given space within the *field* based on their role, function, activity, and the reputation that comes with their economic, social and cultural *capitals*. This will be reflected in the 'power' he or she will have within that *field*. Hence, it can be said that *fields* are hierarchical by nature. An agent's social position is also determined by the rules of that space in combination with their *habitus* and *capital*. Those rules form the structure of a given social context, or fields of interaction (Thompson, 1995), and make it recognisable as such. For instance, academia as a *field* is, in general, known for its research capacity, whose excellence is measured by a set of pre-established rules that regulate research outcomes in order to transform them into measurable outputs. In so being, researchers, as agents in that *field*, are to perform within the remit of those rules. Thus, the opportunities to pursue creative goals and interests regarding the creation of research outputs may not be compliant with the established standards. In this sense, the rules that support the *field* can promote institutional stability and uniformity. As Bourdieu (1990a) observes:

(...) academic field as specific revolution calling directly into question the interests associated with a dominant position in the field cancels out that detachment from specifically academic interests (p.189).

Nevertheless, the position the individual occupies within the *field*, and the power associated with it, also determines their ability to pursue their own goals and interests in genuine ways. There is a visible antagonism between the *field* of economic power and the *field* of cultural power (Bourdieu, ibid) that restricts academic endeavour as well as innovation of cultural production and its reproduction.

Symbolic violence

Bourdieu delved into the social world with the purpose of researching the systems through which the reproduction of the social and symbolic space occurs. (Bourdieu, 1991). *Symbolic violence*, as a thinking tool, was developed to represent power structures that are manifested in the social world. These forms of dominance are exercised in relationships between individuals and groups, often in times with the complicity of the dominated ones, who are, or feel, disempowered to liberate themselves from it. The roots of *symbolic violence* are reflected in symbols and cultural signs. *Symbolic violence* is also implicit in the authority given groups or certain individuals are able to convey because of their status and power (Bourdieu and Passeron, 1990, p.4). In the Bourdieuian context, *symbolic violence* is not understood as any kind of physical aggression, but rather as a form of oppression through social rules and cues that are specific to a group or social class. Hence, *symbolic violence* causes the reproduction of culture in that it reinforces the rules of the *field*, thus helping individuals "internalise the structure of the field as habitus" (Richardson, 2005, p. 65)

Symbolic violence is present in the whole of the social space, i.e., *field*. Every individual is able to recognise his/her role in the *field* in accordance with the norms of the accepted, dominant 'forces'. These silent cues can, and do, condition and frame one's attitudes and practices in accordance with the expectations others have of them given the position they occupy. *Symbolic violence* works in conjunction with *doxa*, a form of symbolic power which can be conceptualised as unquestionable shared beliefs that help define and strengthen the *field* (Bourdieu, 1977, p.166).

The concept of *symbolic violence* enables me to get a deeper understanding of the motivations underpinning individuals' certain behaviours. In the social world, relationships in which there is a link between dominator and dominated, the individuals who comply with the dominant values and views become accomplices of their own condition (Bourdieu, 2000, p. 170). Those who reject the rules are regarded as dissidents and adversaries of those more powerful within the *field*.

Bringing it all together: the logic of practice

To understand the logic of social practices it is important to understand the social constructions and the social structures that underpin the environment being studied, since the logic of practice is not that of a logician (Bourdieu, 1990, p86). Contextualising practice is therefore necessary. Being aware of the circumstances in which such practices evolve, are executed and accepted is equally important. For Bourdieu (1990) *habitus* is key for the understanding of social practices. Bourdieu asserts that:

> *[In] The theory of practice as practice insists, contrary to positivist materialism, that the objects of knowledge are constructed, not passively recorded, and, contrary to intellectualist individualism, that the principle of this construction is the system of structured, structuring dispositions, the habitus, which is constituted in practice and always oriented towards practical functions. (p.52)*

Field is equally a fundamental tool for the understanding of practice. In fact, *field* is interdependent with *habitus*. *Field* is the social, multi-dimensional space in which "compatibilities and incompatibilities, proximities and distances" (Bourdieu, 1985, p. 725) are determined through the position the individual acquires in that space. The individual's position in the *field* also determines their status. The position and status of the individual in the social context of their practice are symbols of power which can be used as instruments of domination (Bourdieu, 1979, p.78).

Habitus and *field* as, respectively, subjective and objective elements of practice, are a two tale story with an inter-connected past that allows for the understanding of such practices and its derived productions. In his book *Field of Cultural Production*, Bourdieu (1993) insists that:

> *to understand practice [of individuals] (...) and not least their products, entails understanding that they are the result of the meeting of two histories: the history of the positions they occupy and the history of their dispositions (...)* (p.61)

From a Bourdieuian perspective, dispositions can be seen as a response to "order (or disorder)" (Bourdieu, 2000, p.148), which can fluctuate depending on given social conditions. Dispositions are equally associated with social conditionings (ibid), in that objective, structural changes can, for some agents, operate as a change of behaviour regarding practice, whereas others do not let themselves be affected by it. The understanding of one's position, as "what one can or cannot "permit oneself" implies a tacit acceptance of one's place (...)" (Bourdieu, 1985, pp.728-9). This form of acceptance, expressed in the views and actions of the dominated, is a supreme form of *symbolic violence* (Bourdieu, 2000, p.83). Bourdieu even goes as far as to say that "the form par excellence of symbolic violence is the power which (...) is exercised through rational communication" (ibid). It is also a form of symbolic power that has the potential of shaping and conditioning individual dispositions.

Nonetheless, dispositions are not exclusively shaped to suit the field and the oppressing forces that exist in there. Dispositions can also be developed to contest the field. Hence, dispositions can work for or against change given its social evolving context. A disposition:

> *expresses the result of an organising action, with a meaning close to that of words such as structure; it also designates a way of being, a habitual state, and in particularly a preposition, tendency, propensity or inclination* (Bourdieu, 1977, p.214*)*

Bourdieu also notes that individuals' social positions in a *field*, i.e., their social capital, influence individuals' dispositions given that the social space individuals inhabit can shape their attitudes and perspectives. By the same token, dispositions can also affect positions provided that “they are the product of independent conditions” (Bourdieu, 1993, p.61). Hence, accessing the logic of practice requires seeking understanding of the “contradictions of the social world, which are experienced in the form of personal drama” (Bourdieu, 1999, p.1). It entails considering the positions and dispositions of individuals, i.e., the *field* and *habitus*, within a given social context. With this, Bourdieu wants to stress the idea that knowledge of the social world takes place in practice (1985, p.728), within its objective and subjective structures and the symbolic systems that are responsible for the production and reproduction of practice.

Applying the Bourdieuian key concepts to the Participatory Web and academia

Academia as a social *field* provides a historical ground for the study of practice. Its approach to practice is often seen as adverse to fast change and innovation (Moerschell, 2009). Typical of institutions with a long tradition, academia presents a set of features that establish the rules of the academic game and model the habits of its players. However, no social phenomenon is impermeable to change or fully static. Social reality is constituted both by structured and structuring structures that model and/or impel the change of people’s behaviour and attitudes given the context of the social world in which they are inserted and to which they contribute. The Participatory Web is a new phenomenon that impacts on the social reality by presenting both a threat and new possibilities for the practice of academic research. Its introduction in academia therefore postulates a transformation of established practices, and promises to shake traditional structures with new and innovative ideas (Kroski, 2007; Goldwin, 2008).

As explained above, *field* and *habitus* are key principles for the understanding of practice. Together with the symbolic systems used as part of the social interactions and social performances, they form the logic of practice. *Habitus* can be seen as a product of adjustment to the *field*. Nonetheless, it is also the accumulative result of an individual’s personal and collective historical experience (Bourdieu, 1990a, p.91). These experiences affect the way an individual perceives his/her world and acts on it within the constraints of their position and the rules established by the *field*.

In this research I am particularly interested in learning how *habitus* can be used to attempt to change the *field*, the same way that the *field* will try to constrict the *habitus* by imposing the rules of the game. In chapter 5 I also analyse the use of symbolic systems (symbolic power represented through *symbolic violence*).

Embedding the Participatory Web in narrative inquiry research

The Participatory Web, also known as social/interactive media, or more broadly as web technologies, refers to tools and applications available online which facilitate the communication (McLoughlin and Lee, 2008). In the learning context, they allow for interactivity, access to distributed learning environments and, most importantly, different forms of association with people willing to share particular points of views and experiences (see page 39). Participation in such mediated environments often prompts reflection in a more visible way through the different formats the Participatory Web offers for expression of the self and congregation of collective intelligence (Weiss, 2005; Zettsu and Kiyoki, 2006). It also provides a stage for new forms of conflict (White, 2003; Rheingold, 2007; Jenkins, 2009). All of this, in a way, is narrative. The spontaneous accounts of experiences shared amongst peers as they are felt and perceived, and offered to the environments in which they are prompted, are important units of information. They symbolise new sources of knowledge and its construction. All of this can be data for research too. Yet, it is not this kind of narrative I was aiming at when I introduced the Participatory Web into my research design. I tried to make use of the technology to bridge communication between me and the research participants beyond the interview experience. Enriching the links between me and the research participants by using the Participatory Web to gather research data helped me get a better understanding of their narratives, and it allowed them to validate their narratives.

The use of relevant technologies to support the telling and reflection of lived experiences created a more informal, familiar environment. It also provided the scope for the development of those narratives during an extended period of time, in the hope of enriching the first version of the story told. Furthermore, using the Participatory Web as a tool to support the collection of research data provided the opportunity for a more frequent communication between us.

To date, the use of the Participatory Web as a research tool is a field waiting to be explored I will now advance from the abstract explanation of how the Participatory Web can empower both the researcher and the research participant to concrete examples of how the Participatory Web was, and can be, exploited for narrative inquiry purposes from the perspective of the researcher.

Tools for data collection

Web telephony

The use of web telephony is increasingly common as an efficient way of communicating with people all around the world. It resembles the use of a phone with additional features such as text chat, sharing of files and the use of a video link. It is usually an inexpensive service. The option of using web telephony, namely Skype, as part of the narrative inquiry process, is justified by the distributed location of my research participants, and the limitations in funding for travelling. Using Skype helped bridge the distance between the two parties (Suamure and Given, n/d). Being able to establish a direct link with research participants regardless of their whereabouts is a technological affordance I could not ignore as a self-funded PhD researcher. It enabled me contact with research participants from different countries and continents at the cost only of their generosity in sharing their experiences with me. Compared with face to face interviews, I found it easier to establish the interview link with the research participants online whilst simultaneously writing notes and making sense of my follow up questions. Somehow, having a screen between us enabled us to play our roles in a more focused way, as I could shift my attention from the voice of the narrator to my own narrative notes. Nonetheless, I do acknowledge its disadvantages. Technology is not always reliable. Connection can be patchy and break the flow of the conversation. In using only audio, as it was often the case of this research, non verbal communication is lost (ibid). Yet, the first impressions seems to be positive, as all the research participants I interviewed via Skype have been able to engage in fluid narratives and communicate their stories eloquently. This can also be attributed to the fact that they are all eloquent users of the Participatory Web and frequent users of the Skype service, an aspect that I recognise.

Although Skype allows for video chatting, the majority of the research participants chose to use only audio, and in one of the interviews we had to revert from video to audio chat due to bandwidth problems. All the interviews were recorded using a Skype recorder software (eCamm), and converted in MP3 files that I then used for the stage one of the analysis as well as for the transcription of the interviews.

Blogposts (in a protected blog)

Having used blogs for a series of years for the recording of my own learning and sharing of my own interpretations, it was easy to decide on this tool as one that would enable me to sustain the link with my research participants beyond the research interview. It is equally a way of welcoming them into my understanding of their narratives. The idea behind using a blog for research purposes was to try to distil the research data captured in the narrative interviews in conjunction with the respective research participants. It gives them additional opportunities to have their say in the way their narratives are interpreted and translated into narrative data. Converting the narrative data from the interviews into blog posts also gave me the opportunity to develop the first stage of my research analysis and go through a first phase of coding individual narratives. Hence, narrative interviews were converted into 'blog narratives' containing notes from me, and offered to the research participants for further interaction with their lived experience. The effect hoped was two-fold:

1. to make the stage one of the research process available to those implied in the research project, and
2. to make the research an iterative process in which the research participant could have an active saying and impact.

Sadly, in the majority of the cases, the reactions to the this second stage of interaction with the research participants did not produce more research data as research participants' engagement with it was very scarce. Nonetheless, the use of the Participatory Web to create a channel of interaction with the research participants was still fruitful in several ways. It allowed me to recreate the stories told with my own interpretation. It allowed research participants to have access to the different stages of my research. The regular engagement in online environments in which the research participants and I co-exist has also allowed me to informally observe their professional activity unfold throughout the period of this research.

Research ethics: open or closed research?

Using the Participatory Web as part of the research process poses a new question, to which different answers can be given. Should I disclose the research process or keep it restricted to those within the research project? This is probably a research topic in itself but it needs to be addressed here. In the spirit of the open access movement and the use of the Participatory Web as a form of informing and enabling the access and co-creation of new information by different communities of people, the different research phases of the project mentioned above should be disclosed to the wider audience. Yet, when human research participants share their personal experiences ethical considerations arise (Eynon, et al, 2009). Openness on the one hand implies identification of sources; on the other it advocates transparency of practice. In the case of this research, it would disclose the identity of research participants. That was the main reason why I did not observe the principle of openness. In the comfort of anonymity individuals are more likely to feel compelled to share details of their experiences (Giordano et al, 2007). It is precisely those details that more often enrich the understanding of the phenomenon being studied. Advocating openness in this instance would jeopardise the potential to access personal views. Moreover, each one of us is accountable towards entities, social circles, institutions, etc to which we belong or in which we participate (Elbaz-Luwisch, 1997). Eliciting personal truths regarding one's context and circumstances must be kept private because of their private and personal nature, not only for the research participants but also for others within their network.

So, although some of the research participants did not require anonymity as part of their participation in the research process, it was agreed that all the communication between researcher and research participant was kept private between the two. Understanding the advantages and implication of the Participatory Web in the different contexts of application is important. The Participatory Web does provide researchers with new scenarios and techniques for the conduct of research. Yet, it also provides risks regarding the disclosure of information and exposure of research participants. Although not necessarily negative, the openness of research information needs to observe the expectations of research participants, and ensure they are comfortable with the unveiling of their stories. It should not promote a feeling of uneasiness in the research participants to the extent the narratives are contrived to become shallow descriptions of lived experiences.

Summary

This chapter contextualised the scope of this research project by introducing its research goals and research subjects, and the research methodology used to conduct research. It presented a detailed account of the epistemological and ontological stances underpinning this research and how they influenced the methodological choices made for this project. Narrative inquiry was discussed as both the methodology and the main research method of this project. Research narratives were depicted as units of information in the form of reflection and meaning-making of personal experiences which cannot be isolated from its context nor from its narrators.

In this chapter I also depicted the research lens used for this project. Pierre Bourdieu's key concepts provide a critical analysis into the socio-professional world of the research participants of this research. It seeks to approach theory and practice, agency and structure, as interdependent units of analysis that provide an understanding of social reality.

The Participatory Web was introduced in this chapter as both a topic of research and a tool for research. The advantages and ethical implications of using such a medium for communication and transparency of research were discussed, making it clear that in the case of research with human subjects the openness of research data is a sensitive issue that needs much deliberation and care. It was concluded that safe-guarding the interests of the research project and the concerns of research participants are more important than pushing for the open access of research data, as this action might discourage the sharing of relevant information. This chapter finishes with a discussion regarding the methodological choices, implications and needs for future research on the use of the Participatory Web as a tool for research. The next chapter will present the research analysis process and the findings associated with this research.

Chapter 4 - Narratives of practice – understanding the Participatory Web in the context of higher education

Introduction

This chapter presents the process and results derived from the research deployed for this project. It consists of the study of the professional stories of ten academic researchers who are highly networked and active in online environments. Their proactive engagement with the Participatory Web provides them with different, sometimes extreme, perspectives and outlooks on their professional activity. Learning how this impacts on their practiced scholarship (with an emphasis on the research component) was the main goal of this project. To achieve the objectives of this research (see Research objectives on page 4), narrative inquiry was used both as a research method and a research methodology, as explained in chapter 3 (see page 61). Online interviews were the main technique employed to gain access to the narratives of practice. A second iteration of data collection was carried out with three of the research participants in order to capture deeper understanding of the ideas expressed in the first interviews. Following three of the research participants at a later stage of this research served to gather further contextual understanding of the current changing environment in which the narratives are constructed.

In this chapter I provide a brief description regarding the iterations developed through the research process, as a form of re-constructing the participants' narratives for the development of research meaning. I then introduce the rationale of the data collection and the process of the data analysis, before I present my research participants in detail. The themes emerging from the research narratives are also presented and analysed (see page 94).

Data collection

This research consisted of two phases of data collection. During the year of 2011 I conducted eleven narrative interviews with researchers from different disciplines and countries who use the Participatory Web on a regular basis. From the eleven interviews, ten were used for this research. One of the interviews was deemed unsuitable for this project because it did not fit the criteria established for this research as outlined in chapter 3. The data generated by this research participant was thus withdrawn from the analysis process since the research participant was no longer formally affiliated with a Higher Education Institution, a fact that would undermine the purpose of this research. All the other interviews were included and the data generated from them was used for this research.

The research participants were selected because of the traits they featured and not because of their whereabouts. As participants' narratives of practice started to shape this research project, their geographical location also started to matter. As their narratives started to unveil valuable information about national policies and stressed the importance of research assessment exercises (see glossary), I felt it necessary to study this reported phenomenon more closely. This is how the second phase of data collection came about.

The second iteration of data collection was performed during the first half of 2012. It consisted of online dialogues with three of the research participants that participated in the first phase of the research. Participants were chosen for this second iteration because they:

- were UK based researchers and were therefore experiencing the same academic institutional pressures based on the current economic context and approaching national research assessment
- featured some of the most "extreme" (approaches to) practices amongst all the interviewed research participants
- were available to participate

The second phase of the data collection aimed to revisit the selected research participants' approaches to practice in even more detail in order to tease out aspects related to the themes emergent during the first phase of interviews. Contact was established with the three research participants at regular intervals during a period of six months to conduct mini interviews. The research participants taking part in this second phase of data collection were sent the scripts of their interviews as well as the research narratives I had composed after I had interviewed them. This served to re-establish the connection with them and remind them of where we had left the discussion. The conversations that followed re-iterated the statements provided during the first phase of data collection. The information captured during the second phase of data collection is contained in the analysis that follows.

Data analysis

As a researcher working in the same social space as my research participants, that of academia, I am aware of my subjectivity. I hope I have been able to represent their accounts of lived experience in a fair way and provide an analytic understanding that will enlighten the literature in this field further and thus provide practice and policy with a useful critique.

Learning from Brown's work (2005), I took the position of a "bricoleur" when developing my own research analysis strategy. I see research as an interactive process of meaning making in which my experiences, perceptions, condition and life history are also contained (McLeod, 2003, p.82). And I also see research as a form of understanding and critiquing both my reality and that of the audience I research (Kincheloe and McLaren, 2002; Grenfell and James, 2004; McCabe and Holmes, 2009).

I developed an analytical strategy that would allow me to "narratively code field texts" (Clandinin and Connelly, 2000, p. 131). I used narrative thematic analysis as suggested by Riessman (1993) (please see page 95). The research narratives allowed me to use "adaptive theory" (Layder, 1998, p.132) in that the research data was coded against themes derived from the literature review (see Chapter 2 - Literature review commencing on page 12), whilst also demonstrating the gaps in the theory originally reviewed for this study. Hence, themes emerging from the data led me to seek additional literature (see page 77) in order to explain the phenomenon under study.

Following Riessman's work (1993) I see the data I collected as narratives in "situated events" (p. 17). These narratives are told in the first person and therefore carry the weight of constructed interpretations. I am also aware that "phenomena shift depending on how we frame their contexts and our researcher positions within the contexts" (Clandinin and Connelly, 2000, p. 124). For instance, if I position the phenomenon of the Participatory Web in the context of "scholarship of discovery" (Boyer, 1990, p.17) some practices and beliefs are highlighted. If I had placed the phenomenon of the Participatory Web in the context of "scholarship of teaching" (Boyer, 1990, p.23) other approaches would come to the forefront of this research. Acknowledging the context of this research project is as important as recognising my presence as researcher and practitioner of the area in which I research. As highlighted in the literature review (see Chapter 2 - Literature review on page 12), this research focuses on research practice.

The process of analysing data

Narrative analysis was employed for this research project. The main focus of narratology, or narrative analysis, is that it provides access to social meanings (Bruner, 1992; Lawler, 2002; Patton, 2002), i.e, narrated interpretations of lived experiences and events enclosed in a social, cultural, historical, economic, political space. Hence, narrative analysis is defined by two main questions (Patton, 2002, p. 115):

- What does the narrative reveal about the person and the world from which it came?
- How can the narrative be interpreted so that it provides an understanding and illuminates the life and culture that it creates?

For this research, participants' personal narratives constitute research data. Narrative analysis is the process by which the data is studied to answer the research questions asked by this research project. Narrative analysis encompasses the process of arranging and structuring information in a systematic way in order for the researcher to be able to attribute meaning to it (Shaw, 1999; Basit, 2003; Marshall and Rossman, 2006; Rallis and Rossman, 2011). This involves working intensively with the research data in order to become familiar with it, dividing it into manageable units, being able to synthesise it, and seeking out patterns and themes emerging from the data collected. Narrative analysis is in its essence a process of managing and understanding data through the use of different techniques and strategies. Without it there is no research (Richardson, 2005), as researchers will not be able to process and interpret the data, nor will they be able to generate conclusions or present new knowledge.

In the process of analysing the data, I used hermeneutics as a method of interpretation of text. It aims at the transformation of meaning through interpretation (Kinsella, 2006). It respects a cycle of interpretation that observes the dialectic between understanding the text as a whole and interpreting the parts that constitute it. Descriptions are used to guide “anticipated explanations” (Harvey and Myers, 1995, p.7). The expectation of meaning is supplied by the context provided by the narratives under analysis. The hermeneutical perspective informs narratology given its emphasis on interpretation (Patton, 2002). And yet narrative analysis “extends the idea of text to include in-depth interview transcripts, life history memories, historical memoirs and creative non-fiction” (ibid, p.115).

Hermeneutics has been used extensively in the area of Information Systems to look at organisational cultures, socio-technical interactions or to interpret socially constructed realities in organisations and institutions. In recent years, critical hermeneutics has emerged as a new practice in the analysis of qualitative research. It opposes classical hermeneutics in that it takes interpretation to a new level. It recognises that the act of interpreting a text is not a closed process, but rather an open one. The acknowledgment of context in critical hermeneutics adds a new layer of meaning that requires a more critical approach. Kincheloe and McLaren (2002) argue that “the purpose of hermeneutical analysis is to develop a form of cultural criticism revealing power dynamics within social and cultural contexts” (p. 331). The approach adopted for this project combines both perspectives in that it aims to look at the constructed and interpreted truths as well as to develop a deeper understanding of the contextual structures that influence such understandings.

Hermeneutics was therefore the methodological tool for analysis. Riessman (2003) points out four models of narrative analysis:

- Thematic analysis – focuses on the *what* rather than the *how* as it aims to create "a typology of narratives organized by themes" (p. 2). It is a useful method to find common thematic elements across participants
- Structural analysis – focuses on form, i.e., although it does not discard the importance of content, it puts a special emphasis on the way a narrative is told and language is used
- Interactional analysis – focuses on the dialogical process established between the narrator and the listener. Thematic content and content structure remain relevant, but special attention is given to the co-construction of meaning as narrator and listener interact
- Performative analysis – focuses on performance. Narrative is understood as a metaphor of meanings. It relates to how the narrator wants to be known and how they involve their audience in creating their perceived image.

Thematic analysis was used for this research. Each interview was coded using a combination of *a priori* themes specified by the literature review, and evident in the interview guide (See Annex 2 on page ") and *empirical* coding systems (themes emerging from the data, evident in the analysis grid. See Annex 5 on page 273) (Smith, 2000, p.324). The use of themes allowed me to compare and contrast the perceived experiences of the research participants, at the same time it provided an overview of each single narrative as a personal representation of social reality. Research texts provide a window into the socio-cultural, economic and political conditions in which they happen and in which their narrators are inserted. They are a product and a reflection of the context in which individuals are inserted (Clandinin and Connelly, 2000, p. 128). In this sense, research texts are as peculiar as the narrators they present, since "narrative inquiry is more productive to begin with explorations of the phenomena of experience rather than in comparative analysis of various methodological frames" (ibid).

Narrative analysis stages

The narrative analysis went through different stages as presented below:

Stage 1 - I wrote my first interpretation of the stories told. I used the audio files recorded during the interviews as well as my interview notes to gather a picture of what I had just heard. In doing so, I attached my own interpretation to the narrative as I attempted to recreate it based on the stories I was told by the research participants. Verbatim quotations from the interviews were combined with 'thick description' in an attempt to unveil the richness of research participants' perceptions, feelings and practices (Østerlund, 1996). Building on Moss's (1994) work I "co-created stories as narrative analysis that would potentially engage (...)" (p. 364) the research participants in a second phase of reflection. As part of the iterative process, the thick descriptions were shared with the respective research participants for their approval and commentary via two alternative channels: email and a closed blog.

Stage 2 – This second phase of analysis was conducted using the transcripts of the interviews. The transcripts provided me with a different view of the same narratives as I was able to visualise the discourse produced by the research participants. During this stage I was able to create a list of themes that were present across or in each of the narratives. The following strategy was adopted:

- reading of interview transcripts for further familiarisation with the content of the narratives
- re-reading interview transcripts to link to themes identified in the literature review
- re-reading interview transcripts to identify emergent themes
- 'dismantling' the interview transcripts into the themes by coding relevant citations into a MSWord document table
- exploring contradictions and tensions of practice within each and across research narratives

Stage 3 - A third attempt at refining my interpretation of the data was developed by matching the analysed data to Bourdieu's key thinking tools. This need emerged from the research narratives themselves. The literature already reviewed (see chapter 2) was unable to answer the issues of power and conflict that emerged as significant elements of the research participant's narratives. This gave me the opportunity to contribute new knowledge but required the incorporation of Bourdieu's thinking tools in my analysis, as presented in chapter 3 (see page 77). Stage 3 of the research analysis contributed to the discussion that is formulated in Chapter 5 (see page 146).

This chapter presents Stages 1 and 2 of the research analysis as depicted by figure 6.

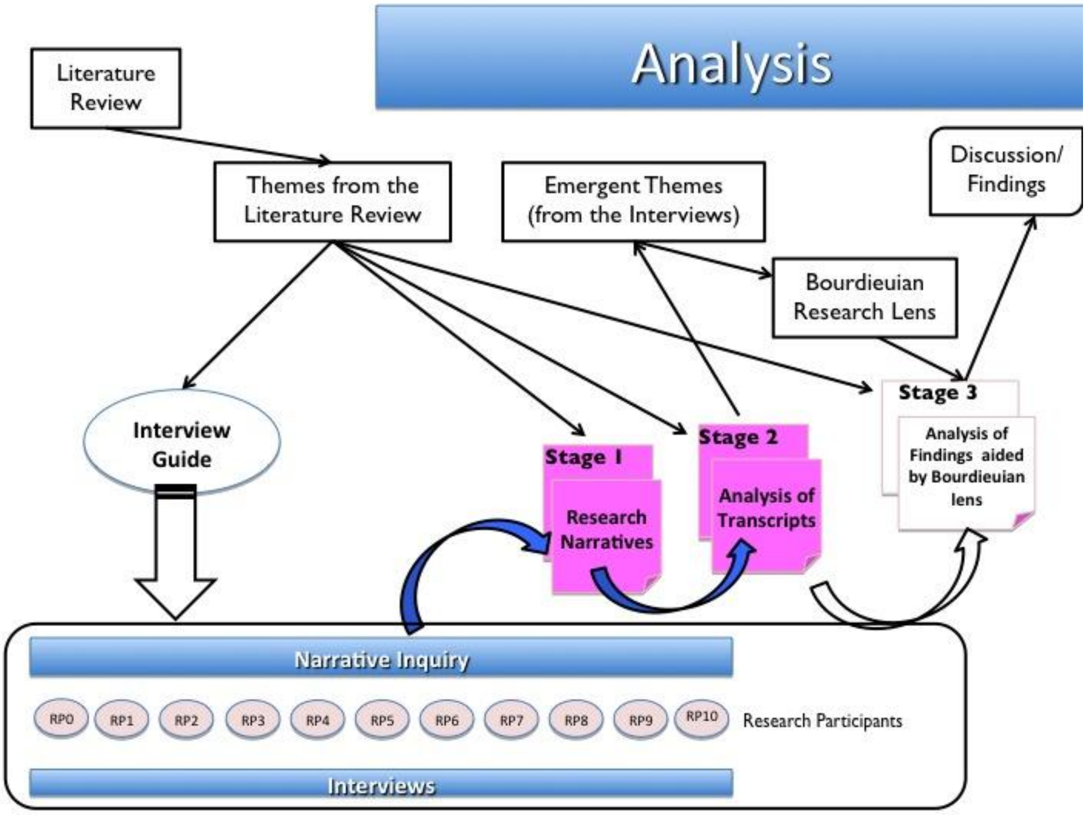

Figure 6 - Stages 1 and 2 of the research analysis

Introducing the research participants

This section corresponds broadly to the Stage 1 of the research analysis in that it aims to recreate research participants' narratives of practice. This research makes use of thick description to describe the context of the research participants' narratives (see Annex 4 for Thick description of research participants on page 235), and provide their insights in a thorough way. Creswell and Miller (2000) defend the need for "describing the setting, the participants, and the themes of a qualitative study in rich detail" (p. 128). The authors build on the work of Denzin (1989) to highlight the distinction between "thick, rich description" and "thin description" (p.ibid) as a technique for conferring research the required credibility. Thick description, a term, that according to Geertz (2002), was first used by Gilbert Ryle, calls for deep, rich accounts of the data whereas its thin version is a rather plain description, with limited detail; i.e., lacking any research substance that will make that information worthwhile. Thick description provides context and meaning (Ponterotto, 2006). It outlines the evolution of the narrative in an attempt "to rescue the meanings and experiences that have occurred in the field situation (...) and captures the interpretations persons bring to the events" (Denzin, 2001, p.52).

This section introduces the ten research participants who contributed to this study with their stories of experience via vignettes. The vignettes that follow do not aim to identify the research participants as individuals and practitioners at any given institution, but rather to present the context in which their practice and approach to the Participatory Web is set. Some elements of participants' narratives were omitted or changed to ensure confidentiality. Pseudonyms were used for this purpose.

These vignettes will also aim to provide the reader with access to the diverse and complex world of practice of the participants' featured in this research. In doing so, I hope to achieve the goals of transparency and thick description as proposed above. I aim to give the reader enough contextual information to the social, cultural, political and economical background of the narratives offered to me.

Anne (Code: RP0)

The interview with Anne served as the pilot interview for this research. It aimed to test the interview guide as well as my narrative interview skills. It was also used to screen the viability of the questions and research participants' reactions to it. The interview went so well that I decided to include it as part of the overall research project. As such the data from Anne's interview has been dealt with in the same way as all the data derived from the subsequent interviews. I must however highlight that Anne's interview was the only one that was conducted face to face. All the other interviews were conducted via web telephony, as described in chapter 3, given the physical distance between the research participants and myself. Nonetheless, I do not consider this made any significant difference regarding the development or the dynamics of how the other interviews were conducted. This may be attributed to the proficiency with which the research participants use such tools on a daily basis.

I met Anne at one of her University's lunch spaces during an afternoon. Anne introduced herself as an academic in the field of Information Systems; an area/discipline which, according to her own words, is on the borderline with many other disciplines, such as Business, Education, or Learning Technologies. Thus, as she points out, it creates many opportunities for collaboration despite the decrease in research funding recently felt by the economic crisis. Anne's career trajectory is curious in that it has been shaped by the circumstances of her life moving from industry into higher education via other educational sectors. This leads her to recognise the role of creativity in the constant reinvention of her role. Whereas she recognises that her engagement with the Participatory Web provides her with opportunities for recording her practice and raising her profile, she is also critical of it as a full replacement of the traditional forms of scholarly communication; a statement she justifies with the knowledge she has acquired through her role as an editor of an academic journal.

John (Code: RP1)

John is a lecturer in History. He specialised in military, imperial and colonial History as part of his doctoral research in his home country. His interests have however evolved to the fields of geo-politics and complexity sciences since then. He attributed this shift in interests to his moving to the UK, where he started having access to other sources of information and archives. His fascination for the web started soon after. It has enabled him to have access to other people. However, he claimed that his field of research is still conducted in a very traditional way and is rather intolerant of new practices. This makes him very conscious of his use of the Participatory Web for research purposes. Thus, his participation in online environments is restricted to his interest in the "world of ideas" that is supported online rather than in an official capacity as an historian. Although he fully recognises the potential of the Participatory Web to form new partnerships and develop collective ideas, the approaches practiced in online environments do not seem to match the traditions of his disciplinary field, something that puts him at crossroads between his new approaches to practice and what is expected of him at a professional level. During the interview, he also mentioned his intention of using the participatory web in more interesting ways for his research, for example, to capture the research process, as the risks are now fewer given that John did not expect to progress further in his career.

Lucy (Code: RP2)

Lucy is a midwife working as a midwife educator. After having moved countries and institutions, she was introduced to online environments as she followed the transformation of her institution. For the past few years Lucy's research practice has changed dramatically. She attributed this to her involvement in online environments and the adoption of the approaches practiced in there. She is now an avid advocator of open access and open practices, and has vowed to license all her work under a creative commons license. As a result she does not see herself as a conventional researcher, but someone who is adopting innovative practices. She justifies this approach by acknowledging that she is at a stage of her career in which it is more important to follow her beliefs than any institutional norms. Yet, she is aware of the tensions younger colleagues might be subjected to if they were to adopt such attitudes. Lucy sees her online activity as a form of raising her profile and fostering new collaborative links that benefit her learning and research. Nonetheless, she is also aware that her approaches set her apart from most of her colleagues, thus resulting in her feeling isolated in her approach and practice.

Alex (Code: RP3)

Alex is an associate researcher and a PhD student in social sciences, who practices in a non-traditional academic environment given that his research unit is self-sponsored, thus always looking for funding to support the team. Still new to academia, he has discovered in the Participatory Web a new conduit for the informal sharing of information, and his participation in online environments is mainly motivated by this purpose. Alex thinks that the dissemination of research in his unit follows the academic conventions (conferences papers and journal articles) that will assure one's career progression. Hence, he doesn't feel his participation online is valued by his colleagues, nor will it get him the next job. Nonetheless he sees himself as someone who is more forward thinking than the majority of people in his field, and regards the Participatory Web as a useful tool for informal participation and exchange of knowledge.

Heidi (Code: RP4)

Heidi moved from practice in health care to an academic post. She currently holds a professorship in nursing and provides leadership to about 40 other academic researchers. She has researched different topics throughout her career, a fact she attributes to her need to follow her different, developing interests. Her participation online enables her to form and sustain distributed forms of collaboration; something she considers invaluable and which she cherishes as part of her research activity. The Participatory Web has a positive impact on her reputation as she becomes increasingly known in her field also as someone who is cognisant of new technologies. Her use of the Participatory Web sets her apart from the majority of her colleagues. Yet, the same does not apply to the dissemination of research. Heidi uses conventional channels of dissemination, as she needs to lead on the publishing of high impact journals in her institutional role. She attributes this to the pressure the REF puts on her institution. Although she defends the ideologies behind Open Access and online participation, she feels she is tied by the conventions imposed by her institution.

Neil (Code: RP5)

Neil is based in a 'research intensive unit' as a lecturer in Climate Change. Neil claims that the research processes in his field have evolved immensely in the last decade given the integration of computers in the workplace. This has come to make a difference regarding the flow of huge amounts of data with which he has to work. Neil regards the Participatory Web as having a positive impact on the development of collaborative links between research teams, but he is critical of the exposure it provides to his work when considering the distributed network. He also recognises the value of the Participatory Web in establishing his online presence, widening his network, and augmenting the impact of his research beyond publications. Nonetheless, Neil seems to believe that the dessimination of research in his field has not changed much. The processes he follows in his area seem to be the standard ones: conference papers and journal articles. Although he is starting to push those boundaries by blogging about his research, most of his collegues do not seem interested in changing the way they communicate their reseach, which makes it difficult for him to take more innovative approaches at a formal level.

Hector (Code: RP6)

Hector's background is in biological sciences. Although this is still the area in which he teaches, his research focus changed from biological sciences to pedagogical research, a fact that reportedly creates some tensions in his school. According to Hector these tensions are due to the discrepancies in funding awards between the life sciences and educational research, and also the types of journals in which they publish, as his institution is working towards the submission of high impact journals for REF. Hector is a prolific user of the Participatory Web for his teaching and research practice, through the writing of his blogs and participation in numerous networks. These practices have influenced his work approaches, and he only regrets that his online activity is not formalised as impact. As an avid advocator of open access publications he also regrets that his institution is more concerned with high impact factors than the accessibility and democratisation of knowledge. Hence, he sees himself as working in isolation. He also considers that the importance of the Participatory Web as innovation is relegated to a second plan given the need of the institution to perform to the standards established by the Research Excellence Framework. This puts an emphasis on classic forms of impact and dissemination.

Richard (Code: RP7)

Richard is a Professor of Educational Technology. He sees the Participatory Web as an alternative conduit for sharing ideas and communicating research in a much faster and personal way. As a result it has changed the way he conducts his research and publishes in his field. Richard's engagement in more creative practices has its downside too, as it has implications on his career given the boundaries provided by his Institution. Richard compromises by playing a 'double game' in which he has enough publications to please the institutional requirements, but also engages in the approaches advocated by those participating in online environments so as to satisfy his approach to practice. Yet, he has vowed to publish only in open access journals. Richard recognises that his professorship gives him more freedom to pursue his own beliefs than that enjoyed by early career researchers. His position also allows him to push the boundaries regarding the acknowledgment of less conventional practices as he tries to raise awareness about it at his institution and through his research.

Antonio (Code RP8)

Antonio's narrative was deemed unsuitable for this research because it did not match the criteria used to sample the research participants for this project.

Luke (Code: RP9)

Luke is a physiotherapist by profession, who is now working as an academic. Luke is extremely committed to bringing practice and research together and thus make a significant contribution to his field. He sees the Participatory Web as a niche area that is worth exploring in the context of health education, the research field he has chosen and which sets him apart from the majority of his colleagues who pursue applied research. Luke is an advocator of "openness and transparency". His approach sets him apart from his colleagues, as they are still not comfortable in using such means of communication and collaboration. Regarding his research activity, Luke distinguishes his participation online as informal practice and the writing for publications as formal. This is due to the expectations of his department that demand the publication of three articles every two years and the presentation of conference papers at research conferences. As there is no incentive or motivation regarding the use of the Participatory Web in academic practice at his institution, his blog or participation online is not considered formally. Luke is aware of the constraints imposed by his institution, but he is also committed to following his beliefs, which leads him to 'play the game'.

Maria (RP10)

Maria is a lecturer in Education, with a special interest in the Participatory Web. She acknowledges that her approach to practice is rather different from the majority of her colleagues, an observation she attributes to the practices to which she was exposed during a fellowship abroad. The contact with people who were using the Participatory Web in their research practice opened new doors to her. Maria says that the networks she accesses online influence and change her approach to practice. Yet, her approach to dissemination of knowledge seems to be more moderate, as publishing in formal channels is a requirement at her institution. It is also her strategy to retain her job and guarantee career progression. This leads Maria to state that she needs to compromise and play a "double game", in that she continues to have an active participation online, and attend and organise activities that push the boundaries, while also complying with the expectations of the institution in following more traditional routes in order to pursue her academic career.

Research findings

Through the data generated, different themes became apparent across narratives. The individual narratives presented corresponding situations that enabled me to view the data gathered as a new narrative containing the traits and career journeys of the research participants. In the section that follows, I attempt to present the research data gathered through the narratives using thematic analysis as explained above

Thematic analysis

In this section, I present the themes derived from the research narratives. This corresponds to the Stage 2 of the research analysis. The themes were used as a form of giving deeper meaning to certain parts of the research data. In deconstructing the narratives into manageable units of understanding I was able to highlight common aspects that cut across the narratives collected. Yet, I was able to understand each narrative as a unique case within the context that framed the research participants' narration by organising each narrative thematically (see Annex 5 on page 273). There are two types of themes presented in this analysis, as represented in Figure 7 and presented below:

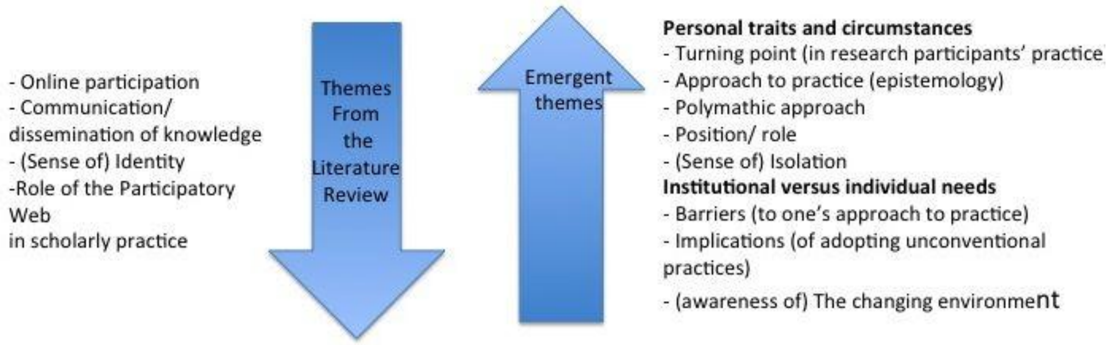

Figure 7 - Research themes

The themes derived from the Literature Review (please see Chapter 2 - Literature review commencing on page 12) focus on how the active use of the Participatory Web promotes new forms of participation and association, provides academic researchers with alternative channels for the communication and dissemination of their scholarly practice, and shapes research participants' identity as practitioners. The overarching theme of the role the Participatory Web in scholarly practice (research) is also discussed.

Themes inspired by the literature review

Online participation (and its forms of association)

The research participants share a strong perception that their use of the Participatory Web generates benefits for their practice, especially regarding the provision of new forms of networking, exchanging and co-creating ideas, accessing distributed communities and networks of interest, and even creating different forms of sociability. The citations that follow illustrate this point:

John (RP1)

I think it's an eco-system which allows one to interact with a lot of people who have similar interests, and interact in many different ways. So one had virtual friends – friends who are very far away, or sometimes not very far away, but you interact only online, People whom I trust. (…) There is a totally different form of sociability. (…) I'm also fascinated by the world of ideas and it's clear that the internet has given me access to a lot of resources, a lot of ideas which I never would have come across ever in two or three lifetimes without the internet technology.

Lucy (RP3)

I go to my personal learning network. I think it's really interesting to have conversations with people about your work. It just gets you thinking about things I get a lot of, I get most if not all my support for what I do these days online.

Heidi (RP4)

(…) locally and internationally, because I've got links with somebody in Australia, and also somebody in America, and we're all working together on a research bid on this to try and put this together and move that forward. (…) We've got research collaborations going on, we've got publication collaborations going on, that just wouldn't be possible without things like facebook and skype.

Participants also acknowledge the transformative effect the Participatory Web has on their practice, via the feedback and shared knowledge with which their networks provide them.

Richard (RP7)

I think that extended network and being able to share has been the big change in research for me. (…) In many ways my own blog becomes my own research archive. (…) Having an output like a blog has almost a feedback effect into your practice.

Maria (RP10)

My research, my network, my web network is definitely completely linked to my research. I get a lot of feedback from my networks.

And in some cases, participants go as far as to link the advantages of participating online with the type of people they meet and with whom they interact in such spaces. This kind of statement links with other research themes that I will explore in details in this analysis, namely Identity, and Isolation.

Hector (RP6)

My network with… maybe people who don't feel that different from me, is an extremely important means of external validation. There are days when it keeps you going, in addition obviously to the intellectual input that you get in terms of tools and ideas, and reading people's blog posts, and conversations that go on, on twitter, and problem solving over twitter. All these sorts of other activities go on as well. (…) Collaboration to become much more embedded, because the technology makes it possible.

The literature reveals that the Participatory Web, as a space for collaboration and networking, presents researchers with new forms of association beyond their institutions (see Forms of association on page 39). On the Participatory Web study participants congregate with like-minded individuals with whom they share interests and epistemologies of practice. Hence, the Participatory Web becomes a space for collective and communal learning that reaches beyond the workplace. It taps into collective intelligence in a distributed environment where affinities are identified and new collaborations materialised via the interactions and learning relationships that are established online. It is thus easy to understand the emphasis research participants put on their use of the Participatory Web to assist their research practice. It enables them to enter an open environment deprived of institutional constraints, as they do not have to formally account for the ways in which they collaborate. As seen in the Literature Review Chapter, online participation has the potential of generating new landscapes of practice that can be translated in new ways of working, thinking, as well as the development of a new professional self (see page 42). As one of the participants in this study states, the stimulus provided by the Participatory Web does not necessarily translate into the outputs institutions aspire to:

John (RP1)

> *That has had a very bad effect, I have to say, on my academic productivity. I probably would have been publishing more if I had just stayed in the old model of publication, reading books in the library, going to the archives and only doing that, but there is a lot of intellectual stimulation which does not result in publications. It is sometimes difficult to be disciplined, or you're exposed to so many exciting ideas, and you have so many fascinating conversations with so many fascinating people that ideas may be maturing but that might not result in publications for the next RAE, or the REF.*

This could be due to the fact that with new landscapes of practice, new types of outputs might not resonate with institutional conventions. Institutions still do not see the Participatory Web as a formal vehicle of research impact (Priem and Hemminger, 2010), the same way the Republic of Letters in the past was questioned for its informality and efficacy (see Dissemination and publication of knowledge on page 17). This takes me to explore the theme of dissemination of knowledge, one that dominated much of the research participants' narratives given that they feel the institutional pressure of formalising their research into tangible outputs.

Communication/ dissemination of knowledge

The communication and dissemination of knowledge with the use of the Participatory Web was a topic around which many of the research narratives developed. So much so it translated into other research themes presented below. Although the Participatory Web constitutes a crucial tool in supporting collaboration and networking in the current knowledge economy, when it comes to the dissemination of research the Participatory Web seems to evoke bittersweet memories in the accounts of the research participants. This is partly due to the fact that it seems to conflict with the established methods of knowledge dissemination:

Anne (RP0)

> *I don't personally think that it [the Participatory Web] replaces traditional methods of publication, I think a lot of the discussion on, in the blogosphere, it's very local and superficial. (…) I think that it's another channel of communication that's more suited to some things than to others, but it can definitely amplify – these channels can amplify each other, and they do cost you time as well.*

Such practices also seem to disagree with contractual and copyright laws by which researchers are bound:

John (RP1)

> *It's not always possible to put all your publications online, and certainly not your books because of contractual issues. (…) Publishing my book was good for my career, it helped me secure my position, it was useful for the research assessment exercise, but it's a shame that I'm not able to just make it available online. I find it very frustrating that one's published some research and basically no-one's reading it, and the general public is*

not able to consult it fully online, so I think in my future projects I will very much want the stuff I write to be very broadly available.

Participants also voiced their concerns regarding the standardisation of research outputs and the dissemination of research:

Alex (RP3)

As I've learned more about research, and I've watched my colleagues as they're bidding for research, and they always have to put in how they will disseminate, and it's always we'll do this conference presentation and we'll do these journal articles, and then it just goes on every single bid, and then you're just like is that all there ever is?

Neil (RP5)

There's – it's [dissemination of knowledge] not a very well developed system I don't think. It's just that you publish a paper that you'll talk about twice at conferences. Once when you're doing the work and maybe once when you finish it. That 's pretty much it.

Maria (RP10)

I don't do that properly. I got my webpage and I put the majority of my papers on that, but that's all.

As pointed out in the literature review of this thesis (see Dissemination and publication of knowledge on page 17), the tradition of printed text as a form of scholarly discourse has a long tradition, which Higher Education Institutions seem to want to protect. This lack of creative effort to diversify and modernise the way academic knowledge is communicated can be attributed to the institutional regulations that aim to ensure continuity of practice, and by which researchers are required to abide:

Heidi (RP4)

I think when people think about dissemination, their first thought is still high impact journals, and I think that's probably because we're still driven by the REF in universities, and it's quite disappointing that there is this focus on just that.

Luke (RP9)

I have to publish 3 articles every two years. (…) In addition to going through the formal route of the print journal, I also put at least one version, whether it's pre-review or final version, I also put it into an open repository. So that's the formal things.

As pointed out in Chapter 2 (see section commencing on page 39), collaboration and networking are activities in which scholars are encouraged to engage freely, as a form of meeting the demands of a competitive society. Hence, the Participatory Web becomes just another vehicle to achieve that purpose. The same however cannot be said of the dissemination of knowledge, given that the competitive context here is very different. Higher Education Institutions are formally assessed on the production of their research outputs by external bodies that use bibliometrics and research publications in high impact journals as one of its main benchmarks, as I have previously highlighted in the section of the literature review on

Dissemination and publication of knowledge (see page 17). This is restrictive in itself. If we add to this the interpretations of university leaders regarding this matter, we end up with a "recipe" for knowledge dissemination in which the Participatory Web is often ignored as a vehicle of knowledge communication. This is where the exercise of institutional power is most felt. Participants feel, in part, limited by what they can do regarding the dissemination of their research. This topic is further analysed in the themes regarding barriers and implications.

(Sense of) Identity

Several participants shared the perception that being active users of the Participatory Web allows them to be seen as someone who is different in their area of practice:

Alex (RP3)

> *In terms of doing – using social media – you do see yourself as a bit, a bit more radical (…) someone who's got a bit more forward thinking in some respects than a lot of other academics that you meet.*

Heidi (RP4)

> *I know how others see me, they think I'm insane. They do look at me as some sort of eccentric, techie geek groupie type thing.*

Hector (RP6)

> *If you were to take an average across the university I would be at one extreme end of that in terms of social media use, most people are basically non-users.*

Luke (RP9)

> *I'm definitely someone who's breaking new ground (…) in terms of doing research in a different way. The way that I use technology is very much a defining difference between colleagues and I*

The participants' adoption of the Participatory Web as part of their scholarly work has not only provided them with a distinct outlook on practice; it has created a new sense of identity which, as stated in the quotes above, is also shared by their colleagues. This theme takes me back to this thesis' literature review where I explored the topic of professional identity (see Professional identity on page 42). Identity as a social construction situates the individual in a given role and place. In the context of this research, study participants position themselves at the edge of their research practice, and are sometimes even seen as extreme practitioners. This perception can be justified by the influence the socio-cultural and historical context in which they operate has on the way participants and their peers view their practice. Moreover, professional identity is also expressed in the combination of the position individuals occupy in the institution as well as the experiences and personal traits that distinguish them. As pointed out by research (see section on Professional identity on page 42) and seen in research participants' accounts, their adoption of the Participatory Web for their work helps them re-define who they are. It also portrays the professional values they carry with them and that evolve as part of their experience. The narratives of experience featuring in this study illustrate that research participants' practices set them apart from the traditional academic, a fact that justifies the perceptions quoted above.

Overview of the role of the Participatory Web in scholarly practice

An overarching theme that guided this entire study is the role of the Participatory Web in scholarly practice, with a special emphasis on the component of research. This theme was widely explored in the literature reviewed for this thesis as presented in Chapter 2 (see The present and future of the Information Age section commencing on page 29). The Participatory Web is seen not only as an important tool, but also as part of the research participants' approach to practice. It has impacted on their way of thinking, and working, and being:

John (RP1)

> *I think it [the Participatory Web] has exposed me to totally new ways of thinking, to a culture which is very, very different from the dominant culture in academia. (…) a cultural eco-system which really is totally different, and have ways of thinking which is totally different from mainstream historians.*

As reviewed before (see Forms of association on page 39), the Participatory Web has provided the individual with new forms of collaboration and networking at a global scale:

Heidi (RP4)

It's [the Participatory Web] changed for me in terms of collaboration, because it's – technology just makes things so easy now. For example, I was out in Australia at a conference in April this year, met loads and loads of interesting people, and we were all sitting round, and some people were more junior researchers than others, and we said well there's nowhere for us to continue these conversations, so I was able to set up a website so that we could all join it, so we've got 14 or 15 people on the website now.

Hector (RP6)

They [technologies] play an enormous role [in collaboration]. (…)These technologies are extremely important for keeping in touch with colleagues both in other places around the university, but also in other institutions as well. (…) It's become much easier to collaborate with people and things like skype – this is a good example now – where practice has changed. (…) It's definitely changed my practice.

Luke (RP9)

Having access to the people, not so much the content – content you can get in many ways – but being able to talk to people and see what other people are doing and engage with other people. That is probably the biggest impact this way has had on me. Not just on my research, but on my thinking in general.

It has influenced their professional identity and reputation (See literature review section on Professional identity on page 42):

Heidi (RP4)

At the moment it's quite a niche research activity, so for my personal role development and reputation, to be involved in that now is quite good for me. Although that was never a deliberate choice, but thinking about it, reflecting on it while we're talking, that was quite a good thing for me, because it makes me stand out from the rest of the no hope nurse researchers.

and impacted on their overall research practice (see section on Digital scholarship on page 43).

Luke (RP9)

The technology and using the technology in a certain way, and using certain types of technology have really made me think about the world in a very different way

The narratives used for this research unveil a very positive perspective on the use and effects of the Participatory Web in the context of research practice: there are two explanations for this. Firstly, I had in part predicted this, given that the literature connecting the Participatory Web to scholarship (see chapter 2 on page 12) tends to focus more on how the Participatory Web can benefit scholarly practice, rather than on the consequences of adopting it to change practice.

Secondly, research participants taking part in this study were chosen because of theirsignificant, use of the Participatory Web in their work. They represent, and to a certain extent put into practice, the principles of digital scholarship as highlighted in the literature (see section on Digital scholarship on page 43). They have been using the Participatory Web as an alternative form of scholarship. Their practice has become so engrained in these new forms of working that their identity and ways of working have changed as a result of that. What I probably did not expect – at least not with the intensity with which it was conveyed to me through the participants' narratives – were the stories of incompatibility between the ways of working online and the institutionalised practices advocated by Higher Education Institutions.

Yet, contexts that restrain such innovations were highlighted as a source of conflict. They are part of the emerging research themes presented below.

The analysis that follows consists of themes that emerged from the research data. They are divided into two macro-themes. The first is related to participants' "personal traits and circumstances" and encompasses aspects of their narratives of experience that allows for a better understanding of their background and motivations. For instance, the turning points in their careers, their rather polymathic approach to practice, and their evolving epistemology of practice. It also touches upon their position in the institutional hierarchy and their sense of isolation in opting for the integration of the Participatory Web in their research activity. The second macro theme focuses on "institutional versus individual needs" and it tries to capture understanding of the barriers to which participants are subjected regarding their approach to practice. It also studies the implications of adopting unconventional practices and their awareness of the changing environment that motivates and constrains their practice.

Research themes that emerged from the narratives

The research themes that follow emerged from the stories told. They constitute themes that I had not anticipated and which were therefore not contemplated in the original literature review of this research. Yet, they provide deep insights into the participants' narratives of practices. They are thus relevant research data. As I went through the research narratives over and over again I was able to get a better understanding of some of characteristics of the research participants. I was able to understand where they position themselves regarding their scholarly practice, what motivates them, and to an extent, what has triggered such approaches. The narratives also unveiled the importance and awareness of their position within the institutional structure, a reality that can be empowering or disempowering, depending on the individual's situation. Tensions participants face between their online practices and their institution's regulations are also depicted with regards to their philosophies of practice as part of the themes emerging from this research. In this section, I analyse the themes that emerged from the research participants' narratives.

Turning point

As I listened to the accounts of the research participants and wrote my understanding of their stories, a new narrative I had not anticipated started to emerge. Going through my notes and the narrative scripts as I worked on this research analysis, I notice a narrative component that cuts across the majority of the stories gathered for this research. It focuses of the participants' circumstances of life that have informed their career trajectories, and most likely challenged, and often shaped, their approach to practice (a reading of the thick descriptions on page 235 will aid the understanding of this theme). The majority of the individuals I interviewed for this research have mentioned a "turning point" in their lives and careers that seem to have provided them with flexible and pragmatic approaches to practice. This turning point was different in each narrative. Yet, it raises awareness of their tendency to embrace change and to be flexible in their working practices. Research participants reported about:

- moving from industry or practice into academia, as was the case of Anne (RP0), Heidi (RP4) and Luke (RP9);
- wishing to refocus their career from research into teaching, and thus carry out educational research as opposed to applied research, as represented in Hector's (RP6) and Luke's (RP9) narratives;
- changing countries (John, RP1, and Lucy, RP2);
- being embedded in a different team in a different country as part of a visiting fellowship (Maria, RP10) or,
- going through institutional changes and innovations (Lucy, RP2 and Richard RP7).

This makes me reflect on how research participants deal with change in a flexible way. Moreover, it also makes me consider how the Participatory Web, as an agent of change in scholarly practice, seems to agree with their professional values, i.e., carrying out their scholarly practice with the aid of the Participatory Web in order to give meaning to their work and role.

Alex (RP3)

> *Contributing to that recycling of information that you do when you use things like twitter, and that you can spread, but also that you can contribute to - the little projects and the little things that people are doing – if they're keeping a blog or whatever –that you've got something worthwhile to say that's going to add to what they're already thinking, or that's going to help them, or make them think about something that they've not done before. I guess in a way that is an output of your own research, to be able to contribute to what other people are doing, so those are the ways in which it helps me do research.*

Luke (RP9)

> *As an academic you want your work to be disseminated as widely as possible and you want people to know that this is a domain that you are interested in, because you want to be able to communicate with people, and if people don't know what you're doing then you're not going to be able to meet other people who are interested in some of the things.*

Research on behavioural and cultural change highlights the relationship between values and practice (Erez and Earley, 1993; Hunter and Tan, 2006). Hunter and Tan (2006) point out that although values are affected by practices in the formative years, later values tend to remain the same (p. 36). Yet, practices continue to evolve, and they should ideally reflect individuals' professional and personal values. Nonetheless, the coordination of values and practice is not always possible as it is dependent on the contexts in which individuals act (Schwarzer and Fuchs, 1997, p. 259).

A close reading of the narratives of practice used for this study (see Annex 4 on page 235) unveils participants' values regarding their research practice and how they make use of the Participatory Web to materialise their views regarding scholarship in a Networked Society (see literature review section on The present and future of the Information Age on page 29). Although the Participatory Web cannot by itself transform society, it has the potential to facilitate change (Hunter and Tan, 2006 p.2).

Value systems are an important factor in participants' traits and practice, in that their receptiveness to change seems to hint at the need of wanting to make a difference and adapt to the needs of a world in continuous change. This is manifested in the way they carry out their scholarly activity and include the Participatory Web in it, as also noted in the theme regarding "Approaches of practice" presented below.

Polymathic approach

There is a sense of ongoing development in participants' approaches to their scholarly work that is also reflected in the way they use the Participatory Web. The narratives featured in this research present the narrators as individuals who take a pragmatic, flexible, and sometimes even transdisciplinary view towards their work. They seem to be inclined to experiment with new ideas, and explore new lines of research as their interests shift or evolve. They are driven by the curiosity and the need to move with the times. They are, in my observation, scholars with a polymathic approach.

A polymath is someone who holds knowledge in different areas and excels at it. Being a polymath is not purely a question of being but rather the process of engaging in new experiences as they interact and develop expertise in accordance with the world around them. Polymaths adapt to their times and the circumstances in which learning happens and knowledge is produced. A modern polymath is prolific in their practice and approach. The 21st century polymath (Mirchandani, 2010) makes use of emerging technologies to assist in their practice and in the development of new interests. Furthermore, a modern polymath is someone who is not static in their approach to knowledge and professional interests. In the particular case of research, they are rather curious and mobile in their approach to their learning and the areas they research, moving from one subject to the other as their spirit of inquiry shifts to new areas of research. “That is the modern polymath at work - integrating multiple modern disciplines. An AND versus a OR mind-set” (ibid, p. 3).

The notion of the modern polymath was something that came strongly across through the narratives of experience collected for this study. The participants involved in this research displayed characteristics of the modern polymath, either because they had changed subject areas during their career path or their interests in research and knowledge building had evolved as they progressed in their practice and furthered their professional experience. All of them hinted at being extremely flexible in their approach and permeable to change and innovation in their field of research, just like the members of the Republic of Letters were in their time. (see section of The tradition of scholarship on page 15). I illustrate this with example citations from the interviews.

Anne (RP0):

> *Well I suppose my home discipline is information systems and that’s where I teach, and information systems is in itself what you might call a boundary discipline; it sits on the edge of lots of other disciplines (…). Then when I became interested in learning technology I thought that, that was something that I could bring to learning technology. So really I position myself on the boundary between learning technology and information systems, which itself is an edge discipline – Education, computing, information, all of those things. So I’m an edgy sort of person!*

John (RP1):

> *My research interest evolved, I started working on the history of international relations with special reference to Franco-British relations, because I was now living in the UK and I had access to archival sources of relevance, also I had always been interested in the issue of international*

relations. More recently I started working on the history of geopolitics and how I could apply geopolitics to the study of international relations

Heidi (RP4):

My research field seems to be evolving quite a lot, we're doing lots of service evaluation at the moment, but my real interest is around end of life care and people dying, so I'm looking at developing research for that. (…) Also we're looking at more vulnerable groups, so I seem to be reinventing myself all the time, and suddenly I seem to be reinventing myself into somebody who researches into learning disabilities. (…) Some researchers research the same thing for the whole of their career and others are more research whores like me, who think 'this looks more interesting, let's do this'! So I've looked at pain management, I've looked at student nurses' attitudes, and now I seem to be heading towards end of life care and vulnerable groups, including learning disabilities. God alone knows how I got involved in that, and that's where I'm up to at the moment.

Hector (RP6):

I was still primarily a lab researcher, but I wanted to teach. (…) over the intervening 20 years the teaching has grown and grown, and the lab research has now gone completely. And the research that I do now is educational research, which is quite interesting because I'm not in a school of education or in an education support unit. I'm actually in an academic department which is engaged in lab research.

Approaches of practice (epistemology)

The analysis of the research data unveils common values regarding participants' philosophies of practice, to which they seem to have given long and thoughtful consideration:

Anne (RP0):

> *So I think be passionate about what you're doing. If it's not worth doing then don't do it. Well I think that when you're an academic, you know, it's not just your research, it's also your teaching, you sort of want to step outside yourself and think what it is that you are interested in, because if you just let yourself be given jobs to do – you know, you shouldn't be defined by what other people want you to do, you should be always thinking about where you can make a contribution.*

Kanuka's work (2008) stresses the importance of understanding our own *philosophy-in-practice* as it helps establish our perceptions and ways of dealing with our preferred ways of conducting practice (p.92). In those perceptions, the choice or use of the Participatory Web are included. This is visible through the research participants' narratives as reflective accounts of practice. Schön (1983) advocates that epistemologies of practice are based on the idea of reflection-in-action (p.287). As practitioners look deeper into their practice, they operate as researchers-in-practice, being "the practice itself a source of renewal" (ibid, 299), that can be translated into a continuous understanding of their philosophies of practice. Developing that understanding regarding our philosophies "provides us with the ability to understand the consequences of our technological choices" (Kanuka, 2008, p.93) and explain not only what, but also why we take such approach. This aspect is well expressed in the quotes below:

Lucy (RP2):

> *I would rather write a simple blog post, that I know is going to get read by people than a academic article that yes, is going to get me brownie*

points in terms of my promotion, but is only going to be read by a few people.

Heidi (RP4):

I think we need more open access, particularly when we're looking at trying to develop collaborative links with novice, or researchers in developing countries, where they just don't have the money, nevermind the IT infrastructure to get hold of this stuff.

Hector (RP6):

Being immersed in the technologies on a daily basis has certainly influenced the research that I do, because that's now what I'm currently engaged in.

Luke (RP9)

I think open access – that's the way it should be to me – we do all this research and then put it into a journal that 200 people read, and I'm not interested in that, if I'm going to do something I want as many people as possible to read it.

Maria (RP10)

(…) because of these kind of emerging technologies. Without them I wouldn't have this possibility. I would be a completely different researcher. (…) I want to share with other people.

The (non-)neutrality of technology has been extensively discussed. For instance, whereas Jonassen (1996) rationalises the neutrality of technology as mere tools with no impact on the user or the wider world, McLuhan (1986) views the effects of technology as a dialogical transformation in a society in change. Moreover, Chandler (1995) argues that as an explanation of change technological determinism provides a mono-casual answer. It reduces reality to a cause-effect experience without considering the whole context and the complex interactions in which a phenomenon is inserted. McLuhan also asserts that the “medium is the message” (1986, p.9), in that “the meaning of a message is the change” (Boulding as cited by McLuhan, 1986, p.28) that it produces in the wider context. McLuhan concludes that “to behold, use or perceive any extension of ourselves in technological form it is necessary to embrace it” (ibid, p.50). This is exactly what the participants in this study seem to have done. As a result, their philosophies of and in practice evolve as they explore, appropriate, and adopt the technologies available to them to achieve their personal and professional values, i.e., their beliefs regarding their scholarly practice, which are not always shared with their colleagues as the research theme below highlights.

Isolation

Participants in this study see their use of the Participatory Web in the context of their practice as a distinguishing factor when compared to the majority of their colleagues. This theme links with the analysed theme on Identity in that their use of technology becomes a trait that sets them apart from the majority of their peers. This is demonstrated in the quotes below:

John (RP1)

> *I would probably position myself as an outcast.*

Lucy (RP3)

> *I have always felt… I have for the last 2 or 3 years … and I’m very alone in this in the profession.*

Heidi (RP4)

> *In terms of people in my field that are actually using technology for research, can’t think of any off the top of my head apart from me.*

Hector (RP6)

> *I'm working fairly much in isolation as far as that's concerned. Sometimes I do feel quite isolated.*

As pointed out in the Literature review (see Scholarship and the Participatory Web explained on page 38), there have been several studies that support the claim that the use of the Participatory Web in scholarly environments is one that provides its users with new tools and skills, facilitates new environments for sharing and creating knowledge, and raises the profiles of the individuals who participate in such networked environments. The Participatory Web in scholarly environments also provide an opportunity to explore scholarship in a digital environment as highlighted on pages 30 and 43 of this thesis.

This research makes similar assertions regarding the analysis of the themes explored above. However, very few studies have looked at how the Participatory Web can disconnect the individual from their local environment. As the participants of this study hinted at, the Participatory Web can have an isolating effect in that their participation online makes their approach to practice distinctive from the practice of those who are not part of the same online networks. This inevitably also influences their sense of identity as explained above. The quote below highlights the very same idea:

Luke (RP9)

> *There are very few people who get what I do. Technology has very much had an impact on setting me apart from any of my colleagues, but I think even more than that is how I think about research and how I think about teaching as a result of using the technology.*

By participating in such environments and connecting with distributed networks, individuals are exposed to different ways of thinking and practicing. This has an effect on the way they approach practice and helps define who they feel they are (see literature review on

Professional identity on page 42). Moreover, it separates them from the colleagues who are not yet pursuing digital forms of scholarship.

Position/ role

For the participants in this study the role and position they occupy in their institution seems to influence how they conduct their less conventional practice or refrain from doing so.

As we can see in the quotes below, the stage they are at in their careers can influence their approach:

John (RP1)

> *It's [using participatory media] not playing safe (…), but at this stage of my career I think there is a lot more to win from that than to lose. (…) One has been used to a certain way of thinking that is delimiting and one is obviously from a career point of view – has been for a very long time – very self conscious about whether one should take risks or not, but I've gotten to the point where I think well there's a lot more to benefit from taking risks than not taking risks.*

Lucy (RP2)

> *I'm in a position where I can pick and choose what I want to do. One project might be a research project with a university, another project might be off gallivanting, doing something completely different, so I've got the freedom to make a choice about what I do, about what I don't want to do. I'm not a young researcher, I'm not a young academic who's having to fulfill academic and university expectations to get a job and get promotion.*

Richard (RP7)

But I'm also lucky in that I was already a professor when I got into blogging, so in some ways I've reached that part and I've got room to play and explore with my career. I'm in the reasonably privileged position of not having to seek the promotion – I'm not on the promotion ladder.

Participants are aware of the risk their practices pose to their careers and progression in a work environment that is influenced by academic tradition (see sections on Scholarship in the digital age on page 30 and Scholarship in transition: tensions and conflicts on page 31). But they are also aware of what their current position can "let them get away with". As seen in the quotes above, the fact that participants have reached a stage in their career that they are comfortable with taking risks and conducting less usual practices, provides them with an opportunities to try and test practices early career researchers might not consider given the vulnerability of their position at the institution. Maria's quote below illustrates this reality well, i.e., how her position at the institution might stop her from challenging some of the institutional rules, especially those regarding the dissemination of research:

Maria (RP10)

To get a full position in the university, a full fixed position, you need to get credibility, and to get credibility you have to have papers in journals with impact in the citation index.

And so does Richard's comment:

Richard (RP7)

It's quite a dangerous position I think, for academia and scholarship to be in (…) when we bring our new blood in we deliberately say to them, don't engage with any of this new stuff, don't try and change practice, because you won't get recognised, you won't get promoted, so we make them very conservative. Then the only pool of innovation left are the people who've got tenure and who've got promoted, and often they've got *promoted by following a very traditional path, so they're the people who are least likely to engage in stuff. So the pool of people who will be innovative and take these kinds of things on is kind of unnaturally reduced in academia because of the context and the environment that we've set up.*

There are several studies about career progression in academia, with a great majority focusing on gender issues (Foster, 2001; Cullun and Luna, 2006; Thanacoody et al, 2006; Duberley and Cohen, 2010; Barrett and Barrett, 2011). At the time that this study was conducted and written up I was not able to find any studies that correlate career progression with the use of the Participatory Web. Yet, there is some literature on career progression with regards to national research assessment exercises, especially in the UK. For instance, Wagena (2005) claims that the progression of junior faculty is unfairly determined by the number of publications they hold and where they are published, given their limited years of experience in the field. Hooley et al (2010) assert that promotion criteria in the UK are driven by research assessment exercises that emphasise research performance (p.7). Dibb and Quinn (2010) state that "real world trends affect researchers' priorities rather less than might be imagined" (p.326). The authors go on to highlight the growing tension around the issues of scholarly quality and relevance, "whether the seemingly opposing demands of publishing in traditional journals and producing practitioner-relevant research are reconcilable." (ibid, p. 327). Dibb and Quinn's (2010) research is also relevant for this study in that they report about scholars' frustrations regarding individual and institutional recognition of their work (this links back to the theme of isolation, as researchers "expect the REF to assign rather less weight to 'impact' than to more traditional measures of academic outputs" (p.327)).

The reality reported by the research participants regarding career progression prompts the exploration of the next theme regarding the barriers to the use of the Participatory Web in research practice.

Barriers (to one's approach to practice)

In their narratives, research participants highlighted the tensions between institutional expectations and individuals' academic freedom.

John (RP1)

> *There has been a tension between the institutional expectation of what I should be doing and what I should be producing - that is a research monograph on one particular topic – and where my intellectual journey is taking me, which is somewhere that is a lot more fascinating (…) intellectually, something that is a lot more timely.*

This tension becomes even more evident when the institution implicitly and explicitly imposes guidelines to scholarly activity that lead them to the standardisation of their practice. This is particularly visible in formal dissemination of knowledge, as described below:

Alex (RP3)

> *That's basically what they do [write papers and present at conferences]. (…) I think that that's still what's valued, and it's that sort of thing that's recognised and viewed as important.*

The perception of what is valued and acknowledged prevails over new or different-from-the-norm practices and approaches, as they might cost individuals their career progression, as highlighted by the quote below:

Lucy (RP2)

> *I can pick and choose what I do. I can play the university game if I want to, but if I don't want to I don't have to, because things like financially, and career-wise, I can make that choice. But people who maybe are just setting out in their career and they are trying to build a career path as a*

researcher in a university, you are very constrained by what the university expects of you, you know, in terms of you can't get promotion unless you've got 5 articles in a peer reviewed journal and what have you.

In the research participants' perceptive, the need to secure research funding implies that institutional regulations are imposed even more rigidly. At the time this research was conducted, this became a prevalent aspect of UK based academic researchers' narratives, as they reported about the pressure of conforming with the guidelines provided by the Research Excellence Framework (REF):

Alex (RP3)

No matter how much one might want other things to be, it's still like the REF, that's what's dead important to universities still. It's student numbers and fees, all very financial.

Heidi (RP4)

I write until my fingers are numb. Because it's all about publications because of the REF.

Hector (RP6)

The Research Excellence Framework (…) is obviously the university's main consideration.

Yet, the pressure to acquire funding via exercises that vouch for the quality of the research conducted is not unique to the UK. Participants of this study working in other countries felt comparable pressures as similar mechanisms of funding are in place.

Luke (RP9)

The university obviously gets money from the Department of Education for every publication that I produce, but if I publish that article in an open access journal there are very few accredited open access journals, so the university won't get reimbursed by the Department of Education, so the University won't recognise my publication. So there's absolutely no incentive for me, in terms of something coming from the institution, there's no incentive for me to publish in an open access journal.

These research assessments stipulate the research funding allocation to each institution, hence its institutional importance. Several studies have been published about research assessment exercises institutions are subjected to as part of their national research evaluations (Williams, 1998; Talib, 1999, 2001, 2003; Bence and Oppenheim, 2004). In the UK the next research exercise will be conducted in 2014. It is called the Research Excellence Framework (REF) and came to replace the Research Assessment Exercise (RAE), which was held every 4-5 years from 1986 to 2008. The REF is undertaken by the four UK research funding bodies and led by the Higher Education Funding Councils. It aims to assess the quality of research conducted in publicly funded Higher Education Institutions in order to stipulate the research funding that is allocated to each institution taking part in the exercise. Similar exercises are conducted in other countries. For instance, the research assessment in Australia is performed through the Excellence for Research in Australia (ERA). Identical to the REF, it puts a strong focus on journal publications (Halsoam and Koval, 2010). New Zealand also has its own mechanism of measuring research through their Performance Based Research Fund. It differs from the REF in the UK in that it targets individual academic researchers rather than disciplinary groups (Goldfinch, 2003), a strategy they share with other countries, including Spain (Jimenez-Contreras et al, 2003). The National Commission for the Evaluation of Research Activity in Spain goes as far as to explicitly state in their regulations that "preference will be given to those articles which are published in journals of recognised prestige" (ibid, 135). South Africa follows a very similar method of evaluation and rating of research via the National Research Foundation that specifies the list of journals in which researchers should publish their work. In short, such exercises inevitably tend to lead to the change of publishing behaviours in favour of funding (Butler, 2003), as the data collected for this study reveals. Moreover, such evaluations seem to institutionalise research activity (Sanz-Menéndez, 1985), as an exercise that aims at generating funding for institutions rather than promoting new knowledge and debate.

Smith et al (2011) reflect on the threats such exercises pose to academic autonomy given the narrow notions of impact stipulated by research evaluation committees and interpreted by institutional leaders. The Research Excellence Framework in the UK is a good example of this, as presented in the narratives of this study. Bence and Oppenheim (2004) assert that such exercises "distort the patterns of academic publishing" (p.64). They also stifle innovation (Lucas, 2006) and "damage scholarship" (Williams, 1998, p.1081). National research evaluations lead institutions and individuals alike to devise strategies regarding what and where to publish (Talib, 2001; Wellington and Torgeson, 2005; Northcott and Linacre, 2010) instead of seeking alternative channels to extend their influence to different audiences and/or exploit different forms of impact.

Focusing again on the UK case and the REF, it is interesting to note the message institutions send to their researchers. There seems to be the notion that quality of research is directly correlated with the impact factor of the journals where research is published rather than what it is published.

Hector (RP6)

> *The University is completely hung up on impact factor as a means of measuring the research, because it has such great importance in the REF. Things like conferences and publishing in open access, but not impact factor journals – has no institutional recognition. Really the only thing that counts at the present time here is grant income and impact factor.*

This is also interesting in that REF guidelines do not specify the types of journal in which research should be published. Yet there seems to be a push from management to "play safe" and publish in prestigious, high ranking journals:

Hector (RP6)

> *(…) it seems to dilute the scores in the REF. REF has such as corrosive impact on practice, because certainly here we're just completely obsessed with impact factors and grant income as well, as the only way of measuring research output effectively.*

As a response to this, the Minister for Universities and Science, David Willetts, came to reassure researchers and institutions that they should not feel obliged to follow and favour the trend of prestigious journals:

> The instructions to assessment panels are that they must judge on the basis of ***quality, quality, quality*** – ***not location, location, location.*** *So individual researchers can submit pieces of work that have appeared outside the conventional hierarchy of journals, and I am assured by the people running the REF that they will not be penalised for this* (Willetts, 2011).

Nonetheless, this does not seem to be the message institutions are sending to their academic researchers, as they default to the more traditional ways of assessing research and measuring impact. Publications in high rank journals seem to be the priority of Higher Education Institutions not only in countries where this is explicitly stipulated by the research guidelines, but also in countries where this has been a practice with some tradition regardless of guidelines making quality not journals one of the main criteria of assessment. Such is the case of the UK (Extejt and Smith, 1990; Bence and Openheim, 2003). Research in this field has criticised the use of impact factors as a measure of research quality (Coe and Weinstock, 1983; Williams, 1998; Szklo, 2008), as it affects researchers' perceptions of quality and performance (Bence and Openheim, 2005), and choice of journals (Campbell, 2006). As a consequence open practices such as publishing in open access journals, and devising open scholarship strategies are not seen as a priority, but rather as a risk.

Implications (of adopting unconventional practices)

The research participants in this study are conscious of the power structures that preclude them from fully embracing their beliefs as scholars who practice in a digital environment. These limiting structures tend to prescribe the way scholarship is conducted and rewarded. Adopting unconventional practices in academia - those associated with their participation in online environments and the use of the Participatory Web – can, in the perspective of the participants of this study, have negative consequences. The perceptions cited below report on the association that is made between one's online activity and the possible risks linked to it.

John (RP1)

> *It's [using participatory media] not playing safe (…). I actually didn't blog at all about historical research or geopolitics, because I felt it would not be well accepted.*

Although the participants of this study are fully aware of the benefits of including the Participatory Web in their practice, they are also conscious of the repercussions of those practices. These are usually different from the goals set by their institutions, and often not understood by their colleagues. As seen in the analysis of the previous theme, these power structures are embedded in the context of academia. They aim to standardise practice. As a result, they seem to stifle creativity and innovation (Baker, 2007) and impact on career progression.

Lucy (RP2)

> *I was going to make a creative commons license on all my work (…) So I've made that decision. And I made a decision a couple of months ago that whatever publications I do, when I do get around to it, that I follow Terry Anderson's lead and only publish in open access journals, and that*

has huge implications for me, because there aren't many credible midwifery or nursing journals in the open access environment.

Someone (…)they were saying that they haven't got promotion, or haven't got tenure because what they submitted as their research outputs were blog posts and things like that. I don't know I might have the story wrong. But this person is someone that I highly regard, as a leader in this field that we're in, but they haven't been able to get promotion, or a pay rise or something because the university research expectations (…) that just illustrates the power of the university. To be fair, it's not just universities, it's governments saying we'll fund you if you've got x amount of journal articles. So while you don't want to play that game, and you want to push the boundaries, and you want the universities to think about alternative ways of doing things, at the same time you've got to pay the mortgage haven't you? So it's very tricky. But I think things are changing. But there's still a lot of the old boys network that keeping that stuff.

Alex (RP3)

I think what I've realised is the academic community - in terms of career progression – the things that are going to get recognised are those old traditional things, like going to a conference, writing a journal article that no one's going to read. It's those sort of things that the academic community still values the most. I could write the most amazing blog, I could get 5000 followers on twitter, hanging on my every word, but basically if I don't do the traditional things I'm not going to perceived as being successful in my field. So I think, would I do it again? Yes I think I'd do it again, but I'd know that it has to be balanced really. It has to be put into perspective to all the other demands upon your time.

The use of the Participatory Web in research practice is often not valued and or acknowledged at institutional level. Higher Education Institutions are, in the majority, averse to risk. In the current context of research assessment exercises this becomes even more evident, as technologies of participation promote new forms of communication that are extended beyond the control of the institution. Academia is known for avoiding this type of *competitive disruption*, given that they seek to maintain or attain "the power of prestige in the higher education marketplace" (Christensen and Eyring, 2011, p.17) by abiding by external benchmarks, as for example the national research evaluation schemes. At stake is the research funding institutions will receive based on the quality of their research (McNay, 2003). This quality is mainly demonstrated through research outputs such as journal articles. As a result, two topics seem to dominate the debate in academia: "financial constraint and quality assessment" (Thomas, 2012, p.171).

As reported by the participants in this study this seems to be where their leaders are putting all their competitive effort. In order to sustain or enhance their research scores they seem to ignore practices and research outputs that fall outside the scope of their internal strategies to measure quality. Once again, the issues of impact factors and high ranking journals are highlighted as an agent of continuity of practice. It also outlines the competitive edge universities see themselves involved in, a consequence of such exercises (Elton, 2000).

Hector (RP6)

> *Many of the places that I'd actually like to publish my research – many of the open access journals – no impact factor. So anything that I publish in [an open access journal] from the University's point of view doesn't count as research activity. (…) I am viewed – and this phrase has been used – I am viewed as a problem, because I'm not included. I'm a member of academic staff, but I'm not included in the REF.*

Richard (RP7)

What you get rewarded for are journal articles and traditional metrics, so the message often to young researchers is not to bother with all this sort of stuff, that it's a waste of time.

Luke (RP9)

I can say I wrote 15 blogposts and my wiki has grown exponentially and I'm having all this great conversation with people and I'm learning a lot, and they're like 'ermmmmm', so. Unless I'm producing output in a format that the university values they don't look at what I'm doing as research.

Maria (RP10)

Quality has lost a lot of meaning in the last years, with all this stuff about prestige and impact and so on, if you see the papers there's not many quality on them. And the concept of quality research is a bit lost.

As seen in the quotes above this can hamper creative and diverse approaches to research practice as institutions strive to comply with their own interpretation of the rules, leading them to emulate conventional practices. Hence, national research assessment exercises, as forms of accreditation, can be seen as stabilising forces that hinder innovation, since complying with tradition has become "the price of continued accreditation" (Christensen and Eyring, 2011, p.18). In this sense, the Participatory Web and the practices herein developed are regarded as disruptive, thus still rather absent in academia or used to supplant instead of advancing existing practices (ibid).

Curious to see though is the complementary approaches the participants of this study take in order to pursue their own ambitions and ideals of practice. Nonetheless, they are aware of the importance of keeping themselves relevant to the eyes of the institution:

Richard (RP7)

It's very hard to get this kind of stuff into the system. So I'm trying to play both games. I haven't completely abandoned the traditional format, and I hope to do enough of that to satisfy the demands but it's certainly not where my heart is anymore.

Luke (RP9)

I split it [my activity]into formal and informal. In the formal track I make sure I am keeping up with the expectations of the university and what they expect from me, and then my informal track is everything else.

Maria (RP10)

In my case I have to make this kind of double game to survive here, because if I don't stay in academia I cannot make different things. So I want to get my position, my permanent position, and then start deciding what I want to do, and for what I want to write.

This double approach, or *playing the game* as the research participants call it, calls to mind the concept of reverse innovation (Immelt et al, 2009; Seely Brown & Hagel, 2005), as it allows me to conceptualise innovation from the perspective of emerging practices that slowly aim to find a place in established environments. In the case of this research, those emerging practices relate to the context of the digital economy. Reverse innovation is an economic term used to describe new approaches to business implemented first in developing countries and only then introduced in developed ones. In the context of Higher Education, this implies that established institutions need to "reshape their business and management practices" (Corsi and Minin, 2011, p.13) to adjust to emerging realities. If we see the university from this perspective, it would be fair to say that this makes the participants of this study reverse innovators rather than mere disruptors of established practices. They are trying to transform scholarly practice by setting the example with different practices that indeed provide new opportunities. Yet, these same practices also carry risks given the structures on which their institutions currently operate.

This leads me to explore the following themes that relate to the research participants' awareness of the changing environment in which their practices are developed.

(Awareness of) The changing environment

As anticipated by the analysis of the previous themes, the research participants featuring in this study are aware of the aspects that mark the context of academia. And they are equally conscious of the external factors that motivate and shape the structures of the institutions in which they work. At the time this research was conducted, the world is going through a major financial crisis that is affecting society in general. Cuts have been felt almost everywhere, including in health and education services. Higher Education faces a difficult time with funding cuts both in teaching and research (Eggins and West, 2010). Hence, the increasingly importance of doing well in the national research assessments as these exercises represent a very important stream of funding into universities. The participants' narratives represent that well, especially those who work in British institutions given that the Research Excellence Framework (REF) is approaching. Hence, the pressure to do well in the exercise is very present in their accounts. Yet, this is not the only pressure they currently need to deal with. As teaching and research funds get scarcer there is also the concern of following research trends, as these might be able to make up for the loss of funding:

Alex (RP3)

> *I think with a change of government there's going to be less in terms of social exclusion, so if I'm there in a year's time I wouldn't expect to be doing the same kind of research then as we're doing now, but like I say it's going to be more dictated by finance than anything else.*

The constrictions imposed by a frail economy creates fiercer competition between scholars (Eggins and West, 2010), and innovative practices are likely to be overlooked as a new opportunity, as the focus will be on the economic sustainability of higher education institutions.

Hector (RP6)

> *The reality is we're in this massive funding crisis, which is really going to dominate everything for the next 5 years or so, and my concern is that the technology will play second fiddle to just the financial aspects of institutional budgets, for the next few years, which is a great shame.*

Nonetheless, the participants of this study balance this perspective with the outlook of parallel practices that are slowly emerging in academia. There is a clear push for collaborative research that, as seen above, is an area where the Participatory Web plays an important role (see Forms of association on page 39).

Heidi (RP4)

> *The lone researcher is increasingly a dying beast. Journals are more interested in papers that have got joint authorship with other disciplines or other universities, or other environments. (…) When you start looking at where the research funding is coming from, from people like the research councils, they're very interested in, and very open in, multi-centre collaborative research.*

There is also the notion that new means of dissemination of research are starting to emerge, and that eventually they will acquire institutional recognition given that key funding bodies such as the European Commission, JISC and research councils are starting to push that agenda forward as highlighted in the literature reviewed for this thesis (see

Accessibility to research: new trends on page 34 and Open access on page 35). There is a need to make publicly funded knowledge available to the wider public as a common good.

Maria (RP10)

> *The open journals and the open form (…) the [closed] paper is indeed condemned to die. Because when you write a paper it is good today, probably tomorrow or in two weeks, or in two months, but not in a year. In a year is old. In a year is primitive, so when you're reading a journal is not one year, is three years old, so these data are rubbish, so you don't need it. So definitely the knowledge is moving in blogosphere, the knowledge is moving in twitter, is moving in blogs, is moving in very collaborative, and sharing, and dynamic formats. Is not moving in papers.*

As reminded by Chan et al (2011) the distribution of knowledge continues to be governed by the standards of developed countries, where academic journals were first used as a conduit for the distribution of research findings (see The tradition of scholarship on page 15 and Dissemination and publication of knowledge on page 17). And as such these long established systems of distribution of knowledge are "increasingly inappropriate in the age of networked scholarship". (ibid, p. 1). Yet, Higher Education Institutions are bound by higher stakes where digital scholarship is not explicitly contemplated and therefore not institutionally recognised in its own right[14]. Although academia is increasingly aware of the needs to open up its knowledge safes through the implementation of research repositories, they only do it to the extent that it does not damage their greater scheme of acquiring funding through the national research assessments. As a result, the self-archiving of publications is encouraged, often in times from an open access green route. For this research, I can only speculate that the active promotion of digital scholarship is thus avoided because it is not yet in line with the goals of the institution as they do not seem to map onto external structures that sponsor higher education. I will discuss this further as a future line of research in Chapter 6.

[14] The REF is a good example of this. Although the REF guidelines do not specify prestigious journals as a target of quality, and even briefly mentions online publications, the general understanding throughout the years is that higher impact journals are a proxy of quality. As a result this has "distorted the pattern of academic publishing"(Bence and Oppenheim, 2003, p.64)

Summary

In this chapter I have presented the data analysis for this research project. I described how I analysed the research data, making use of hermeneutics as a tool for analysis. I outlined the different stages of analysis that enabled me to identify relevant research themes. Stage 1 consisted in the reconstruction of the interviews into research narratives that I then offered back to the research participants for their further comments. In Stage 2 I made use of the interview transcripts in order to explore the research themes inspired by the literature review as well as to identify emergent research themes. Stage 3, which will be presented in Chapter 5 applies the Bourdieuian lens to the research themes, a need that emerged from the research analysis itself given that some of the themes that emerged from this research needed further explanation than that that the literature that was initially reviewed for this thesis could offer.

Before presenting the research themes in detail, I introduced the research participants via vignettes in order to achieve the goals of transparency that underpin an interpretative-critical research paradigm. Thick description of research participations' narratives was also provided via links to the relevant appendix. In this vein, I also sought to describe the contextual backgrounds of the research participants' narratives as they emerged through the narration of their lived experiences.

The themes of this research were divided into two sections: research themes inspired by the literature review, and those emergent from the research narratives. Each theme was analysed in connection to relevant literature, as depicted in chapter 2. Whenever necessary, new literature was also brought in to provide a deeper understanding of the phenomenon under study. This was more prevalent in the analysis of emergent themes provided by the collected data.

In the next chapter I will discuss the findings of this analysis through a Bourdieuian lens. This lens allows me to analyse the power relations and conflict associated with the changes in scholarly practice stimulated by the Participatory Web.

Chapter 5 - Exploring landscapes of conflict: a Bourdieuian perspective

Introduction

The previous chapter presented the research themes that emerged from the data analysis in connection with relevant literature. This chapter discusses the research findings in relation to Bourdieu's selected thinking tools introduced in Chapter 3. This enables me to develop understanding of the research narratives through a different lens, address research participants' narratives of conflict, and thus contribute with new insights. Figure 8 illustrates when and why the Bourdieuian lens was introduced. Bourdieu's thinking tools were used for Stage 3 of the analysis in order to explain the issues that the literature focusing on online practices, as reviewed in Chapter 1, could not answer, namely those of power relations and conflict between individual practices and institutional expectations. Atkinson's (1998) reflections on the process of conducting narrative inquiry assured me that this was the path to take, given that in a narrative inquiry context it is often expected that "the theory that is appropriate to the specific story will flow from the story itself. This also means that the theoretical frame of reference emerges anew with each new life considered" (p.66). Bourdieu's thinking tools provided a meaningful research lens for this research as explained in the sections below.

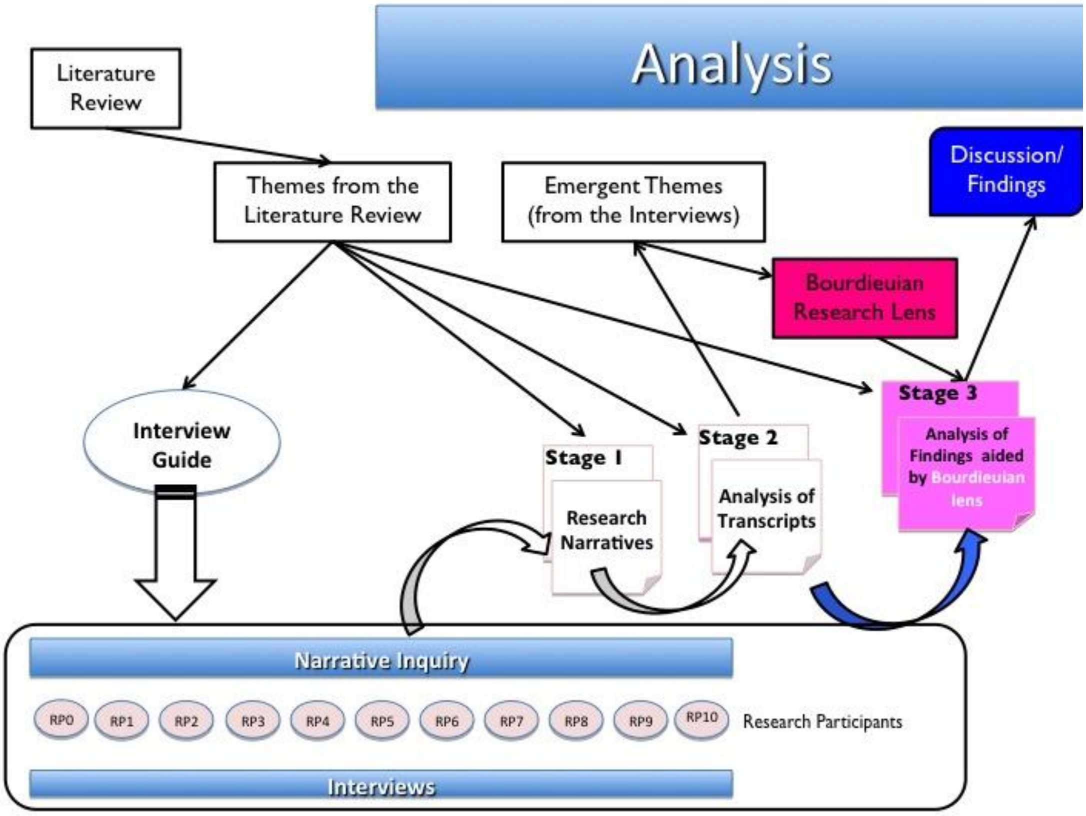

Figure 8 - The introduction of the Bourdieuian lens to aid stage 3 of analysis

A Bourdieuian lens

The need to introduce a new layer of understanding regarding the collected data emerged from the research narratives themselves. As participants discussed their insights into their professional realities through their personal truths a very strong theme started to emerge. This theme deals with the power relations and conflicts participants featuring in this study face when dwelling on the dilemma between conforming to the norms of their institutions and not wanting to lose sight of where their intellectual journeys have taken them. In part, this dissonance between individuals' practice and institutional regulations is related to their use of the Participatory Web. The epistemologies of practice research participants develop through their participation on the Participatory Web can tend to disengage them from institutionalised practices. This is particularly visible when it comes to their research practice. In order to get a better grasp of this phenomenon, I sought additional literature that would allow me to position research participants' narratives under an additional research lens. In my search for relevant literature, I found the work of Pierre Bourdieu, as presented in Chapter 3 (see Introducing the Bourdieuian research lens commencing on page 77).

Bourdieu's work represents a well-founded interpretation of social (re)production and change. His key concepts "offer an ideal framework for theorizing about the ways in which social, cultural, and material forces intersect to produce particular types of social action" (Elam, 2008, p.18), such as for example, working practices. In discovering Pierre Bourdieu I engaged in debates that aim to transcend the understanding of practice as mere structured patterns of behaviour, or simply its opposite, i.e., free agency. Bourdieu's "work invites, and even demands, argument and reflection" (Jenkins, 1992, p. 11). As Bourdieu reminds us:

> *Knowledge does not merely depend (…) on a particular standpoint an observer "situated in space and time" takes up on the object. The knowing subject (…) constitutes practical activity as an object of observation and analysis, a representation* (Bourdieu, 1977, p. 2).

Bourdieu's social theory is also marked by his "obsession with reflexivity" (Wacquant and Bourdieu, 1992, p.36). In the context of Bourdieu's work, reflexivity is translated as "the objectification of objectification" (Jenkins, 1992, p.61), in that both the contributions of the researcher and the researched are submitted to the critical and unfamiliar eye. This implies that the researcher's interpretation of a given phenomenon must also include the participant's experiences from their own point of view. Reflexivity is thus achieved through a shared effort of making visible the "'unthought of' categories, perceptions, theories, and structures that underpin any pre-reflexive grasp of the social world" (Deer, 2008, p.202). Reflexivity refers to a shared understanding of reality between the interviewer and the interviewees. The guiding principle of reflexivity is presented in this research project as I combined my interpretation of the narratives collected via the interviews with those of the participants. By transforming the content of the interviews into research narratives I negotiated my interpretation of the social phenomenon on which this study focuses.

The research findings presented in Chapter 4 - Narratives of practice – understanding the Participatory Web in the context of higher education(commencing on page 92) highlighted the use of the Participatory Web for collaboration and networking purposes, research participants' approaches to research practice, and their sense of identity in the context of their use of the Participatory Web. The findings also unveiled the conflicts between institutional expectations and individuals' practices and stressed the tensions between personal and institutional goals. The sections that follow discuss the findings of this research through Bourdieu's thinking tools (see Introducing the Bourdieuian research lens on page 77). The Bourdieuian analysis helps to explain and integrate the previously identified research themes (see Thematic analysis commencing on page 107) into Bourdieu's logic of practice.

Forms of capital in academia

Academia, as a social space, presents different forms of capital. As depicted in Chapter 3, Bourdieu studied forms of social, cultural and economic capital (see Forms of Capital on page 80). In the social space the different forms of capital can interact to produce symbolic capital.

Social capital is "linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu, 1986, p.47). *Social capital* is a relevant "thinking tool" when studying research participants' practices with the Participatory Web (see Approaches of practice on page 125) because it reveals its support structure, i.e. their Personal Learning Networks. The research participants in this study rate their *social capital* highly. They see the networks and communities in which they participate as both a cause and influence of their changing practices. This is present throughout research participants' narratives of practice and is also analysed in Chapter 4 under the research theme Online participation (and its forms of association) on page 108.

These networks foster and support novel forms of working that institutions are not yet ready to acknowledge. *Social capital* as "collectively-owned capital" (Bourdieu, 1986, p.51) has the ability of strengthening research participants' dispositions and approaches to scholarly practices. The development of social bonds, mutual support and partnerships via the Participatory Web is often converted not only into shared practice, but also shared identity (Brough et al, 2006; Jiagan and Carroll, 2009). In the case of this research, research participants' evolving sense of professional identity derives from individuals' participation online (see (Sense of) Identity research theme on page 115). It sets research participants apart from the colleagues that do not share the same *social capital*, and thus the same concepts of scholarly practice. The reproduction of *social capital* as a form of professional identity also helps understand how research participants' *habitus* form and evolve, and/or differ from those advocated by their institutions. Their online *social capital* can, in this context, encourage the development of *habitus* that may tend to resist the *field*.

Important for Bourdieu is also the notion of cultural capital which

> *can exist in three forms: in the embodied state, i.e. in the form of long-lasting dispositions of the mind and body; in the objectified state, in the form of cultural goods (pictures, books, dictionaries, instruments, machines, etc.),... and in the institutionalised state, a form of objectification which must be set apart because, as will be seen in the case of educational qualifications, it confers entirely original properties on the cultural capital which it is presumed to guarantee. (Bourdieu, 1986, p.48)*

Cultural capital, along with *economic capital* is also present in this research through the funding pressures to which Higher Education Institutions and researchers are submitted. *Economic capital* can be understood as material wealth, and in conjunction with the other forms of capital, it has a determining effect on how the *field* operates. The *field* as a site of tension not only fights for the acquisition of capital, but also for the meanings the different forms of capital assume within the contexts in which the *field* operates at a given time. For instance, in the context of the national research assessments, Higher Education Institutions can be seen as social *fields* fighting for *symbolic capital*. The performance of Institutions in the assessment will, in part, inform the maintenance or acquisition of their new *economic capital* and consequently effect the accumulation of *cultural capital* accordingly. Their reputation, a form of *symbolic capital*, will inevitably also grow within the context of Higher Education Institutions. In Chapter 4 this tension was analysed with regard to the following research theme: Communication/ dissemination of knowledge (commencing on page 112) where research participants reported about the stress institutions place on doing well in the national research assessment exercises. This institutional goal does not usually match research participants' wish to push the boundaries of research practice with the use of the Participatory Web.

From a Higher Education Institution's point of view *symbolic capital* can also be translated into contextual and social understandings of prestige and power. The *field* is thus forced to act in ways that enable the reproduction of *symbolic capital* in order to acquire *symbolic power*. This was widely expressed in research participants' narratives, in that their institutions support more conventional practices, such as the publication of research in high impact journals, instead of promoting modern forms of research scholarship. As reported in Chapter 4 (see Barriers (to one's approach to practice) on page 132) such institutional approaches aim to ensure the maintenance or improvement of their institutional status quo.

In short, forms of capital are always in interaction with *habitus* and *field*, as the sections below will demonstrate.

The habitus of digital scholars

The concept of *habitus,* as presented in Chapter 3 (see page 79), is a system of dispositions with a past, present, and also a future as individuals' strategies of practice are continuously developing within the constraints and conditions of their existence and personal trajectories (Bourdieu, 2000, p.146) (see research theme on Turning point on page 120). Hence, *habitus* justifies and produces social actions and practices (Bourdieu, 1990, p.54) in a given context and time.

The scholars interviewed for this research project reported about the role the Participatory Web has had on their scholarly practice, with a particular emphasis on research practice (see Overview of the role of the Participatory Web in scholarly practice on page 116). It was clear in the participants' narratives that they do not restrict their activity to the reproduction of their institutions' structures and regulations. They tend to build on those structures by inputting their own perspective on it. Sometimes they may even oppose the institutional structures. Such attitudes reflect their *habitus*. As expressed in their narratives, research participants have different approaches to realising their vision regarding their research practice. For instance, Lucy and Richard have committed to only publish in open access because their position or role within their institutions allow them to make such decisions (see Position/ role commencing on page 129). Maria and Luke, on the other hand, opt for playing a "double game" that allows them to remain relevant within the institution at the same time they pursue their own professional values regarding the way they research.

Research participants reveal a propensity for innovative practice that is translated into their use of the Participatory Web and justified by their intellectual journeys (see Online participation (and its forms of association) commencing on page 108). Their participation in online environments has a changing effect on their approach to practice given their convergence with other like-minded individuals. This, *per se*, makes the Participatory Web a very attractive environment to the participants of this study. It enables them to develop collaborative links and identify synergies that they seem to lack at local and institutional level. Moreover, their dispositions are thus confirmed and reinforced by the practices and approaches of their online peers, their *social capital*.

From the perspective of the participants the Participatory Web constitutes a very important tool and means of communication through which they conduct their practice in whichever way they wish. Collaboration is a key aspect of academic researchers' practice and one that is not regulated at institutional level. Hence, scholars are left to decide through which means their collaborative links are established and maintained. To the participants of this research, this means free rein with the use of the Participatory Web. It means creative and innovative thinking applied to practice. It also means that their *habitus* is in full swing. As Bourdieu (1990) reminds us:

> *the habitus makes possible the free production of all the thoughts, perceptions and actions inherent in the particular conditions of its production – and only those (p.55)*

In the context of this research, the Participatory Web is a channel where collaborative ventures are freely established because no restrictions as to how collaboration is developed are imposed or regulated institutionally. Hence, participation online as a form of collaboration meets the conditions of its materialisation. All research participants reported about the potential of the Participatory Web for collaboration and networking. Yet, the same cannot be said about another very important component of research practice, that of dissemination of research outputs, because

> *the experience of a world that is taken for granted presupposes agreement between the dispositions of the agents and the expectations or demands immanent in a world in which they are inserted* (Bourdieu, 2000, p. 147).

However, this is not the case of the participants' of this study. On the contrary, research participants' *habitus*, which are being strengthened by their participation online and the connections that are herein established, i.e., their *social capital*, lead them to question their institutional world and the structures on which it is based. Thus, the *habitus* of digital scholars seem to be out of synch with institutional structures, the *field*. The section below explores this aspect in detail.

The field of academic research

In order to understand social phenomena Bourdieu sought to make sense of the social spaces, or *fields*, in which social agents perform a designated role according to the position they occupy in it (see explanation of Field on page 81). *Fields* can be seen as spaces of struggle that have "their own rules, histories, star players, legends and lore" (Thomson, 2008, p.69). Compared to a game, *field* works "in terms of relations" (Bourdieu and Wacquant, 1992, p. 96), and is therefore understood in interdependence with the forms of *capital* and *habitus* that the different agents bring into the social space. *Field* is also perceived in relation to the positions agents occupy in a social space and the rules associated with such positions. This makes *habitus* conflict, agree, or compromise with *field*. Important to this research is also the understanding of *field* as a structuring structure that is capable of changing and adapting itself to the circumstances of a specific time and context.

The research narratives featuring in this study demonstrate that academic research, as a sub-*field* of academia, is currently dominated by the rules and structures that rate and regulate academic research practice not only locally, but also nationally and internationally. The participants of this study, who are social agents in the academic *field,* report about the strong contrast between their academic dispositions and expected forms of production of academic work, in particular research (see Barriers (to one's approach to practice) on page 132). They see the *field* as restrictive of their creative and innovative input. This is especially felt in the context of the expectations that are put on them regarding the dissemination of research findings. Whereas institutions tend to support the communication of research through conventional outlets such as journal articles, as reported via the participants' narratives, scholars actively engaged in the Participatory Web tend to adopt practices that may conflict with those endorsed by the institution. Digital scholarship practices transform scholarly *habitus* (see Overview of the role of the Participatory Web in scholarly practice on page 116). The Participatory Web exposes individuals to other forms of communication and the dissemination of knowledge that the *field* of academia has not yet officially recognised and valued. This difference between agents' dispositions and the structures in which they operate "expresses itself both in directly economic and political antagonisms and in a system of symbolic positions and oppositions" (Bourdieu and Passeron, 1977, p.204).

Academic institutions as *fields of power* follow rules (Bourdieu and Wacquant, 1992, p. 98) that aim to set a structure for agents' actions. And yet, as the research data shows, the *field* not only limits itself to follow the rules imposed externally; it creates additional internal norms that aim to ensure the reproduction of their institutional goals. This is particularly evident in the messages institutions send to their staff members regarding the types of research outputs they expect to be produced as well as the location of where such outputs are supposed to be published. Although, in the majority of the cases analysed, the external rules set for the *field* of academic research do not specify where research should be published, institutions have reportedly developed their own regulations about this matter in order to ensure that their *economic* and *symbolic capital* is not compromised (see Barriers (to one's approach to practice) on page 132). In light of the current national research exercises, and the global economic crisis, this kind of institutional pressure is even higher. The research narratives collected by this research project highlighted this point very strongly (see Implications (of adopting unconventional practices) on page 137). Institutional rules are created to support and promote the aspirations of the *field*. Bourdieu calls these institutional rules the *field of doxa* (Bourdieu, 1972, p.169) that eventually becomes a collective belief with which social agents are asked to comply. *Doxa* is thus a form of domination. In the context of this research this is represented by the "myths" institutions create around research publications in an attempt to regulate research practice and reproduce the *field's* expectations. This is evident in the research participants' accounts regarding the type of journals in which they are expected to publish and the kind of research outputs they should produce (see Implications (of adopting unconventional practices) on page 137).

Doxic thinking opposes heterodoxy in that it manifests itself through symbolic censorship. This is clearly expressed in the narratives collected for this research. Participants report about feeling coerced into research practices that no longer match their epistemologies of practice. Their interaction with the Participatory Web presents them with new forms of working and thinking which inevitably inform their practice tendencies. For instance, their exposure to and participation in the open access movement transform their views of scholarship. Moreover, it sets them apart from the collective belief as to how scholarship, with a particular emphasis on research practice, should be conducted. It thus isolates them from the majority of their academic peers (see Isolation on page 127). The *field* promotes doxic thinking in order to exercise control over the social agents that perform within the sphere of the *field*. In doing so it strengthens its position and maintains its power. As a result, participants, as social agents in the *field* of academia, face the internal conflict between keeping a relevant position in their institutions or following their evolving approaches to practice. This is, for instance, exemplified by the decisions they have to make regarding publication of research outputs. Research participants must decide between publishing their research in prestigious journals that follow closed publishing conventions or making their work accessible via open access journals. The more that research practice is regulated – as is the case of the dissemination of research – the more research participants feel torn between structure and agency, i.e., between *field* and *habitus*. The more the *field* reproduces itself into individuals' dispositions, the less scope it presents for innovative and creative practice. As Bourdieu (1998) reminds us

> *The professionalization [of academics] and the conditions required of those who want to make a career in [academia] increasingly exclude inspired personalities (p.5).*

Nonetheless, the cases of practice investigated in this project show that the opposite can also happen. *Doxa* can be questioned and can thus lead to changes in the *field*. Yet, changes in the *field* can only be conducted by its social agents insofar as they manage to remain relevant in the *field* they aim to change. In this sense, the participants featured in this study are also agents who aim to promote change by questioning and challenging the *field's* doxic thinking with their practices (see (Awareness of) The changing environment on page 142).

Modes of domination vs practices of resistance

Changes in practice and in the social order are core to the work of Pierre Bourdieu. Throughout his career he attempted to develop a critique of the structures that enable history to move into the present under the excuse of the past, i.e., continuity and tradition.

In his last lecture, Bourdieu described his work as being a kind of "auto-social analysis, as a way of making sense of the social forces which had shaped his life trajectory" (Grenfell, 2008, p.12). Bourdieu's work aims to disclose the power structures that legitimate given practices through hidden processes and intentions. Bourdieu called these power structures *symbolic violence* (see Symbolic violence on page 82). He defines it as:

> *(…) the gentle, invisible form of violence, which is never recognized as such, and is not so much undergone as chosen, the violence of credit, confidence, obligation, personal loyalty, hospitality, gifts, gratitude, piety – in short, all the virtues honoured by the code of honour – cannot fail to be seen as the most economical mode of domination, i.e, the mode which best corresponds to the economy of the system.* (Bourdieu, 1977, p.193)

In an attempt to ensure coherence and stability, the *field* devises mechanisms that aim at the reproduction of the social space it intends to create and maintain. In the case of Higher Education Institutions this is seen and felt through the norms and regulations that define academic researchers' practices, their positions and roles in the institution, and also their identity and reputation. The national research exercises can, in this context, be interpreted as mechanisms of *symbolic violence* that aim to reproduce Higher Education's *logic of practice.* The same applies to Higher Education Institutions' interpretations of such exercises and the strategies they develop internally as their response to maintaining or boosting their status quo. At stake is their position (of power) in the Higher Education Institutions' hierarchy. Hence, the more effective those mechanisms are in ensuring the (re)production of *symbolic capital*, the more successful the *field* is in shaping social agents' dispositions, and "the greater is the field of doxa" (Bourdieu, 1977, p.166). Yet, domination does not occur in a linear or predictable fashion. *Field*, as a structuring structure, is not totally closed to change and influence. Social agents' *habitus* can have an impact on the *field*.

Research participants in this study demonstrated through their narratives of practice that they have developed an academic *habitus* that diverts from the expectations of the *field,* in this case, Higher Education, specially regarding research practice (see Overview of the role of the

Participatory Web in scholarly practice on page 116). This can be attributed to their participation in social spaces and exposure to practices that differ from those they traditionally encounter in their workplaces. Research participants' engagement in the Participatory Web produces behaviours that tend to satisfy the interests they share with their distributed networks rather than replicating the *field*'s expectations. The *field* is, in this case, less effective in configuring research participants' dispositions because their *social capital* plays a supportive - almost antagonist to the *field* – role in reaffirming their *habitus*.

Nonetheless, research participants also showed awareness of their need to maintain relevance in their institution. This implies following some of the *field* rules, as the environments and practices they encounter within the Participatory Web are "too different from the one to which they are objectively adjusted" (Bourdieu, 1990, p.62). As seen in Chapter 4, the analysis of the research narratives reveals that research participants are aware of the Barriers (to one's approach to practice)(see page 132) and Implications (of adopting unconventional practices) (see page 137) regarding their Approaches of practice (see page 125). The *field* asserts power over agency in order to ensure the stability of its structure. Individuals cannot overcome this opposite force on their own, because

> *There exist relatively autonomous fields [that], functioning in accordance with rigorous mechanisms capable of imposing their necessity on the agents (…) [aiming] at the domination of individuals, a domination which in this case is the condition of the appropriation of the material and symbolic profits of their labour* (Bourdieu, 1977, p.184).

This leads participants to take a practical approach as to how they combine conventional and innovative practices, i.e., how they comply with the rules of the *field* without losing sight of modern approaches towards which their dispositions lean. In this sense, many of the research participants either explicitly define themselves or hint at their approach as "double gamers" or individuals who "play the game"; a strategy that allows participants to slowly implement cultural changes to practice while they manage to remain relevant within the institution so they can be the catalysts of that change. This is illustrated by the research theme concerning research participants’ awareness of the Implications (of adopting unconventional practices) commencing on page 137). *Habitus* is in this sense driven by their *social capital* and moderated by the *field*. The interplay between the three “orients [research participants’] playing strategies” (Bourdieu, 2000, p.215).

Through the telling of their narratives of conflict (between *habitus* and *field*), research participants defined themselves (see research theme on (Sense of) Identity on page 115). The structuring and structured structures that inform the context of practice of the research participants determine their sense of identity in relation to their peers, their institutions and their networks. Whereas their active involvement in the Participatory Web is highly regarded by their online networks and communities of interest (see Online participation (and its forms of association) on page 108), their institutions do not confer the same value to their participation online. Their institutional peers do not tend to share the same enthusiasm either, nor do they have the same understanding of the benefits of conducting digital scholarship (see research themes on Communication/ dissemination of knowledge on page 112 and Barriers (to one’s approach to practice) on page 132). This can be attributed to the “principle of the differences between individual *habitus* [that] lie in the singularity of their social trajectories” (Bourdieu, 1990, p.60).

The Participatory Web has become a central component of research participants’ practice as a result of their intellectual journeys. Their socialisation into the Participatory Web has set them apart from the majority of the social agents operating in the same *field*, in that they have developed epistemologies of practice that differ from those of their colleagues, as explored in the research theme on Approaches of practice (see page 125). Individuals’ professional identity is engendered in their *habitus* and reflected in their practice. And it can, and often does, contrast with the *field* (see (Sense of) Identity page on 115).

The exercise of *symbolic violence* by the *field* is thus justified by its need to dominate, maintain, or restore power to its structure. *Symbolic violence* is utilised as an invisible mechanism of coercion by institutions that use research assessments exercises as a pretext to regulate practice. In this process of asserting power, individuals are reminded of their positions in the *field*, and their dispositions might be affected as a result of it. As Bourdieu (1990) asserts

> *Strategies aimed at producing practice 'according to the rules are one among other type of officialization strategy, aimed at transmuting 'egoistic', private particular interests (notions which can only be defined in the relationship between a social unit and the unit which encompasses it at the higher level) into 'desinterested', collective, publicly avowable, legitimate interests* (p.109).

Bourdieu (1977) also conceptualises *symbolic violence* in the context of different forms of *capital* that can be translated into symbols of prestige (p.180). Participants of this study suggest that expectations of the institution towards their research practice and derived outputs are more directed at their acquisition of funding and success in the national research assessment exercises than on the development of new knowledge and modern approaches to practice. For the research participants this represents a clash with their ideals, values and purposes of engaging in scholarship in the context of the digital economy and a networked society.

The dilemmas of the digital scholar

Bourdieu aimed to bridge the gap between theory and practice. In an attempt not to make it two separate entities, Bourdieu used practice and theory as

> *mutually generative ways and means of collecting data, analysing it and developing explanations which lead to an understanding of the object being investigated* (Grenfell and James, 1998, p.155)

Having worked in the context of digital scholarship myself, I have often felt the distinction between theory and practice of (digital) scholarship production, i.e, the difference between new theories being produced in the context of the emergence of the Participatory Web and the practices that continue to predominate in the academic field. In this section, I aim to reveal this (dis)continuum, bringing to light the dilemma that those who see themselves as digital scholars face in their professional practice. I will continue to draw on the work of Bourdieu to illustrate this point.

The promise of the Participatory Web

I started this research project by looking at relevant literature in order to develop a clear understanding of scholarship throughout the times and eventually link scholarship to the area of emergent technologies. This research project puts the emphasis on research as the element of scholarly practice it aims to study. The journey of finding relevant literature revealed the scarcity of research in this sub-area of knowledge. I gained access to a greater wealth of published research regarding digital scholarship, mainly from a teaching and learning point of view, as presented in Chapter 2 (please see page Chapter 2 - Literature review commencing on page 12). This led me to identify an imbalance in research efforts to understand the different components of scholarship, research being one of them. It also informed me where the concerns and priorities of research entities in commissioning new knowledge mainly are. This per se constitutes a gap in theory and in trying to link new knowledge to current practice.

As I noted in Chapter 2 (see Scholarship in the digital age on page 30) national and international bodies have been mainly concerned with the implementation of emergent technologies in the classroom. As a result, most Higher Education Institutions have re-formulated their Teaching and Learning Strategies to meet these standards (McIssac, 2011). Yet, the same vision, and consequent pressure, has still not been officially felt in the area of research practice. This allows institutions to default to more conventional ways of producing, communicating, and assessing their research capacity. By not putting the same stress on the use of the Participatory Web for research practice as has been done in Teaching and Learning, Higher Education Institutions manage to keep research activity conforming to long established conventions. However, scholars who have fully embraced the Participatory Web as a form of practicing scholarship of discovery (Boyer, 1990), i.e., research, feel the frustrations of having to differentiate their approaches between teaching and learning and research. This develops a sense of disconnection in scholars who have developed new forms of working as part of their active engagement on the Participatory Web.

Seen from a Bourdieuian perspective, the Participatory Web is starting

> *heretical traditions of an institution based on a break with academic routine, and structurally inclined towards pedagogical and academic innovation, [that] leads its members to become the most vigorous defenders of all the values of research, of openness to abroad and of academic modernity.* (Bourdieu, 1990, p.111)

However, the vision of the Participatory Web as a tool for innovation and modernisation of research practice can only be effectively implemented if it gets full institutional support, and it is thus integrated in their strategic vision for all areas of scholarship, of which research practice is one of them. Otherwise, Institutions, as well as external regulatory bodies, will keep on devising strategies that ensure the continuity of practices they recognise as respectable academic *habitus*:

> *Orchestrated strategies of reproduction (…) contribute effectively to the preservation of [the institution] because they are the product of the sort of social conservation instinct that is the habitus of the members of the dominant group.* (Bourdieu, 1990, p.150)

In this vein, it is crucial that key stakeholders working at strategic level are aware of the potential and the effects the Participatory Web has on the research practice of scholars. For instance, there is a need to officialise the role of the Participatory Web in the context of research and practice, and actively:

- Advocate open access gold routes, so that academic researchers have control over their publications and are enabled to extend their funded research to relevant beneficiaries in sustainable ways

- Acknowledge the Participatory Web as a conduit of research activity where ideas are forged, collaborative links established, and discussions extended beyond the scholarly circles in order to make research accessible and relevant to different publics
- Promote digital forms of research engagement that aim to benefit and influence both the activity of academic researchers and of the publics with which they interact
- Include the Participatory Web as part of researchers' professional development plan as a form of supporting the modernisation of their practice
- Encourage the use of the Participatory Web as a component of innovation in their career appraisal

Only then can we bridge the divide that currently exists between practice and theory to improve Higher Education policies and the national and international benchmarks that currently regulate research activity.

The current logic of practice in Higher Education

This research inquiry has contextualised research practice within the context of Higher Education and the current changing environment in which it is placed. For the last decade digital technologies have started to permeate the working practices of knowledge workers. Although their influence in the area of research practice is still not mainstream, the affordances provided by the emergence of the Participatory Web as a conduit of communication and construction of new knowledge are starting to change research practice. However, its impact is still not great enough to make the use of the Participatory Web for research purposes an established practice. With the Participatory Web being a recent phenomenon and Higher Education Institutions enjoying a long established reputation regarding their conventions and habits, it is not easy to transform the practices that have characterised the production and dissemination of academic knowledge for centuries.

However, and despite the traditions that distinguish academia, Higher Education Institutions are not static structures either and the individuals that operate within those structures have a role in transforming those long established practices.

This research has focused its study on a group of academic researchers who, having been exposed to the use of the Participatory Web, have developed approaches to practice that tend to contrast with those supported by their institutions. On the one hand this creates tensions and conflicts between institutions' established structures and individuals' agencies; on the other hand, it generates new approaches to practice which aim to penetrate academic structures in the long run.

Figure 9 below aims to depict the research findings of this research through the Bourdieuian lens. In so doing it highlights the Higher Education's current logic of practice (see page 83 for further explanation regarding Bourdieu's logic of practice) in the context of the social, cultural, political and economic environment in which it operates. The Bourdieuian lens is also explained in relation to the research themes used for the analysis of this research.

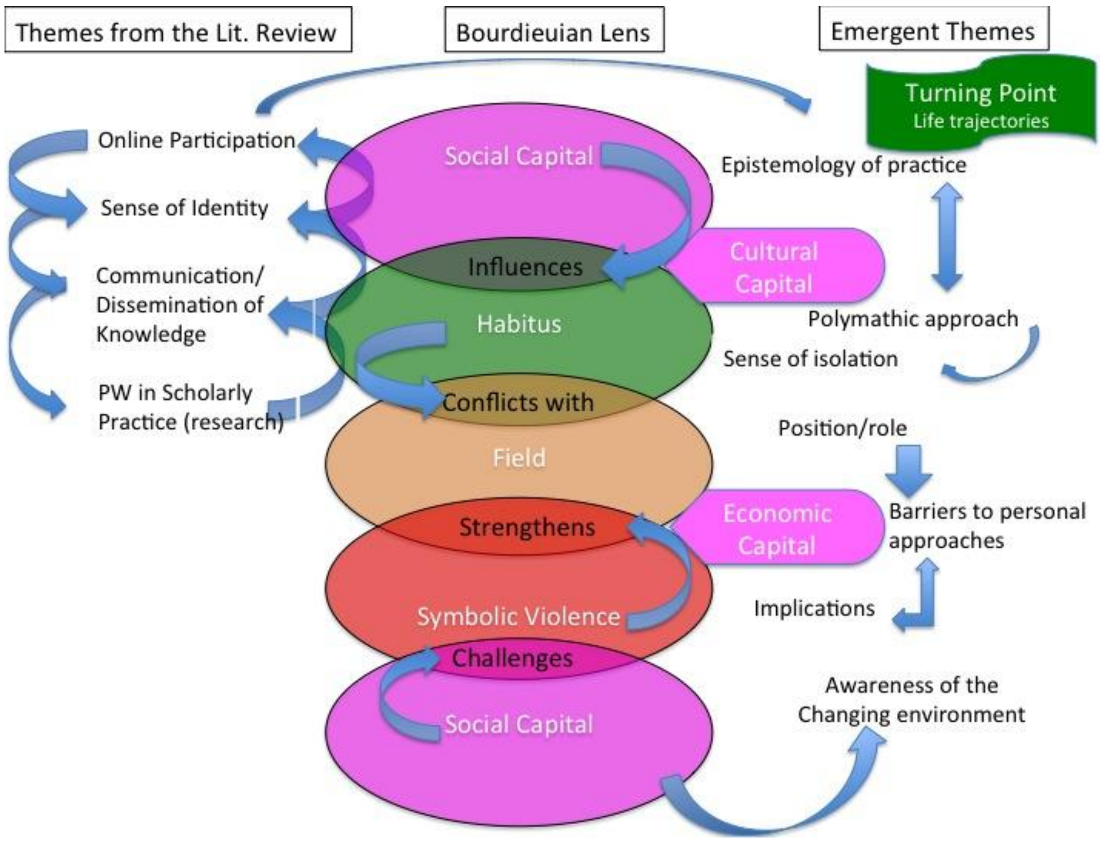

Figure 9 - The logic of practice in the context of this research

Research practice in the context of Higher Education Institutions is understood within the objective and subjective structures that characterise practice. Higher Education Institutions as *fields* in which research practice is developed are often driven by *economic capital*, i.e, material wealth that institutions need to acquire in order to maintain or boost their status quo within the Higher Education hierarchy. In order to achieve this goal, the *field* is forced to activate mechanisms that ensure the *field* fulfils its material goals. From a practitioner's point of view this has implications as to how individuals conduct their practice, and it often presents barriers to approaches to practice that have not been contemplated or are not valued by the *field*. This generates tensions between agency and structure, i.e., *habitus* and *field*.

In the context of this research this tension is explained through the influence research participants' *social capital* exercises on the *habitus* and how the *habitus* tends to oppose the rules of the *field* in which their practice is officialised. Research participants' active presence on the Participatory Web seems to inform new forms of practice that they adopt as they are influenced by networks of peers and the collaborative links they establish online. Their *social capital* also seems to have a strong effect in the development of their professional identity as research participants establish a reputation that supports their polymathic approach to practice. Hence, their *social capital* plays a major role in influencing their *habitus* and in raising their awareness to the demands of a changing environment of which the Participatory Web is part.

At the same time research participants' *social capital* stimulates the development of their academic *habitus* with new approaches, and their epistemologies of practice evolve as a result, the *field* creates mechanisms that aim to model research participants' *habitus* in such ways that they comply with the aspirations of the *field*. *Symbolic violence* is used to strengthen the rules of the *field* and thus influence individuals' *habitus*. This is particularly felt in the dissemination of research, an area that the *field* has heavily regulated in order to achieve their *economic capital* goals. Given the roles research participants occupy with the *field*, it is not possible for them to simply ignore the rules of the *field* and practice exclusively in accordance with their *habitus* if they wish to maintain a relevant position within the *field*. Yet, the *habitus*, strengthened by *social capital*, also has the potential of influencing the *field*. The *field* is not a closed structure, and it is the research participants' awareness of it that make them want to challenge the *field* at the same time that they try to keep a relevant position in it. In short the *field* and *habitus* are always in interaction. The logic of practice presents a dynamics that is composed of objective and subjective elements.

Summary

In this chapter I have used the key concepts developed by Pierre Bourdieu to provide an additional research lens through which the findings derived from this study can be discussed. Bourdieu's thinking tools: forms of *capital*, *habitus*, *field*, and *symbolic violence*, allow me to understand the interplay between the Participatory Web and research activity in Higher

Education Institutions within the dynamics of the social space and the multi-layered contexts in which this phenomenon takes place.

In the next chapter I present the conclusions of this study. I consider the research objectives that guided this study and draw together the findings and contributions made for this study. I then reflect about the process of conducting this research. Limitations of the study and future lines of research are also considered.

Chapter 6 – Conclusions

In this final chapter I review the research objectives used for this research project. I consider how this research makes contributions to knowledge, practice and policy. I then summarise all the chapters contained in this thesis and provide a reflective evaluation of the research process and the way it was conducted. Limitations of the study and future lines of research are also considered. This thesis ends with some final reflections.

Revisiting research objectives

At the beginning of this thesis (see Research objectives on page 4): I stated the following research objectives

- To explore academic researchers' use of the Participatory Web through their personal accounts
- To understand the perceived implications the use of the Participatory Web has on research participants' scholarly practice (research)
- To situate the narratives of practice collected for this study in the context of the current the social, cultural, political and economic context

I have addressed these objectives through the development of a qualitative study, based on narrative inquiry of the participants informed by themes from the literature review, and supplemented by a Bourdieuian analysis of unexpected themes that emerged from the narratives themselves as presented in Chapters 4 and 5. Below I provide a summary of how the research objectives were achieved.

Academic researchers' use of the Participatory Web through their personal accounts

This research gives access to rich accounts of academic researchers active on the Participatory Web through the use of narrative inquiry (see Methodological choices on page 61). It also provides insights into how their involvement in environments mediated by the Participatory

Web has helped them to approach scholarly practice in ways that contrast with those expected by their institutions. Through their active participation in the Participatory Web, research participants adopt a culture of sharing and collaboration that informs their ways of working and seeing the social world in which they are contained and act. The ideas and practices that are developed in environments supported by the Participatory Web tend to contradict established practices. The Participatory Web provides research participants with opportunities to try new approaches without the constraints of their institutions. And it gives them access to distributed networks with whom they can implement new ideas and exercise their academic freedom in ways Higher Education Institutions are not able or willing to support. The open access movement is a good example of the emergent shifts in scholarly practice, and one that was constantly highlighted in the research participants' narratives. The forms of association research participants encounter in the Participatory Web allow them to develop affinities and partnerships with other individuals who contribute to their knowledge, and influence and support their scholarly practice as they cultivate meaningful peer networks and communities to which they can relate. Hence, the online networks and communities in which research participants participate and in which they belong inform their dispositions to conduct practice. Their identification with the practices of their online networks and communities clarifies where they stand. And it defines their own interpretation of their roles and goals as academic researchers; of wanting to make a difference and wishing to contribute to the wider community with their knowledge. These practices often contrast with those supported by their Institutions as the practices exercised within the Participatory Web are not yet fully contemplated in Higher Education Institutions' research strategic plans.

From a Bourdieuian perspective (see Bourdieu's thinking tools on page 78) research participants' online peer networks are an important component of their *social capital.* It also provides them with a sounding board for their *habitus* as they gain the acknowledgment and support of those with whom they interact on the Participatory Web. The social bonds that are developed through shared interests and practices result in a feeling of stronger identification with their peers online than it does with the colleagues at their institution. This is due to the fact that they not only share the spaces of interaction and discussion; they also share similar expectations and aspirations regarding their work and their role as academic researchers. As a result, the Participatory Web has a strong effect on how it shapes the socio-professional identity of the research participants. In short, research participants' *habitus* is stimulated, influenced and reinforced by their online *social capital* as their participation online shapes and enhances their approaches to scholarly practice. For instance, in this research this is expressed by research participants' enthusiasm in sharing knowledge and collaborating online in distributed networks. It is also evident in the ideologies they have developed regarding the openness of knowledge as a public good and their role as contributors and producers of information that should be widely accessible. Their dispositions to innovative practice, in which the Participatory Web has a visible role, however, contrasts with the structures in which their practice is based, i.e., the institution. Hence, the implications of participating online are not exclusively positive. There are also some pitfalls as depicted below, which leads research participants to devise risk management strategies in which they can both follow their epistemologies of practice and remain relevant within their institution. This point is further explored in the section below.

Implications of the use of the Participatory Web for research participants' research practice

The research narratives present two contrasting pictures regarding the use of the Participatory Web. On the one hand, research participants' use of the Participatory Web stimulates their scholarly practice in new ways given that they have access to different resources and networks. On the other hand they are confronted with the rules of their institutions and what is expected of them as researchers. Institutions and research participants tend to take separate views on how research practice should be conducted. And this is even more prominent when it comes to the publication of research. Whereas Higher Education Institutions tend to support and reward the publication of research via formal channels, with a special emphasis on high impact journals, research participants tend or would like to publish their research in open access journals as well as using alternative forms of research communication such as research blogs.

These contrasting approaches generate tensions between institutional and research participants' goals regarding their scholarly practice. As reported in the research narratives, Higher Education Institutions are more likely to encourage conventional forms of publication than innovative approaches to research communication. Open access journals, for instance, lack the reputation enjoyed by established journals and therefore do not have the same value from an institutional perspective. As reported by the research participants, this becomes even more apparent as institutions competing for research funding during the current global financial crisis choose to follow conventional strategies. For instance, research participants in the UK reported the importance their institutions give to the publication of articles in high rank journals as a form of guaranteeing a successful return to the Research Excellence Framework. Research Participants in other countries reported similar pressures regarding their national research assessment exercises. However, the open access movement matches research participants' professional values and approaches to scholarly practice that they have developed through their participation on the Participatory Web. Hence, research participants face the dilemma between following their epistemologies of practice and attending to their institutions expectations, given that the failure of following their institutions' guidelines might affect their career. In order to keep a relevant position within their institutions research participants have adopted different strategies. Some reported that they feel the need to follow the rules of the institution and publish in the required journals. Others acknowledge the need to compromise and follow a double strategy by publishing in both open access and high impact journals in order to please the institution and also follow their epistemology of practice. Two of the research participants shared their approach of only publishing in open access, an act of resistance they can afford given their position at their institution and their career stage. All research participants were aware of the potential and pitfalls of the Participatory Web and reported about devising different strategies for the publication of their research that would not harm their career given the constraints imposed by the Institution.

In short, from a Bourdieuian point of view, the analysis of the narratives revealed that *field* and *habitus* are often in conflict. It also pointed out that *field* and *habitus* usually have contrasting expectations from one another. In an attempt to further understand this phenomenon I placed the data under the perspective of the current social, cultural, political and economic context. This highlighted the pressures under which Higher Education Institutions are placed given the current global economic crisis, which have led to cuts in research funding, as explained below.

The current social, cultural, political and economic context of research participants' narratives of practice

This research looked at the wider context in which research participants' practice is enveloped. This research brought out issues regarding the complexity of scholarly practice in which power structures and agency are often in conflict. For instance, the metrics of prestige and academic standards to which Higher Education Institutions have to respond in order to maintain the status quo, as is the case of the national research exercises, contrasts with open and digital scholarly practices research participants pro-actively advocate. This is in partly due to the long established traditions and cultural practices that have characterised research practice in the last centuries. For this reason Higher Education Institutions tend to overlook the value of emergent practices such as those enabled by the Participatory Web. Moreover, the economic circumstances that currently affect Higher Education Institutions can become complicit with the materialisation of such conflicts, in that institutions use the economic situation as an excuse to persuade their staff to follow the rules they have created internally as their strategy to maintain or boost their status quo within the Higher Education Institution hierarchy. For example, in the case of the UK, Higher Education Institutions are preparing for the national research assessment – the research excellence framework (REF) – that will take place in 2014. One of the main criteria stipulated by REF, which was frequently mentioned in research participants' narratives of practice, is the publication of articles in research journals. Traditionally, the British research assessment exercises put a strong emphasis on the ranking of the journals to which researchers submit their research outputs, making Higher Education Institutions focus mainly on the impact factors of research journals. Although REF guidelines for the 2014 submission are different from past research assessment exercises, in that they have explicitly declared to value the quality of research over its location, Higher Education Institutions still seem to be focused on following the same methods they adopted in previous research assessment exercises, i.e., advocating high impact factor journals as research participants' main contribution to the exercise in virtue of thriving in a competitive academic environment where tradition has more weight than innovative practices. This excludes, or puts less value on research participants' open practices and use of the Participatory Web as part of their scholarly activity.

Bourdieu's key concepts can explain this phenomenon as the struggle between structure and agency, i.e., *field* and *habitus*. Higher Education Institutions are social *fields* with long established structures not always amenable to change. Although not fully opposed to change, Higher Education Institutions are loyal followers of the traditions that give them their identity and position. In an attempt to maintain their stability they activate mechanism of *symbolic violence* (strategies that coerce individuals to play by their rules) by advocating *doxic* thinking (myths they create, as for example the necessity to publish in high impact journals) in order to assure the viability of long established practices. The endorsement of tradition allows the *field* to mobilise individuals to comply with the policies and internal regulations in place that they think will allow them to preserve or boost their historical status quo.

The contribution of this research

This research makes the following contributions:

1. **Contribution to knowledge**

This research unveils the gap in knowledge regarding the use of the Participatory Web in the context of academic research practice. Even the few studies to which I had access, connecting online practices with academic researchers focused their attention on the publication of research results rather than on different forms of online participation or the practices that are derived from that process. This study focuses on academic *habitus* developed by the use of the Participatory Web for enhancement of research practice. In doing so, this study shows that research participants' engagement with the Participatory Web has the potential to stimulate innovative approaches to practice and thus enhance research participants' epistemologies of practice, which are often divergent from those of their institutions.

This research reveals that research participants' desire to increase the impact and reach of their research (as practice) with the Participatory Web is thwarted by the long established traditions their institutions support and which are therefore perceived as forms of resistance to innovation.

This study highlights the divergent perspectives of measuring research quality. Whereas research assessment exercises claim to measure Higher Education's research capacity and its quality via traditional metrics, research participants share an opposite perception regarding those same exercises. The pressure under which Higher Education Institutions are put in order to do well in such exercises hinders their uptake of new and alternative forms of scholarly practice, in which digital scholarship and the open access movement are included.

The use of the Participatory Web in scholarly practice also seems to provide research participants' with a sense of professional identity that differs from the majority of their colleagues. Although I can only infer at this stage, as more research is needed in this area, participants' narratives appear to hint that their sense of professional identity is influenced by their use of the Participatory Web. Their feeling of isolation in relation to colleagues seem to be related to the professional values and approaches to practice they develop through their participation online.

2. Contribution to practice

This research provides rich descriptions and deep analysis of actual scholarly practices in connection with the use of the Participatory Web. In so doing it highlights the disconnection between practice and theory in this area. Whereas literature often tends to demonstrate a positive outlook on the Participatory Web as a tool for changing individual and collective scholarly practice, this research shows that it can also serve as an instrument of conflict.

This study demonstrates that the Participatory Web enables new forms of communication, creation and distribution of knowledge, collaboration and networking, hence providing academic researchers with alternatives to conventional scholarly practice. And this study also shows that such alternative practices have the potential to conflict with the practices Higher Education Institutions expect from their academic staff. In trying to provide a balanced account of both sides of research practices with the support of the Participatory Web I am aware I might be discouraging researchers from taking more innovative approaches to research practice. However, the research participants featuring in this study show that practices in academia are slowly changing and that the Participatory Web is permeating academic practice as a response to and influence of other areas of society. Nonetheless, until institutional structures become more flexible to accommodate alternative forms of scholarly practice (digital scholarship) those struggles will continue to be apparent.

3. Contribution to policy

This research makes a contribution to policy in that it highlights that institutional regulations are not aligned with the emerging scholarly practices taking shape with the support of the Participatory Web. Although Higher Education Institutions have increasingly been supporting the adoption of the Participatory Web for teaching and learning, the same has not occurred in research as a field of scholarly practice. This creates an imbalanced approach regarding scholarship as a whole as academics develop approaches in teaching and learning that do not seem to be welcomed in research practice. I can only infer that this might also be the reason why literature often draws attention to the low uptake of the Participatory Web in teaching and learning practices.

This study points out that although Higher Education Institutions are supportive of research repositories as green routes to open access publications (see Open access on page 35), they seem less engaged in advocating the openness of research outputs via gold routes. This is highlighted in this research by the reported lack of support research participants' receive when wanting to publish their research in open access journals.

This research unveils the challenges that research assessment exercises pose to research participants' use of the Participatory Web and the research practices derived from the adoption of digital forms of scholarship. Research assessment exercises are yet to formally acknowledge and give prominence to the role of the Participatory Web in supporting research scholarship.

This research highlights the disconnection that exists between research funding bodies' demands to make funded research widely available through open access publications and the interpretations Higher Education Institutions make of the national research assessment exercises in order to ensure they return the largest amount of funding possible. Many of the research participants' narratives of practice share the perspective that Higher Education Institutions have instructed their academic staff to publish in high impact journals, even in cases where this has not been explicitly requested, as is the case in the UK. In stipulating that research be published in prestige journals, institutions are implicitly advocating the publication of research in closed journals given that the majority of open access journal still does not enjoy of the same reputation.

In short, this research makes contributions to new knowledge. It also informs practice and policy by acknowledging the tensions between individuals' practices and institutional regulations.

This research will hopefully enable institutional leaders and policy makers, research assessment exercises, and research bodies to take the necessary measures to ensure *field* and *habitus* are aligned and not in conflict. Only then can we expect academic researchers to fully embrace the Participatory Web for their research practice.

Having revisited the objectives set out by this research project and described the contribution of this research, I will now summarise the chapters of this thesis, reflect on the research process and the way in which this research was conducted. I will then elaborate on the limitations of this study and suggest future lines of research

Revisiting chapters

In chapter 1 I introduced the context of this research project. I explained the iterative process this research has gone through which is demonstrated throughout the chapters that constitute this thesis.

In Chapter 2 I revisited the areas of knowledge that I had anticipated for this research and which aimed to set the scene of this project. I started with an historical perspective of scholarship throughout the times and the role technology has played in supporting its advancement. As a filter for this research, I focused my literature search on the aspect of research as a component of scholarship, and used networking and communication of research as two of the topics I aimed to explore. The third section of the literature review dealt with the currents affordances of the Participatory Web in that it can:

- enable different forms of association and communal work
- develop a new sense of self and professional identity through individuals' active participation in it, and
- facilitate digital scholarship

Chapter 3 outlined the process of conducting research. Careful consideration was put into the development of a research design that would be congruent with my epistemological and ontological stances. Narrative inquiry was presented as the research methodology this study followed. Bourdieu's key concepts: (forms of) *capital*, *habitus*, *field*, and *symbolic violence* were also introduced at this stage to demonstrate the iterative, and adaptive process through which this study developed.

In Chapter 4 I presented the results of this study whilst establishing a dialogue with relevant literature. The research analysis went through three different stages, two of which were presented in this chapter:

- Stage 1 dealt with the reconstruction of participants' interviews as research narratives which I offered back to them for commentary
- Stage 2 consisted of a thematic analysis of the research data in which themes from the literature were used and emergent themes were identified, as presented in **Error! eference source not found.** on page **Error! Bookmark not defined.**.

Chapter 5 presented the third stage of the research analysis. A Bourdieuian lens was used to develop a deeper understanding of the issues of conflict that emerged strongly from the research narratives.

Evaluation of this research project

This research project did not follow a perfectly predicted path of inquiry and was therefore subjected to different iterations and adjustments to reach the state of this completed thesis. This study has enabled me to go through a process of discovery and development not only regarding the topic of this research, but also my growth as an early career researcher. I started this project with the primary goal of studying the context in which my daily practice is inserted. Having worked with academic researchers for more than five years, I have tried to support their use of technology in their research activity. Thus, I felt I needed to understand their practice better to carry out my job. That was the reason why I also wanted to do research. I felt the need to understand their context of practice and what it means to do research in a Higher Education Institution.

This research set out to examine the online practices of academic researchers, as I wanted to access their own practices through their own views. As part of this journey I considered my epistemological and ontological stances. I realised that I understood the world as a social construction and that the meanings we attribute to different phenomena are dependent upon the social contexts in which we coexist. Thus, I adopted an interpretivist position. The will to access and understand academic researchers' own perspective of practices led me to explore narrative inquiry as both a method and a methodology. Although I was aware of its limitations, as explained below in this chapter, I considered narrative inquiry to match my epistemological and ontological position. It allowed me to draw closer to my research participants. I also opted for narrative inquiry because, as a methodology, it resembled my experience with and on the Participatory Web in that it has the potential of enabling meaningful connectivity and fostering instances of shared reflection. However, at that time I was not inclined to understand the struggles and the conflicts that participation online can also cause. I would soon discover that through the collection of the research data.

The conversations turned into reflexive accounts regarding research participants' motivations and frustrations took my research to a new level. This led me to review the entire research process in order to move forward with the unexpected information I had acquired. To start with, it forced me to explore the literature of power relations and conflict. In doing so, I found the work of Pierre Bourdieu, as explained in different sections of this thesis. Bourdieu's key concepts question how status quo is maintained, at what cost, and through which mechanisms. Bourdieu makes available a set of thinking tools that aim to critique the unfairness of the social world and the structures on which these injustices are materialised. Indignation towards the unfairness of our contemporary society remained a constant throughout Bourdieu's work, as he clearly stated in his late publication (2003). His passionate work has increasingly informed this research and my own approach as to how I now see the social worlds in which I am contained. Furthermore, Bourdieu's work also contributed to this work in that his thinking tools try to surpass the dichotomy between practice and theory by combining both. His underlying argument is that research that does not acknowledge the full practical dynamic of the phenomenon it aims to study generates "partial and fragmented policy or policy with unexpected outcomes undermining its effectiveness" (Grenfell, 2010, p.1). The contact with Bourdieu's work has probably been the most important aspect of my intellectual growth throughout this learning journey. It has helped me combine research and practice as one.

As part of this process of discovery, I started to revisit my epistemological and ontological paradigm. Although I still do not consider myself a critical researcher – I think this requires a more mature approach and a stronger critique with an emancipatory effect than the one I am able to provide at this stage of my research career – I now place myself at the borderline between the interpretivist and critical paradigms. I am able to say that I understand better the acts of resistance exercised by different agents co-existing in the same social context. I am therefore more aware of the power relations and the struggles social agents face as part of living and working in a world that is driven by economic pressures and anchored in long established practices.

As the first narratives started to bring out information about these power relations I felt I needed to find new literature that would aid my understanding of the phenomenon reported to me. I also felt that I should gather more information from my research participants. Roughly a year after the first collection of data, I contacted three of the research participants and followed them for an additional period of six months with dialogues via emails and web telephony about the themes of struggle and power they had highlighted in their first narratives. The data collected from those conversations mainly reiterated what they had already expressed in their first interview. Nonetheless, I felt more confident to move forward with this research as I revisited their narratives with a follow up inquiry. That journey of reconnecting with the research participants reassured me of the critical-interpretative work I had conducted so far.

To conclude, I rate this research project as one that has evolved through different iterations. It is far from being a perfect work in that it did not follow a neat structure; it rather developed according to the different phases of which it is composed. As part of this process I have observed, and reflected about my intellectual growth. That has been, for me, the greatest achievement of the experience of having done this research. I now feel more capable of conducting research in the field of social sciences where knowledge and reality are socially constructed and anchored in social, cultural, political and economic contexts that determine our understanding of it.

Limitations of this study

There are some limitations to this study. Using narrative inquiry aims to achieve a deeper understanding of each individual narrative of practice. As a form of representation, narrative inquiry presents the interpretation of portraits of experience in a particular context, through a particular standpoint, that of the narrator. This research will therefore not withstand a positivist examination.

Conducting narrative inquiry as a solo researcher also meant to have access to a limited number of research participants from which the study drew information-rich data. Otherwise the amount of data would have been unmanageable. More exhaustive studies should however be considered in order to explore this area of inquiry further. Moreover, issues of gender or class, for instance, have not been considered for this study. I have only partly used the Bourdieuian approach when developing an argument through the logic of academic practice with an emphasis on research practice. Although further research in this area is needed – also because of the few studies on this topic – research has suggested that small sample studies can contribute with rich insights (Sorensen and Williams, 2002). Bourdieu himself would have been amenable to the choice of small studies given that in his studies of everyday life he was often "caught in the contradictions of the social world, which are experienced in the form of personal dramas" (Bourdieu, 1998, p.1). Understanding research phenomena through rich, biographical accounts can provide different, if not deeper insights (Tan and Hunter, 2003). Those insights can inform and question the taken-for-granted social realities in which this research is positioned. This study has aimed to do that by providing an interpretative understanding as well as a critique of the Participatory Web phenomenon in relation to the practices and contexts of the research participants featured in this study. Although this is a small scale study, I hope this research is able to elucidate stakeholders and practitioners alike about the issues presented in this thesis, and that further research, practices and policies be developed to bridge the evident gap between theory and practice that this research discloses.

Areas of further research

The use of the Participatory Web is becoming more prominent in the social and working lives of knowledge workers. Research in this area has mainly drawn on the potential of using the Participatory Web as a means of communication. Educational research has filtered its focus mainly to the application of the Participatory Web in the context of teaching and learning. Popular media, such as TV stations or newspapers have been exploiting the medium to enhance their reach and modernise their practice too. This means that the influences and pressures to join the Participatory Web bandwagon come from multiple sources. Yet, as this research has pointed out, institutional structures are yet to adjust their policies in order to stimulate the take up of the Participatory Web for research purposes. As we watch this phenomenon develop, there are a set of questions that may be worth exploring:

- What measures must Higher Education Institutions take to successfully implement digital scholarship? How can Higher Education administrators be encouraged to develop a research strategy that encourages digital scholarship? How can policy makers empower academic researchers to align their practice to the expectations individuals have for the digital economy?
- How can scholars' active and meaningful presence on the Participatory Web be made to matter as part of their role as knowledge workers? What role can national research assessment exercises and international benchmarks play in supporting and encouraging academic researchers to take their practice to the Participatory Web?
- What role does the Participatory Web play in impelling academic researchers to extend the impact of academic knowledge beyond the scholarly community and knowledge work circles? How can the Participatory Web be used to redefine the role of academic researchers in the 21st century? How is the Participatory Web reinventing the role of academics as Public Intellectuals?

- What are the benefits of digital scholarship to both Higher Education Institutions and the wider community? What does academic researchers' participation in distributed environments, where they can share their knowledge and expertise with the common citizen, mean to the wider society?
- How do approaches to research practice developed within the Participatory Web mirror the professional values of academic researchers?

Final reflections

As I write this final chapter, the Joint Information Systems Committee (JISC) has launched a publication on "The Researchers of Tomorrow[15]" in which it is stated that doctoral students are proficient users of the Web for resource searching, but show a lack of understanding regarding open access practices. The publication goes on to report that the majority of doctoral students work in isolation, rarely engaging in the debate around openness and sharing, and do not regard the Participatory Web as a credible means for collaboration or communication of their research. The publication also suggests that early career researchers' views are shaped by those of their supervisors.

The JISC publication makes suggestions to Higher Education Institutions regarding training and support, and the development of appropriate facilities for researchers. In connection with this JISC study, my research has shown that it is equally important, if not more urgent, that Higher Education Institutions change their policies in order to support the use of the Participatory Web as an integral aspect of research practice. If training and support are not backed up by external and internal policies, we will end up with the same conflicts as those reported by this research, i.e., we promote the development of skills that develop individuals' dispositions to then have the *field* oppose to them. There is a need to create a strategy in which institutions

[15] JISC, 2012, *Researcher of Tomorrow*, available from http://www.jisc.ac.uk/publications/reports/2012/researchers-of-tomorrow.aspx#menu

and individuals alike perceive and value the Participatory Web as a new conduit of research practice. The development of policies advocating the Participatory Web in research would also prevent scholars who show a propensity to use the Participatory Web for research from feeling isolated from their colleagues, as they are placed at opposite sides of the scale where the use of the Participatory Web is concerned.

Just as I was drawing this research to a close, I was contacted by an academic researcher from a renowned University in the UK. Sofia – the name I chose to use in order to protect her identity – contacted me because she knew, through the networks in which we both participate, that I was doing this research and she wanted to share her story of practice with me. Unfortunately, I had already drawn a close to my data collection. Thus, I was not able to include her narrative in this research. Yet, her story is worth mentioning here. Not only does it account for similar struggles to those portrayed in this research; it shows how much fiercer the measures of the *field* are becoming as Higher Education Institutions in the UK draw closer to the submission of their research results to the Research of Excellence Framework. This testimony also reminds me that this research is imperfect, and how much more is left to research in this area. As noted in the questions posed in the section above, there is much more work to be done with regards to this area of research.

Sofia is a senior academic researcher who throughout the years has made an effort to make her practice congruent with the open access movement and the ideologies shared by those who support digital scholarship (Weller, 2011). Her work and initiatives to be creative and innovative with her research activity have inspired many of us who participate in digital networks where those conversations take place. However, her work has now come to 'hunt' her career as she explains in her email to me. Sofia has given me permission to use her email as part of my research; this was also the reason why she emailed me. Sofia's email below has been slightly altered to ensure that confidentiality is preserved and her privacy is kept:

> *All is a bit of a mess here at the moment. My research allowance has been withdrawn by my Head of School. They said they were most disappointed with my response [regarding my approach to only publishing in open access] and do not consider this to be appropriate from a person holding the position of a senior lecturer.*
> *The lesson is, don't be too outspoken about open publishing [when looking for a job].*

I later spoke to Sofia about this via Skype and witnessed her disappointment with her institution. Despite of all her effort in being creative and innovative in her research she has not received that recognition from her institution. Instead of being rewarded, she was punished. As she said, she felt she had been 'kicked in the teeth' for following Higher Education Institutions' speeches on innovation and access to public-funded research (Willetts, 2012). As an aspiring academic researcher myself, this situation impressed me a lot. It was a kind of reality check to me. My chances of surviving in an environment that does not appreciate digital forms of scholarship are limited. Yet, I am still encouraged by those academic researchers who embrace their beliefs about digital scholarship and try to make a different in that direction. I look up to academic researchers like Sofia. Academia has appealed to me because in presents me with two of the things I most cherish in this world: the world of ideas and the opportunity to make a difference through the development of new knowledge. To me, academia is about being open to new possibilities, to enter worlds that haven't yet been explored, and to develop new practices as a result of it.

Hence, what I hope to demonstrate with this research is that the Participatory Web can, and is driving change in research practice, even if slowly. Yet, the Participatory Web will only have a real effect on research practice if Higher Education leaders fully – not partially - embrace the ideals and practices that for years have been regarded as *left-field* activities. For instance, Higher Education Institutions have been subscribing to open access mandates that allow the knowledge produced by their researchers to be accessible via their institutional repositories. Yet, very few institutional policies have stipulated, or even suggested, that research staff take a gold route to open access in order to make the open access movement more effective and less of a struggle when negotiating copyright and free access with publishers. The same applies to the use of blogs in research. They enable academics to “circumvent the powers structures of academia and geography” (Walker, 2006, p.127) but they are far from inverting the power of conventional structures, or even being regarded as alternative forms of scholarship and impact with weight in an academic’s career appraisal, for instance.

A better understanding of the Participatory Web in the context of Higher Education may help modernise educational institutions, not only regarding the adoption of new technologies, but most importantly the transformation of practices that will help redefine the goal and purpose of scholarship in the 21st century. However, this transformation will only materialise if institutional policies as well as national and international research benchmarks are aligned with the concept of digital scholarship.

Bibliography

Abbate, J., 2000. *Inventing the Internet*, MIT Press.

Aikat, D., 2000. Cyberspace of the People, by the People, For the People: Predominant Use of the Web in the Public Sector. In A. Albarran & D. Goff, eds. *Understanding the Web: Social, Political, and Economic Dimensions of the Internet*. John Wiley & Sons.

Alvesson, M. & Deetz, S., 2000. *Doing critical management research*, SAGE.

Alvesson, M. & Sköldberg, K., 2009. *Reflexive Methodology: New Vistas for Qualitative Research*, SAGE Publications Ltd.

Amin, A. & Roberts, J., 2008. Knowing in action: Beyond communities of practice. *Research Policy*, 37(2), pp.353–369.

Anderson, T. & Kanuka, H., 2003. *E-Research: Methods, Strategies, and Issues* 1st ed., Allyn & Bacon.

Andrade, E.N. da C., 1965. The Birth and Early Days of the Philosophical Transactions. *Notes and Records of the Royal Society of London*, 20(1), pp.9–27.

Anfara, V.A., Brown, K.M. & Mangione, T.L., 2002. Qualitative Analysis on Stage: Making the Research Process More Public. *Educational Researcher*, 31(7), pp.28 –38.

Ardichvili, A., 2008. Learning and Knowledge Sharing in Virtual Communities of Practice: Motivators, Barriers, and Enablers. *Advances in Developing Human Resources*, 10(4), pp.541–554.

Atkins, D.E., Brown, J.S. & Hammond, A.L., 2007. A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and New Opportunities. , 2008(Book, Whole), p.84.

Atkinson, D. & Britain), R.S. (Great, 1999. *Scientific discourse in sociohistorical context: the Philosophical transactions of the Royal Society of London, 1675-1975*, Psychology Press.

Atkinson, R., 1998. *The life story interview*, SAGE.

Avgerou, C., 2005. Doing critical research in information systems: some further thoughts. *Information Systems Journal*, 15(2), pp.103–109.

Baker, C.R. & Bettner, M.S., 1997. INTERPRETIVE AND CRITICAL RESEARCH IN ACCOUNTING: A COMMENTARY ON ITS ABSENCE FROM MAINSTREAM ACCOUNTING RESEARCH. *Critical Perspectives on Accounting*, 8(4), pp.293–310.

Baran, P., 1964. On Distributed Communications. Available at: http://www.rand.org/pubs/research_memoranda/RM3420.html [Accessed August 20, 2011].

Barker, K., 2007. The UK Research Assessment Exercise: The Evolution of a National Research Evaluation System. *Research Evaluation*, 16(1), pp.3–12.

Barrett, L. & Barrett, P., 2011. Women and academic workloads: career slow lane or Cul-de-Sac? *Higher Education*, 61(2), pp.141–155.

Basit, T., 2003. Manual or electronic? The role of coding in qualitative data analysis. *Educational Research*, 45(2), pp.143–154.

Basset, T. & Stickley, T., Introduction. , pp.1–12.

Bauer, M.W., 1996. The narrative interview: comments on a technique for qualitative data collection. Available at: http://tinyurl.com/7k83n38 [Accessed December 23, 2011].

Bauer, M.W. & Jensen, P., 2011. The mobilization of scientists for public engagement. *Public Understanding of Science*, 20(1), pp.3 –11.

Baym, N, 1997. Interpreting Soap Operas and Creating Community: Inside an Electronic Fan Culture. In S. Kiesler, ed. *Culture of the Internet*. Routledge, pp. 103–120

Baym, N.K., 1993. Interpreting Soap Operas and Creating Community: Inside a Computer-Mediated Fan Culture. *Journal of Folklore Research*, 30(2/3), pp.143–176.

Baym, Nancy, 2010. *Personal Connections in the Digital Age*, Polity.

Bazerman, C, 2000. Letters and the Social Grounding of Differentiated Genres. In D. Barton & N. Hall, eds. *Letter writing as a social practice*. John Benjamins Publishing Company, pp. 15–30.

Bazerman, C ed., 1999. Editor's Introduction. In *Scientific discourse in sociohistorical context: the Philosophical transactions of the Royal Society of London, 1675-1975*. Routledge.

Bazerman, Charles, 1988. *Shaping Written Knowledge: The Genre and Activity of the Experimental Article in Science*, Univ of Wisconsin Pr.

Becher, T., 1994. The significance of disciplinary differences. *Studies in Higher Education*, 19(2), p.151.

Beer, D. & Burrows, R., 2007. Sociology And, of and in Web 2.0: Some Initial Considerations. *Sociological Research Online*, 12(5). Available at: http://www.socresonline.org.uk/12/5/17.html [Accessed December 27, 2011].

Bélanger, M.-E., 2010. Annotations and the Digital Humanities Research Cycle: Implications for Personal Information Management. *Journal of the American Society for Information Science*, pp.2–4.

Bell, F., 2011. Connectivism: Its place in theory-informed research and innovation in technology-enabled learning. *The International Review of Research in Open and Distance Learning*, 12(3), pp.98–118.

Bell, F. & Zaitseva, E., 2005. "Only Connect"? Complexities in International Student Communication. *E-Learning*, 2(4), p.341.

Ben-David, J., 1984. *The Scientist's Role in Society: A Comparative Study* 2nd ed., Univ of Chicago Pr (Tx).

Bence, V. & Oppenheim, C., 2005. The Evolution of the UK's Research Assessment Exercise: Publications, Performance and Perceptions. *Journal of Educational Administration and History*, 37(2), pp.137–155.

Bence, V. & Oppenheim, C., 2004. The role of academic journal publications in the UK Research Assessment Exercise. *Learned Publishing*, 17(1), pp.53–68.

Bennett, W.L., Wells, C. & Freelon, D., 2011. Communicating Civic Engagement: Contrasting Models of Citizenship in the Youth Web Sphere. *Journal of Communication*, 61(5), pp.835–856.

Berg, B. & Östergren, B., 1979. Innovation processes in higher education. *Studies in Higher Education*, 4(2), pp.261–268.

Bergstrom, T.C., 2001. Free Labor for Costly Journals? *The Journal of Economic Perspectives*, 15(4), pp.183–198.

Berlanga, A.J., Peñalvo, F.G. & Sloep, P.B., 2010. Towards eLearning 2.0 University. *Interactive Learning Environments*, 18(3), pp.199–201.

Berners-Lee, T., 1996. WWW: past, present, and future. *Computer*, 29(10), pp.69–77.

Bernius, S. et al., 2009. Open Access Models and their Implications for the Players on the Scientific Publishing Market. *Economic Analysis and Policy*, 39(1), p.103.

Bernius, S. & Hanauske, M., 2009. Open Access to Scientific Literature - Increasing Citations as an Incentive for Authors to Make Their Publications Freely Accessible. In *Hawaii International Conference on System Sciences*. Los Alamitos, CA, USA: IEEE Computer Society, pp. 1–9.

Bianco, J., 2009. Social Networking and Cloud Computing: Precarious Affordances for the "Prosumer." *WSQ: Women's Studies Quarterly*, 37(1), pp.303–312.

Biglan, A., 1973. Relationships Between Subject Matter Characteristics and the Structure and Output of University Departments. Available at: http://www.eric.ed.gov/ERICWebPortal/detail?accno=EJ080996 [Accessed January 30, 2011].

Bill, A., 2006. Writing power into online discussion. *Computers and Composition*, 23(1), pp.108–124.

Björk, B.-C., 2004. Open Access to Scientific Publications – An Analysis of the Barriers to Change? Available at: https://helda.helsinki.fi/handle/10227/647 [Accessed December 3, 2011].

Björk, B.-C., Roos, A. & Lauri, M., 2009. Scientific Journal Publishing – Yearly Volume and Open Access Availability. Available at: https://helda.helsinki.fi/handle/10227/615 [Accessed December 4, 2011].

Black, T.R., 1999. *Doing quantitative research in the social sciences: an integrated approach to research design, measurement and statistics*, SAGE.

Blin, F. & Munro, M., 2008. Why hasn't technology disrupted academics' teaching practices? Understanding resistance to change through the lens of activity theory. *Computers & Education*, 50(2), pp.475–490.

Blumenfeld-Jones, D., 1995. Fidelity as a criterion for practicing and evaluating narrative inquiry. *International Journal of Qualitative Studies in Education*, 8(1), pp.25–35.

Bonk, Curtis J., 2011. *The World Is Open: How Web Technology Is Revolutionizing Education*, John Wiley & Sons.

Bonk, Curtis J. & Cummings, J.A., 1998. A Dozen Recommendations for Placing the Student at the Centre of Web-Based Learning. *Educational Media International*, 35(2), pp.82–89.

Bos, W. & Tarnai, C., 1999. Content analysis in empirical social research. *International Journal of Educational Research*, 31(8), pp.659–671.

Boudreau, M.-C., Gefen, D. & Straub, D.W., 2001. Validation in Information Systems Research: A State-of-the-Art Assessment. *MIS Quarterly*, 25(1), pp.1–16.

Bourdieu, Pierre, 1977. *Outline of a theory of practice. (Esquisse d'une théorie de la pratique). Transl. by Richard Nice. (Repr.)*, Cambridge University Press.

Bourdieu, P., 1979. Symbolic Power. *Critique of Anthropology*, 4(13-14), pp.77 –85.

Bourdieu, Pierre, 1985a. Forms of Capital. In *Handbook of Theory of Research for the Sociology of Education*. Greenwood Press, pp. 241–58.

Bourdieu, Pierre, 1985b. The social space and the genesis of groups. *Theory and Society*, 14(6). Available at: http://www.springerlink.com/content/g71vq126122114t0/ [Accessed January 21, 2012].

Bourdieu, Pierre, 1986. The forms of capital. In pp. 46–58.

Bourdieu, Pierre, 1989. Social Space and Symbolic Power. *Sociological Theory*, 7(1), pp.14–25.

Bourdieu, Pierre, 1990. *Homo Academicus*, Stanford University Press.

Bourdieu, Pierre, 1990a. The Scholastic Point of View. *Cultural Anthropology*, 5(4), pp.380–391.

Bourdieu, Pierre, 1993. *Sociology in Question*, SAGE.

Bourdieu, Pierre, 1998. *Acts of resistance: against the new myths of our time*, Polity Press.

Bourdieu, Pierre, 1998a. *Practical reason: on the theory of action*, Stanford University Press.

Bourdieu, Pierre, 1998b. *The State Nobility: Elite Schools in the Field of Power*, Stanford University Press.

Bourdieu, Pierre, 2000. *Pascalian meditations*, Stanford University Press.

Bourdieu, Pierre, 2003. *Si le monde social m'est supportable, c'est parce que je peux m'indigner*, Editions de l'Aube.

Bourdieu, Pierre, 2004. *Science of science and reflexivity*, Polity.

Bourdieu, Pierre & Nice, R., 1984. *Distinction: a social critique of the judgement of taste*, Harvard University Press.

Bourdieu, Pierre & Thompson, J.B., 1991. *Language and symbolic power*, Harvard University Press.

Bourdieu, Pierre & Wacquant, L.J.D., 1992. *An invitation to reflexive sociology*, University of Chicago Press boyd, danah, 2008. open-access is the future: boycott locked-down academic journals. *danah boyd | apophenia*. Available at: http://www.zephoria.org/thoughts/archives/2008/02/06/openaccess_is_t.html [Accessed November 5, 2011].

boyd, danah & Ellison, N., 2007. Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1). Available at: http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html .

Brabham, D.C., 2008. Crowdsourcing as a Model for Problem Solving. *Convergence: The International Journal of Research into New Media Technologies*, 14(1), pp.75 –90.

Brin, S. & Page, L., 1998. The anatomy of a large-scale hypertextual Web search engine. *Computer Networks and ISDN Systems*, 30(1-7), pp.107–117.

Brody, T., Harnad, S. & Carr, L., 2006. Earlier Web usage statistics as predictors of later citation impact. *Journal of the American Society for Information Science and Technology*, 57(8), pp.1060–1072.

Broman, T., 1998. The Habermasian Public Sphere and "Science IN the Enlightenment." *History of Science*, 36, pp.123–149.

Brooke, C., 2002. What does it mean to be "critical" in IS research? *Journal of Information Technology*, 17(2), pp.49–57.

Brough, M. et al., 2006. Social Capital Meets Identity Aboriginality in an Urban Setting. *Journal of Sociology*, 42(4), pp.396–411.

Brown, J. & Hegel, J., 2005. Innovation Blowback: Disruptive Management Practices from Asia. *The McKinsey Quarterly*, pp.35–45.

Brown, J.S., 2002. Growing Up Digital: How the Web Changes Work, Education, and the Ways People Learn. *USDLA Journal*, 16(2). Available at: http://www.eric.ed.gov/ERICWebPortal/detail?accno=EJ645661 [Accessed December 26, 2011].

Brown, J.S. & Adler, R.P., 2008. Minds on Fire: Open Education, the Long Tail, and Learning 2.0. *Educause Review*, 43(1), pp.16–32.

Brown, J.S. & Duguid, P., 1991. Organizational Learning and Communities-of-Practice: Toward a Unified View of Working, Learning, and Innovation. *Organization Science*, 2(1), pp.40–57.

Brown, P., 2005. *Life in dispersal : narratives of asylum, identity and community* Available at: http://eprints.hud.ac.uk/5934/ [Accessed December 14, 2011].

Bruner, Jerome, 1991. The narrative construction of reality. *Critical Inquiry*, (18), pp.1–21.

Bruner, Jerome, 1992. *Acts of Meaning* New ed., Harvard University Press.

Bruner, Jerome, 1986. *Actual minds, possible worlds*, Harvard University Press.

Bruns (a), A., 2008. *Blogs, Wikipedia, Second life, and Beyond: from production to produsage*, Peter Lang. In pp. 137–170.

Bryman, A. & Bell, E., 2007. *Business research methods*, Oxford University Press.

Bryson, C., 2004. What about the workers? The expansion of higher education and the transformation of academic work. *Industrial Relations Journal*, 35(1), pp.38–57.

Bull, G. et al., 2008. Connecting informal and formal learning: Experiences in the age of participatory media. *Issues in Technology*. Available at: http://www.citejournal.org/vol8/iss2/editorial/article1.cfm [Accessed December 29, 2011].

Burdick, A. & Willis, H., 2011. Digital learning, digital scholarship and design thinking. *Design Studies*, 32(6), pp.546–556.

Burgess, J.E., 2011. YouTube. *Oxford Bibliographies Online*. Available at: http://oxfordbibliographiesonline.com/view/document/obo-9780199791286/obo-9780199791286-0066.xml [Accessed November 6, 2011].

Burke, P., 1999. Erasmus and the Republic of Letters. *European Review*, 7(01), pp.5–17.

Burkhardt, F., Pearn, A.M. & Evans, S., 2008. *Evolution: Selected Letters of Charles Darwin 1860-1870*, Cambridge University Press.

Burrell, G. & Morgan, G., 1979. *Sociological paradigms and organisational analysis: elements of the sociology of corporate life*, Heinemann.

Bush, V., As We May Think. *The Atlantic Monthly*. Available at: http://www.theatlantic.com/doc/194507/bush [Accessed August 20, 2011].

Butler, L., 2003. Modifying Publication Practices in Response to Funding Formulas. *Research Evaluation*, 12(1), pp.39–46.

Cairncross, F., 1997. *The death of distance: how the communications revolution will change our lives*, Harvard Business Press.

Cammaerts, B., 2008. Critiques on the participatory potentials of Web 2.0. *Communication, culture & critique*, 1(4), pp.358–377.

Campbell, 2008. Escape from the impact factor. *Ethics in Science and Environmental Politics*, 8(1), pp.5–7.

Campbell, K., Goodacre, A. & Little, G., 2006. Ranking of United Kingdom Law Journals: An Analysis of the Research Assessment Exercise 2001 Submissions and Results. *Journal of Law and Society*, 33(3), pp.335–363.

Cann, A., Dimitriou, K. & Hooley, T., 2011. *Social Media : A guide for researchers*, UK: Research Information Network (RIN).

Cardoso, G., 2006. Societies in Transition to the Network Society. In M. Castells & Gustavo Cardoso, eds. *The Network Society: From Knowledge to Policy*. Centre for Transatlantic Relations: Johns Hopkins University, pp. 23–124.

Carpenter, J. et al., 2010. *Researchers of Tomorrow: Annual Report 2010-2011*, Available at: http://explorationforchange.net/attachments/056_RoT%20Year%201%20report%20final%20100622.pdf [Accessed December 27, 2011].

Castells, M., 2000. *The rise of the network society*, Wiley-Blackwell.

Castells, M., 2003. *The Internet galaxy: reflections on the Internet, business, and society*, Oxford University Press.

Castells, M., 2007. Communication , Power and Counter-power in the Network Society 1. *Journal of Communication*, 1(June 2006), pp.238–266.

Castells, M., 2009. *The Power of Identity: The Information Age: Economy, Society, and Culture*, John Wiley and Sons.

Cecez-Kecmanovic, D., 2005. Basic assumptions of the critical research perspective in information systems. In D. Howcroft & E. M. Trauth, eds. *Handbook of critical information systems research: theory and application*. Edward Elgar Publishing.

Cecez-Kecmanovic, D., 2007. Critical Research in Information Systems: The Question of Methodology. , pp.1446–1457.

Chan, L., Kirsop, B. & Arunachalam, S., 2011. Towards Open and Equitable Access to Research and Knowledge for Development. *PLoS Med*, 8(3). Available at: http://dx.doi.org/10.1371/journal.pmed.1001016 [Accessed June 4, 2012].

Chandler, D., 1995. Technological Determinism. Available at: http://users.aber.ac.uk/dgc/Documents/tecdet [Accessed June 5, 2012].

Charmaz, K., 2003. Grounded Theory - Objectivist and Constructivist Methods. In N. K. Denzin, ed. *Strategies of qualitative inquiry*. SAGE, pp. 249–291.
Chase, S.E., 2005. Narrative Inquiry: Multiple Lenses, Approaches, Voices. In *The Sage handbook of qualitative research (3rd ed.).* Thousand Oaks, CA: Sage Publications Ltd, pp. 651–679.

Chen, W. & Hirschheim, R., 2004. A paradigmatic and methodological examination of information systems research from 1991 to 2001. *Information Systems Journal*, 14(3), pp.197–235.

Choo, C.W., Detlor, B. & Turnbull, D., 2000. *Web work : information and seeking knowledge work on the World Wide Web*, Springer.

Christensen, C.M. & Eyring, H.J., 2011. *The Innovative University: Changing the DNA of Higher Education from the Inside Out* 1st ed., Jossey-Bass.

Chu, C.M., 1999. Literary Critics at Work and their Information Needs: A Research-Phases Model. *Library & Information Science Research*, 21(2), pp.247–273.

Chua, W.F., 1986. Radical Developments in Accounting Thought. *The Accounting Review*, 61(4), pp.601–632.

Clandinin, D.J., 2006. Narrative Inquiry: A Methodology for Studying Lived Experience. *Research Studies in Music Education*, 27(1), pp.44 –54.

Clandinin, D.J. & Connelly, F.M., 1989. *Narrative and Story in Practice and Research.*, Available at:
http://www.eric.ed.gov/ERICWebPortal/contentdelivery/servlet/ERICServlet?accno=ED309681 [Accessed December 26, 2011].

Clandinin, D.J. & Connelly, F.M., 2004. *Narrative Inquiry: Experience and Story in Qualitative Research*, Jossey-Bass.

Clandinin, D.J. & Huber, J., Narrative inquiry. *International encyclopedia of education*.

Clandinin, D.J., Pushor, D. & Orr, A.M., January. Navigating Sites for Narrative Inquiry. *Journal of Teacher Education*, 58(1), pp.21 –35.

Clandinin, D.J., Pushor, D. & Orr, A.M., 2007. Navigating Sites for Narrative Inquiry. *Journal of Teacher Education*, 58(1), pp.21 –35.

Clandinin, D.J. & Rosiek, J., 2007. Mapping a landscape of narrative inquiry: Borderland spaces and tensions. In *Handbook of narrative inquiry: mapping a methodology*. Sage Publications, pp. 35–75.

Coe, R.K. & Weinstock, I., 1983. Evaluating Journal Publications of Marketing Professors: A Second Look. *Journal of Marketing Education*, 5(1), pp.37–42.

Coffey, A. & Atkinson, P., 1996. *Making sense of qualitative data: complementary research strategies*, SAGE.

Coleman, D. & Levine, S., 2007. *Collaboration 2.0: Technology and Best Practices for Successful Collaboration in a Web 2.0 World*, Happy About.

Coleman, M. & Briggs, A.R.J., 2002. *Research methods in educational leadership and management*, SAGE.

Conle, C., 2000. Narrative Inquiry: Research tool and medium for professional development. *European Journal of Teacher Education*, 23(1), pp.49–63.

Connelly, F.M., 1992. Editorial: Parallel Stories of Transformation: The Journal and the Field. *Curriculum Inquiry*, 22(1), pp.1–3.

Connelly, F.M. & Clandinin, D.J., 1990a. Stories of Experience and Narrative Inquiry. *Educational Researcher*, 19(5), pp.2 –14.

Connelly, F.M. & Clandinin, D.J., 1990b. Stories of Experience and Narrative Inquiry. *Educational Researcher*, 19(5), pp.2–14.

Conole, G., (2012). Chapter: New approaches to openness - beyond Open Educational Resources - Cloudworks. Available at: http://cloudworks.ac.uk/cloud/view/6305 [Accessed June 4, 2012]

Conole, G., 2010. Facilitating new forms of discourse for learning and teaching: harnessing the power of Web 2.0 practices. *Open Learning: The Journal of Open, Distance and e-Learning*, 25(2), pp.141–151.

Conole, G. & Alevizou, P., 2010. A literature review of the use of Web 2.0 tools in Higher Education. Available at: http://www.heacademy.ac.uk/assets/EvidenceNet/Conole_Alevizou_2010.pdf [Accessed December 29, 2011].

Conrad, E., 2011. Soft architectures for everyday life. *AI & SOCIETY*, 26, pp.123–128.

Cook, E.H., 1996. *Epistolary bodies: gender and genre in the eighteenth-century Republic of letters*, Stanford University Press.

Corsi, S. & Minin, A.D., 2011. *Disruptive Innovation…in Reverse: a Theoretical Framework to Look at New Product Development from Emerging Economies*, Scuola Superiore Sant'Anna of Pisa, Istituto di Management. Available at: http://ideas.repec.org/p/sse/wpaper/201104.html [Accessed June 4, 2012].

Costa, C., 2011. Educational Networking in the Digital Age. In M. Thomas, ed. *Digital Education: Opportunities for Social Collaboration*. Palgrave Macmillan, pp. 81–100.

Costa, C. & Torres, R., 2011. To be or not to be, the importance of Digital Identity in the networked society. *Educação, Formação & Tecnologias*, n.º extra, pp.47–53.

CÔTÉ, J.E., 1996. Sociological perspectives on identity formation: the culture–identity link and identity capital. *Journal of Adolescence*, 19(5), pp.417–428.

Couros, A., 2006. *Examining the Open Movement - Possibilities and Implications for Education*. Doctoral Thesis. Canada: University of Regina. Available at: http://www.scribd.com/doc/3363/Dissertation-Couros-FINAL-06-WebVersion.

Cowan, R.S., 1976. The "Industrial Revolution" in the Home: Household Technology and Social Change in the 20th Century. *Technology and Culture*, 17(1), pp.1–23.

Craig, E.M., 2007. Changing paradigms: managed learning environments and Web 2.0. *Campus-Wide Information Systems*, 24(3), pp.152–161.

Creswell, J.W. & Miller, D.L., 2000. Determining Validity in Qualitative Inquiry. *Theory Into Practice*, 39(3), pp.124–130.

Cross, J., 2006. *Informal learning: rediscovering the natural pathways that inspire innovation and performance*, John Wiley and Sons.

Cullen, D.L. & Luna, G., 1993. Women Mentoring in Academe: addressing the gender gap in higher education. *Gender and Education*, 5(2), pp.125–137.

Czerniewicz, L. & Brown, C., 2009. A study of the relationship between institutional policy, organisational culture and e-learning use in four South African universities. *Computers and Education*, 53(1), pp.121–131.

Czerniewicz, L., 2004. Cape of Storms or Cape of Good Hope? Educational technology in a changing environment. *British Journal of Educational Technology*, 35(2), pp.145–158.

Czerniewicz, L. & Brown, C., 2012. The habitus of digital "strangers" in higher education. *British Journal of Educational Technology*.

Czerniewicz, L. & Brown, C., 2012a. Objectified Cultural Capital and the Tale of Two Students. In L. Dirckinck-Holmfeld, V. Hodgson, & D. McConnell, eds. *Exploring the Theory, Pedagogy and Practice of Networked Learning*. New York, NY: Springer New York, pp. 209–219. Available at: http://rd.springer.com/chapter/10.1007/978-1-4614-0496-5_12 [Accessed July 27, 2012].

D'Antoni, S., 2009. Open Educational Resources: reviewing initiatives and issues. *Open Learning: The Journal of Open and Distance Learning*, 24, pp.3–10.

D'Antoni, S., 2008. Open Educational Resources: the Way Forward. Available at: http://openaccess.uoc.edu/webapps/o2/handle/10609/7163 [Accessed December 4, 2011].

Dahlberg, L., 2001. The Internet and Democratic Discourse: Exploring The Prospects of Online Deliberative Forums Extending the Public Sphere. *Information, Communication & Society*, 4(4), pp.615–633.

Daston, L., 1991. The Ideal and Reality of the Republic of Letters in the Enlightenment. *Science in Context*, 4(02), pp.367–386.

Davies, J.A. & Merchant, G., 2009. *Web 2.0 for Schools: Learning and Social Participation*, Peter Lang.

Davis, P., 2010. Does Open Access Lead to Increased Readership and Citations? A Randomized Controlled Trial of Articles Published in APS Journals. *The Physiologist*, 53(6). Available at: http://www.the-aps.org/publications/tphys/2010html/December/open_access.htm [Accessed September 2, 2011].

Davis, P.M. & Walters, W.H., 2011. The impact of free access to the scientific literature: a review of recent research. , 99(3), pp.208–217.

Deer, C., 2008. Reflexivity. In M. Grenfell, ed. *Pierre Bourdieu: Key Concepts*. Acumen Publishing Ltd, pp. 199–212.

Deetz, S., 1996a. Crossroads—Describing Differences in Approaches to Organization Science: Rethinking Burrell and Morgan and Their Legacy. *Organization Science*, 7(2), pp.191 –207.

Deetz, S., 1996b. Crossroads—Describing Differences in Approaches to Organization Science: Rethinking Burrell and Morgan and Their Legacy. *Organization Science*, 7(2), pp.191 –207.

Deibert, R., 2009. The geopolitics of internet control: Censorship, sovereignty, and cyberspace. In A. Chadwick, ed. *Routledge handbook of Internet politics*. Taylor & Francis.

Denzin, N.K., 2001. *Interpretive interactionism*, SAGE.

Denzin, N.K. & Lincoln, Y.S., 2003. Introduction: The Discipline and Practice of Qualitative Research. In N. K. Denzin & Y. S. Lincoln, eds. *Strategies of Qualitative Inquiry*. Sage Publications, Inc.

Deuze, M., 2006. Ethnic media, community media and participatory culture. *Journalism*, 7(3), pp.262 –280.

Dewey, J., 1934. *Experience and education*, Kappa Delta Pi.

Dibb, S. & Quinn, L., 2010. Debate: Research impact or career progression? *Public Money & Management*, 30(6), pp.326–328.
Dillner, L., 2010. Cutting the research budget. *BMJ*, 341(sep20 2), pp.c5128–c5128.

DiNucci, D., 1999. Fragmented Future. *Print*, 53(4), p.32.

Dodge, J., Ospina, S.M. & Foldy, E.G., 2005. Integrating Rigor and Relevance in Public Administration Scholarship: The Contribution of Narrative Inquiry. *Public Administration Review*, 65(3), pp.286–300.

Doolin, B. & McLeod, D., 2005. Towards critical interpretivism in IS research. In D. Howcroft & E. M. Trauth, eds. *Handbook of Critical Information Systems Research: Theory And Application*. Edward Elgar Publishing, pp. 244–271.

Dron, J. & Anderson, T., 20071015. Collectives, Networks and Groups in Social Software for E-Learning. *World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2007*, 2007(1), pp.2460–2467.

Drucker, P., 1994. Beyond the Information Revolution. *The Atlantic Monthly*, 284(4), pp.47–57.

Drucker, P., 1998. The Next Information Revolution. *FORBES ASAP*, pp.47–58.

Duberley, J. & Cohen, L., 2010. Gendering career capital: An investigation of scientific careers. *Journal of Vocational Behavior*, 76(2), pp.187–197.

Duff, P.A. & Bell, J.S., 2002. Narrative Research in TESOL: Narrative Inquiry: More Than Just Telling Stories. *TESOL Quarterly*, 36(2), pp.207–213.

Edwards, R. & Shulenburger, D., 2003. The High Cost of Scholarly Journals (and What to Do About It). *Change: The Magazine of Higher Learning*, 35(6), pp.10–19.

Eggins, H. & West, P., 2010. The global impact of the financial crisis: main trends in developed and developing countries. *Higher Education Management and Policy*, 22(3). Available at: http://ideas.repec.org/a/oec/edukaa/5km32wkhwms3.html [Accessed June 4, 2012].

Eijkman, H., 2010. Dancing with Postmodernity: Web 2.0 + as a New Epistemic Learning Space. In M. J. W. Lee & C. McLoughlin, eds. *Web 2.0-Based E-Learning: Applying Social Informatics for Tertiary Teaching*. Idea Group Inc (IGI).

Eijkman, H., 2010. Academics and Wikipedia: Reframing Web 2.0 as a disruptor of traditional academic power-knowledge arrangements. *Campus-Wide Information Systems*, 27(3), pp.173–185.

Eisenhardt, K., 1989. Building Theories from Case Study Research. *The Academy of Management Review*, 14(4), pp.532–550.

Eisenstein, E.L., 1980. *The printing press as an agent of change: communications and cultural transformations in early-modern Europe*, Cambridge University Press.

Elam, A.B., 2008. *Gender and Entrepreneurship: A Multilevel Theory and Analysis*, Edward Elgar Publishing.

Elliott, J., 2005. *Using Narrative in Social Research: Qualitative and Quantitative Approaches*, Sage Publications Ltd.

Ellison, N.B., Steinfield, C. & Lampe, C., 2007. The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, 12(4), pp.1143–1168.

Elton, L., 2000. The UK Research Assessment Exercise: Unintended Consequences. *Higher Education Quarterly*, 54(3), pp.274–283.

Engel, J.D. et al., 2008. *Narrative in health care: healing patients, practitioners, profession, and community*, Radcliffe Publishing.

Erez, M. & Earley, P.C., 1993. *Culture, Self-Identity, and Work*, Oxford University Press.

Eric, S., 2011. Television and the Internet: shared opportunity. In Mac Taggart Lecture. Edinburgh. Available at: http://www.guardian.co.uk/media/interactive/2011/aug/26/eric-schmidt-mactaggart-lecture-full-text [Accessed August 27, 2011].

European Commission, 2011. *National Open Access and Preservation Policies in Europe*, European Commission. Available at: http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1300&lang=1 [Accessed January 21, 2012].

Extejt, M.M. & Smith, J.E., 1990. The Behavioral Sciences and Management: An Evaluation of Relevant Journals. *Journal of Management*, 16(3), pp.539–551.

Eysenbach, G., 2001. What is e-health? , 3(2).

Eysenbach, G., 2008. Medicine 2.0: Social Networking, Collaboration, Participation, Apomediation, and Openness. *Journal of Medical Internet Research*, 10(3).

Eysenbach, G., The Open Access Advantage. , 8(2).

Fang, I.E., 1997. *A history of mass communication: six information revolutions*, Focal Press.

Ferron, M. et al., 2010. An Empirical Analysis on Social Capital and Enterprise 2.0 Participation in a Research Institute. In *2010 International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*. 2010 International Conference on Advances in Social Networks Analysis and Mining (ASONAM). IEEE, pp. 391–392.

Fiering, N.S., 1976. The Transatlantic Republic of Letters: A Note on the Circulation of Learned Periodicals to Early Eighteenth-Century America. *The William and Mary Quarterly*, 33(4), pp.642–660.

Finlay, L., 2006. “Going Exploring”: The Nature of Qualitative Research. *Qualitative Research for Allied Health Professionals: Challenging Choice*, pp.3–8.

Firestone, W.A., 1987. Meaning in Method: The Rhetoric of Quantitative and Qualitative Research. *Educational Researcher*, 16(7), pp.16–21.

Fischer, F., 1998. Beyond Empiricism: Policy Inquiry in Post positivist Perspective. *Policy Studies Journal*, 26(1), pp.129–146.

Foroughi, A., 2011. A Research Framework for Evaluating the Effectiveness of Implementations of Social Media in Higher Education. *Online Journal for Workforce Education and Development*, 5(1). Available at: http://opensiuc.lib.siu.edu/ojwed/vol5/iss1/5 .

Forster, N., 2001. A case study of women academics’ views on equal opportunities, career prospects and work-family conflicts in a UK university. *Career Development International*, 6(1), pp.28–38.

Fossey, E. et al., 2002. Understanding and evaluating qualitative research. *Australian and New Zealand Journal of Psychiatry*, 36(6), pp.717–732.

Fox, M., 2002. Technological and Social Drivers of Change in the Online Music Industry. *First Monday*, (Special Issue #1: Music and the Internet). Available at:

http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1453/1368 [Accessed October 23, 2011].

Fraley, L.E. & Vargas, E.A., 1975. Academic Tradition and Instructional Technology. *The Journal of Higher Education*, 46(1), pp.1–15.

Franklin & Harmelen, M., 2007. Web 2.0 for Content for Learning and Teaching in Higher Education. *Teaching in Higher Education*, 2008(May), pp.1–29.

Freeman, M., 2006. Life on holiday?: In defense of big stories. *Narrative Inquiry*, 16(1), pp.131–138.

Friesen, N., 2010. Education and the social Web: Connective learning and the commercial imperative. *First Monday*, 15(12). Available at: http://frodo.lib.uic.edu/ojsjournals/index.php/fm/article/view/3149 [Accessed December 29, 2011].

Friesen, N., 2008. *Re-Thinking E-Learning Research: Foundations, Methods, and Practices* First printing., Peter Lang Publishing.

Fry, J. et al., 2009. *Identifying benefits arising from the curation and open sharing of research data produced by UK Higher Education and research institutes*, Available at: http://ie-repository.jisc.ac.uk/279/ [Accessed November 5, 2011].

Gauntlett, D., 2011. *Making is Connecting*, Polity.

Geanellos, R., 2000. Exploring Ricoeur's hermeneutic theory of interpretation as a method of analysing research texts. *Nursing Inquiry*, 7(2), pp.112–119.

Gebhardt, C., Kaiser, S. & Müller-Seitz, G., 2010. Imprisoned Freedom at "Wikipedia: The Free Encyclopedia"? A Sociological Systems Theory Perspective on Contradiction and Consistency in Wikipedia's Identity Narrative. *SSRN eLibrary*. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1734752 [Accessed March 17, 2012].

Geertz, C., 2002. Thick Description: toward an interpretative theory of culture. In C. Jenks, ed. *Culture: critical concepts in sociology*. Routledge, pp. 173–196.

Gerring, J., 2007. *Case Study Research: Principles And Practices*, Cambridge University Press.

Getz, M., 2005. *Open Scholarship and Research Universities*, Department of Economics, Vanderbilt University. Available at: http://ideas.repec.org/p/van/wpaper/0517.html [Accessed November 5, 2011].

Giddens, A., 1991. *Modernity and self-identity: self and society in the late modern age*, Stanford University Press.

Gillies, J. & Cailliau, R., 2000. *How the Web was born: the story of the World Wide Web*, Oxford University Press.

Givier, P., 2001. University Press Publishing in the United States. In K. Strauch, R. E. Abel, & L. W. Newlin, eds. *Scholarly Publishing: Books, Journals, Publishers, and Libraries in the Twentieth Century*. Wiley-Blackwell.

Goldfinch, S., 2003. Investing In Excellence? The Performance-Based Research Fund And Its Implications For Political Science Departments In New Zealand. *Political Science*, 55(1), pp.39–53.

Goldgar, A. & George, G., 1996. Impolite Learning, Conduct and Community in the Republic of Letters, 1680–1750. *History: Reviews of New Books*, 24(4), pp.176–177.

Goles, T. & Hirschheim, R., 2000. The paradigm is dead, the paradigm is dead...long live the paradigm: the legacy of Burrell and Morgan. *Omega*, 28(3), pp.249–268.

Goode, J., 2010. The Digital Identity Divide: How Technology Knowledge Impacts College Students. *New Media & Society*, 12(3), pp.497–513.

Goodman, D., 1996. *The Republic of letters: a cultural history of the French enlightenment*, Cornell University Press.

Goodson, I., 1999. The Educational Researcher as a Public Intellectual∗ . *British Educational Research Journal*, 25(3), pp.277–297.

Gotti, M., 2006. Disseminating Early Modern Science: specialised News Discourse in the Philisophical Transactions. In N. Brownlees, ed. *News discourse in early modern Britain: selected papers of CHINED 2004*. Peter Lang, pp. 41–70.

Grabner-Kräuter, S., 2009. Web 2.0 Social Networks: The Role of Trust. *Journal of Business Ethics*, 90(0), pp.505–522.

Granovetter, M., 1982. The Strength of Weak Ties: A Network Theory Revisited. *SOCIOLOGICAL THEORY*, 1, pp.105–130.

Grant, J. et al., 2009. *Capturing Research Impacts - A review of international practice*, Available at: http://www.rand.org/pubs/documented_briefings/DB578.html [Accessed April 27, 2011].

Greenhow, C., Robelia, B. & Hughes, J.E., 2009. Learning, Teaching, and Scholarship in a Digital Age. *Educational Researcher*, 38(4), pp.246 –259.

Grenfell, M., 2005. *Pierre Bourdieu: Agent Provocateur*, Continuum International Publishing Group.

Grenfell, M., 2008. *Pierre Bourdieu: Key Concepts*, Acumen Publishing Ltd.

Grenfell, M., 2010. Being critical: the practical logic of Bourdieu's metanoia. *Critical Studies in Education*, 51(1), pp.85–99.

Grenfell, M. & James, D., 1998. *Bourdieu and Education: Acts of Practical Theory*, Routledge.

Grenfell, M. & James, D., 2004. Change in the field—changing the field: Bourdieu and the methodological practice of educational research. *British Journal of Sociology of Education*, 25(4), pp.507–523.

Gross, A.G., Harmon, J.E. & Reidy, M.S., 2000. Argument and 17th-Century Science. *Social Studies of Science*, 30(3), pp.371 –396.

Grosseck, G., 2009. To use or not to use web 2.0 in higher education? *Procedia - Social and Behavioral Sciences*, 1(1), pp.478–482.

Gruber, T., 2008. Collective knowledge systems: Where the Social Web meets the Semantic Web. *Web Semantics: Science, Services and Agents on the World Wide Web*, 6(1), pp.4–13.

Guarria, C.I. & Wang, Z., 2011. The economic crisis and its effect on libraries. *New Library World*, 112(5/6), pp.199–214.

Guba, E.G. & Lincoln, Y.S., 1994. Competing paradigms in qualitative research. In pp. 105–117.

Guédon, J., 2004. The "Green" and "Gold" Roads to Open Access: The Case for Mixing and Matching. *Serials Review*, 30(4), pp.315–328.

De Roure, D. & Goble, C., 2009. Software Design for Empowering Scientists. *IEEE Software*, 26(1), pp.88–95.

Hague, C. & Payton, S., 2010. *Digital Literacy across the Curriculum handbook | futurelab*, London: Future Lab. Available at: http://www.futurelab.org.uk/resources/digital-literacy-across-curriculum-handbook [Accessed March 17, 2012].

Hajjem, C., Harnad, S. & Gingras, Y., 2006. Ten-Year Cross-Disciplinary Comparison of the Growth of Open Access and How it Increases Research Citation Impact. *cs/0606079*. Available at: http://arxiv.org/abs/cs/0606079 [Accessed September 2, 2011].

Hakken, D., 1993. Computing and Social Change: New Technology and Workplace Transformation, 1980-1990. *Annual Review of Anthropology*, 22, pp.107–132.

Hall, R., 2011. Revealing the transformatory moment of learning technology: the place of critical social theory. *Research in Learning Technology*, 19(3), pp.273–284.

Hara, N., Shachaf, P. & Stoerger, S., 2009. Online Communities of Practice Typology Revisited. *Journal of Information Science*, 35(6), pp.740–757.

Harley, D., Acord, S., et al., 2010. *Assessing the Future Landscape of Scholarly Communication: An Exploration of Faculty Values and Needs in Seven Disciplines*, UC Berkeley: Center for Studies in Higher Education. Available at: http://escholarship.org/uc/item/15x7385g .

Harley, D., Acord, S.K., et al., 2010. Assessing the Future Landscape of Scholarly Communication: An Exploration of Faculty Values and Needs in Seven Disciplines. , (January), p.728.

Harnad, S. et al., 2009. Open Access Repositories - maximizing and measuring research impact through university and research-funder open-access self-archiving mandates. *Wissenschaftsmanagement*, 4(4), pp.36–41.

Harnad, Stevan et al., 2004. The Access/Impact Problem and the Green and Gold Roads to Open Access. *Serials Review*, 30(4), pp.310–314.

Harper, R. & Corrall, S., 2011. Effects of the Economic Downturn on Academic Libraries in the UK: Positions and Projections in Mid-2009. *New Review of Academic Librarianship*, 17, pp.96–128.

Harrison, J., MacGibbon, L. & Morton, M., 2001. Regimes of Trustworthiness in Qualitative Research: The Rigors of Reciprocity. *Qualitative Inquiry*, 7(3), pp.323 –345.

Harrison, T.M. & Barthel, B., 2009. Wielding new media in Web 2.0: exploring the history of engagement with the collaborative construction of media products. *New Media & Society*, 11(1-2), pp.155 –178.

Hartley, D., 2008. EDUCATION, MARKETS AND THE PEDAGOGY OF PERSONALISATION. *British Journal of Educational Studies*, 56(4), pp.365–381.

Harvey, L.J. & Myers, M.D., 1995. Scholarship and practice: the contribution of ethnographic research methods to bridging the gap. *Information Technology & People*, 8(3), pp.13–27.

Haslam, N. & Koval, P., 2010. Possible research area bias in the Excellence in Research for Australia (ERA) draft journal rankings. *Australian Journal of Psychology*, 62(2), pp.112–114.

Hassard, J., 1991. Multiple Paradigms and Organizational Analysis: A Case Study. *Organization Studies*, 12(2), pp.275 –299.

Haven, C., 2011. Hot new social media maybe not so new: plus ça change, plus c'est la même chose | The Book Haven. *the Book Haven*. Available at: http://bookhaven.stanford.edu/2011/11/hot-new-social-media-maybe-not-so-new-plus-ca-change-plus-cest-la-meme-chose/ [Accessed November 22, 2011].

Hawn, C., 2009. Take Two Aspirin And Tweet Me In The Morning: How Twitter, Facebook, And Other Social Media Are Reshaping Health Care. *Health Affairs*, 28(2), pp.361 –368.

He, M.F., 2002. A narrative inquiry of cross-cultural lives: Lives in Canada. *Journal of Curriculum Studies*, 34(3), pp.323–342.

He, M.F., 2003. *A river forever flowing: cross-cultural lives and identities in the multicultural landscape*, IAP.

Heath, R.L., 1994. *Management of Corporate Communication: From Interpersonal Contacts To External Affairs*, Routledge.

Heery, R., 2009. *Digital Repositories Roadmap Review: towards a vision for research and learning in 2013 : JISC* UK: JISC. Available at: http://www.jisc.ac.uk/whatwedo/themes/informationenvironment/reproadmaprev.aspx [Accessed January 3, 2012].

Hemmi, A., Bayne, S. & Land, R., 2009. The appropriation and repurposing of social technologies in higher education. *Journal of Computer Assisted Learning*, 25(1), pp.19–30.

Hendry, P.M., 2007. The Future of Narrative. *Qualitative Inquiry*, 13(4), pp.487 –498.

Henry, G., Baraniuk, R.G. & Kelty, C., 2003. The Connexions Project: Promoting Open Sharing of Knowledge for Education. Available at: http://hdl.handle.net/1911/19951.

Herb, U., 2010. Sociological implications of scientific publishing: Open access, science, society, democracy, and the digital divide. Available at: http://eprints.rclis.org/handle/10760/15174 [Accessed September 1, 2011].

Hesmondgalgh, D., 2009. The digitalisation of Music. In *Creativity, innovation and the cultural economy*. Taylor & Francis US, pp. 57–73.

Hessels, L.K. & van Lente, H., 2008. Re-thinking new knowledge production: A literature review and a research agenda. *Research Policy*, 37(4), pp.740–760.

Hillier, J. & Rooksby, E., 2005. *Habitus: a sense of place*, Ashgate Publishing, Ltd.

Hirschheim, R. & Klein, H.K., 1989. Four paradigms of information systems development. *Commun. ACM*, 32(10), pp.1199–1216.

Hirschheim, R.A., 1985. Information Systems Epistemology: An Historical Perspective. In pp. 13–35.

Hjorth, L. & Arnold, M., 2011. The Personal and the Political: Social Networking in Manila. *International Journal of Learning and Media*, 3(1), pp.29–39.

Hobart, M.E. & Schiffman, Z.S., 2000. *Information ages: literacy, numeracy, and the computer revolution*, JHU Press.

Holloway, I. & Freshwater, D., 2007. Vulnerable story telling: narrative research in nursing. *Journal of Research in Nursing*, 12(6), pp.703 –711.

Holstein, J. & Gubrium, J., 2004. The active interview. In D. Silverman, ed. *Qualitative research: theory, method and practice*. SAGE, pp. 140–161.

Hooley, N., 2009. *Narrative Life: Democratic Curriculum and Indigenous Learning*, Springer.

Hooley, T. et al., 2010. *Hard Times? Building and Sustaining Research Capacity in UK Universities -www.vitae.ac.uk/policy-practice*, Available at: http://www.vitae.ac.uk/policy-practice/1393-290991/Hard-Times-Building-and-Sustaining-Research-Capacity-in-UK-Universities.html [Accessed June 5, 2012].

Hoorn, E. & van der Graaf, M., 2006. Copyright Issues in Open Access Research Journals. *D-Lib Magazine*, 12. Available at: http://www.dlib.org/dlib/february06/vandergraaf/02vandergraaf.html [Accessed November 5, 2011].

House, R. & Thomas-Hunt, M., 1995. The meso paradigm: A framework for the integration of micro and macro organizational behavior. *Research In Organizational Behavior*, 17, pp.71–114.

Howard, J.D., 1997. *An Analysis of Security Incidents on the Internet 1989-1995*, Available at: http://stinet.dtic.mil/oai/oai?&verb=getRecord&metadataPrefix=html&identifier=ADA389085 [Accessed December 4, 2011].

Howcroft, D. & Trauth, E.M., 2004. The Choice of Critical Information Systems Research. In B. Kaplan et al., eds. *Information Systems Research*. Boston: Kluwer Academic Publishers, pp. 195–211. Available at: http://www.springerlink.com/content/848q75487k5w7636 [Accessed December 28, 2011].

Howe, J., 2008. *Crowdsourcing: why the power of the crowd is driving the future of business*, Crown Business.

Hubbard, K.A.B., 2011. What Global Businesses Really Want For Academia: An Interdisciplinary Program. *International Business & Economics Research Journal (IBER)*, 6(12). Available at: http://cluteonline.com/journals/index.php/IBER/article/view/3437 [Accessed December 4, 2011].

Hunter, M.G. & Tan, F.B., 2006. *Advanced Topics in Global Information Management*, Idea Group Inc (IGI).

Ibarra, H., 1999. Provisional Selves: Experimenting with Image and Identity in Professional Adaptation. *Administrative Science Quarterly*, 44(4), pp.764–791.

Immelt, J., Vijay, G. & Trimble, C., 2009. How GE Is Disrupting Itself. *Harvard Business Review*. Available at: http://hbr.org/2009/10/how-ge-is-disrupting-itself/ar/1 [Accessed June 4, 2012].

Jarrett, K., 2008. Interactivity is Evil! A critical investigation of Web 2.0. *First Monday*, 13(3). Available at: http://frodo.lib.uic.edu/ojsjournals/index.php/fm/article/view/2140/1947 [Accessed January 25, 2012].

Jarrett, K., 2010. YouTube: Online video and participatory culture. *Continuum*, 24, pp.327–330.

Jenkins, H et al., 2006. *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century - Digital Learning*, USA: MacArthur Foundation. Available at: http://digitallearning.macfound.org/site/c.enJLKQNlFiG/b.2108773/apps/nl/content2.asp?content_id=%7BCD911571-0240-4714-A93B-1D0C07C7B6C1%7D&notoc=1 [Accessed December 29, 2011].

Jenkins, H., 2009. *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*, MIT Press.

Jenkins, H., 2006. *Fans, bloggers, and gamers: exploring participatory culture*, NYU Press.

Jenkins, R., 2008. *Social Identity* 3rd ed., Routledge.

Ji, Y.G. et al., 2010. The Influence of Cultural Differences on the Use of Social Network Services and the Formation of Social Capital. *International Journal of Human-Computer Interaction*, 26, pp.1100–1121.

Jiang, H. & Carroll, J.M., 2009. Social capital, social network and identity bonds: a reconceptualization. In *Proceedings of the fourth international conference on Communities and technologies*. C&T '09. New York, NY, USA: ACM, pp. 51–60. Available at: http://doi.acm.org/10.1145/1556460.1556469 [Accessed June 17, 2012].

Jiménez-Contreras, E., de Moya Anegón, F. & López-Cózar, E.D., 2003. The evolution of research activity in Spain: The impact of the National Commission for the Evaluation of Research Activity (CNEAI). *Research Policy*, 32(1), pp.123–142.

JISC, 2005. Disciplinary Differences. Available at: http://www.jisc.ac.uk/aboutus/committees/workinggroups/scholarlycomms/disciplines.aspx [Accessed January 30, 2011].

JISC, Open Access : JISC. Available at: http://www.jisc.ac.uk/openaccess [Accessed November 5, 2011a].

JISC, *Researchers of Tomorrow*, Available at: http://www.jisc.ac.uk/publications/reports/2012/researchers-of-tomorrow.aspx [Accessed July 24, 2012].

Johnson, K.E. & Golombek, P.R., 2002. *Teachers' narrative inquiry as professional development*, Cambridge University Press.

Johnson, P. & Duberley, J., 2000. *Understanding management research: an introduction to epistemology*, SAGE.

Jones, J., 2011. Social media and social movements. *International Socialism: A quartely journal of social theory*, Spring 2011(130). Available at: http://www.isj.org.uk/?id=722 [Accessed November 6, 2011].

Jones, S., 1998. *CyberSociety 2.0: revisiting computer-mediated communication and community*, SAGE.

Jones, W., 2007. Personal Information Management. *Annual Review of Information Science and Technology*, 41(1), pp.453–504.

Jump, P., 2011. Times Higher Education - Willetts: "REF will take no notice of where researchers publish." Available at: http://www.timeshighereducation.co.uk/story.asp?storycode=417871 [Accessed June 3, 2012].

Kadel, R., 2005. How Teacher Attitudes Affect Technology Integration. *Learning & Leading with Technology*, 32(5), pp.34–35,.

Kanter, B., Fine, A.H. & Zuckerberg, R., 2010. *The networked nonprofit: connecting with social media to drive change*, John Wiley and Sons.

Kanuka, H., 2008. Understanding E-Learning Technologies-in-practice through Philosophies-in-practice. In T. Anderson, ed. *The Theory and Practice of Online Learning*. Athabasca University Press, pp. 91–118.

Kaplan, A.M. & Haenlein, M., 2010. Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), pp.59–68.

Kaplan, B. & Maxwell, J.A., 2005. Qualitative Research Methods for Evaluating Computer Information Systems. In J. G. Anderson & C. E. Aydin, eds. *Evaluating the Organizational Impact of Healthcare Information Systems*. New York: Springer-Verlag, pp. 30–55. Available at: http://www.springerlink.com/content/kx844713q7321300 [Accessed December 29, 2011].

Kaplan, D.M., 2009. *Readings in the Philosophy of Technology*, Rowman & Littlefield.

Kendrew, S., 2011. Brian Cox is wrong: blogging your research is not a recipe for disaster | Sarah Kendrew | Science | guardian.co.uk. *The Guardian*. Available at: http://www.guardian.co.uk/science/blog/2011/oct/27/brian-cox-blogging-research [Accessed November 5, 2011].

Kiernan, V., 2000. Rewards Remain Dim for Professors Who Pursue Digital Scholarship. *Chronicle of Higher Education*, 46(34), p.46.

Kim, W., Jeong, O.-R. & Lee, S.-W., 2010. On social Web sites. *Information Systems*, 35(2), pp.215–236.

Kincheloe, J. & McLaren, P., 2002. Rethinking Critical Theory and Qualitative Research. In Y. Zou & E. T. Trueba, eds. *Ethnography and schools: qualitative approaches to the study of education*. Rowman & Littlefield.

Kinsella, E.A., 2006. Hermeneutics and Critical Hermeneutics: Exploring Possibilities within the Art of Interpretation. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 7(3). Available at: http://www.qualitative-research.net/index.php/fqs/article/view/145/319 [Accessed January 5, 2012].

Kirstein, P., UCL networking history. *Department of computer Science - Network Research Group, UCL*. Available at: http://nrg.cs.ucl.ac.uk/internet-history.html [Accessed December 4, 2011].

Klein, H.K. & Huynh, M.Q., 2004. The Critical Social Theory of Juergen Habermas and its Implications for IS Research. In J. Mingers & L. Willcocks, eds. *Social theory and philosophy for information systems*. John Wiley & Sons, pp. 157–232.

Klein, H.K. & Myers, M.D., 1999. A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly*, 23(1), pp.67–93.

Kock, N. et al., 2002. IS Research Relevance Revisited: Subtle Accomplishment, Unfulfilled Promise, or Serial Hypocrisy? *Communications of the Association for Information Systems*, 8(1). Available at: http://aisel.aisnet.org/cais/vol8/iss1/23 .

Kop, R., 2008. Web 2.0 Technologies: Disruptive or Liberating for Adult Education? In Adult Education Research Conference. St. Louis, Missouri, USA.

Kostakis, V., 2010. Peer governance and Wikipedia: Identifying and understanding the problems of Wikipediaâ€™ s governance. *First Monday*, 15(3). Available at: http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2613/2479 [Accessed March 17, 2012].

Kramp, M., 2003. Exploring Life and Experience Through Narrative Inquiry. In *Foundations for Research: Methods of Inquiry in Education and the Social Sciences*. Routledge. Available at: http://www4.nau.edu/cee/ci_doc/current/resources/6_Kramp.pdf .

Krishnamurthy, B. & Cormode, 2008. Key differences between Web 1.0 and Web 2.0. *First Monday*, 13(6), pp.1–19.

Kronick, D.A., 1990. Notes on the Printing History of the Early “Philosophical Transactions.” *Libraries & Culture*, 25(2), pp.243–268.

Kvale, S., 2002. The Social Construction of validity. In N. K. Denzin & Yvonna S. Lincoln, eds. *The qualitative inquiry reader*. SAGE, pp. 299–326.

Larson, C.L., 1997. Re-presenting the subject: Problems in personal narrative inquiry. *International Journal of Qualitative Studies in Education*, 10(4), pp.455–470.

Laverty, S.M., 2003. Hermeneutic Phenomenology and Phenomenology : A Comparison of Historical and Methodological Considerations. *International Journal of Qualitative Methods*, 2(3), pp.1–29.

Lawler, S., 2002. Narrative in social research. In T. May, ed. *Qualitative Research in Action*. SAGE, pp. 242–258.

Layder, D., 1998. *Sociological Practice: Linking Theory and Social Research*, SAGE.

Leadbeater, C., 2010. *We-Think: Mass Innovation, Not Mass Production*, Profile Books.

Leiner, B.M. et al., 1999. A Brief History of the Internet. *cs/9901011*. Available at: http://arxiv.org/abs/cs/9901011 [Accessed August 8, 2011].

Lenhart, A. et al., 2010. Social Media & Mobile Internet Use Among Teens and Young Adults. *Pew Internet American Life Project*, 5(1 Maig 2010), pp.1–37.

Lepionka, M.E., 2008. *Writing and Developing Your College Textbook: A Comprehensive Guide to Textbook Authorship and Higher Education Publishing*, Atlantic Path Publishing.

Lessig, L., 2004. *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*, Penguin Press HC, The.

Lessig, L., 2008. *Remix - Making Art and Commerce Thrive in the Hybrid Economy*, Bloomsbury Academic.

Levy, M., 2009. WEB 2.0 implications on knowledge management. *Journal of Knowledge Management*, 13(1), pp.120–134.

Levy, P., 1997. *Collective Intelligence: Mankind's Emerging World in Cyberspace (Helix Books)*, Perseus Books Group.

Lewis, S., Pea, R. & Rosen, J., 2010. Beyond participation to co-creation of meaning: mobile social media in generative learning communities. *Social Science Information*, 49(3), pp.351 –369.

Liang, B. & Lu, H., 2010. Internet Development, Censorship, and Cyber Crimes in China. *Journal of Contemporary Criminal Justice*, 26(1), pp.103 –120.

Licklider, J.C.R. & Clark, W.E., 1962. On-line man-computer communication. In *Proceedings of the May 1-3, 1962, spring joint computer conference on - AIEE-IRE '62 (Spring)*. the May 1-3, 1962, spring joint computer conference. San Francisco, California, p. 113. Available at: http://dl.acm.org/citation.cfm?id=1460847 [Accessed August 20, 2011].

Lih, A., 2004. Wikipedia as Participatory journalism: reliable sources? metrics for evaluating collaborative media as a news resource. *IN PROCEEDINGS OF THE 5TH INTERNATIONAL SYMPOSIUM ON ONLINE JOURNALISM*, pp.16–17.

Lincoln, Y. & Guba, G., 1994. Competing paradigms in qualitative research. In *The Handbook of Qualatative Research*. pp. 105–117.

Lincoln, Y. & Guba, G., 1985. *Naturalistic inquiry*, SAGE.

Lippmann, S., 2011. Workplace Flexibility: Realigning 20th-Century Jobs for a 21st-Century Workforce. *Contemporary Sociology: A Journal of Reviews*, 40(4), pp.442 –443.

Lucas, L., 2006. *The Research Game in Academic Life*, McGraw-Hill International.

Lynch, C., 2002. Digital Collections, Digital Libraries and the Digitization of Cultural Heritage Information. *First Monday*, 7(5). Available at: http://frodo.lib.uic.edu/ojsjournals/index.php/fm/article/view/949/870 [Accessed January 15, 2012].

Lyons, N. & LaBoskey, V.K., 2002. *Narrative inquiry in practice: advancing the knowledge of teaching*, Teachers College Press.

Mackenzie, D., 1999. *The Social Shaping of Technology* 2nd ed., Open University Press.

Mackie, M., 2004. Filling Institutional Repositories: Practical strategies from the DAEDALUS Project. *Ariadne*, (39). Available at: http://www.ariadne.ac.uk/issue39/mackie [Accessed September 2, 2011].

Man, J., et al., 2003. Why do Some Countries Publish More Than Others? An International Comparison of Research Funding, English Proficiency and Publication Output in Highly Ranked General Medical Journals. *European Journal of Epidemiology*, 19, pp.811–817.

Mantoux, P., 2006. *The Industrial Revolution in the Eighteenth Century: An Outline of the Beginnings of the Modern Factory System in England*, Taylor & Francis.

Marris, C. & Rose, N., 2010. Open Engagement: Exploring Public Participation in the Biosciences. *PLoS Biol*, 8(11), p.e1000549.

Marshall, C. & Rossman, G.B., 2006. *Designing qualitative research*, SAGE.

Martin, J., 2003. Feminist Theory and Critical Theory: Unexplored Synergies. In M. Alvesson & H. Willmott, eds. *Studying management critically*. SAGE.

Mashak, J., 2011. avast! blog� » avast! FacebookCommunity Exceeds 300 Thousand. *avast! Blog*. Available at: https://blog.avast.com/2011/08/16/avast-facebook-community-exceeds-300-thousand/#more-3369 [Accessed October 23, 2011].

Mason, R. & Rennie, F., 2008. *E-learning and social networking handbook: resources for higher education*, Taylor & Francis.
Mason, R. & Rennie, F., 2007. Using Web 2.0 for learning in the community. *The Internet and Higher Education*, 10(3), pp.196–203.

Mattingly, C., 1998. *Healing dramas and clinical plots: the narrative structure of experience*, Cambridge University Press.

McAleese, R., 1999. *Hypertext: theory into practice*, Intellect Books.

McAndrew, P., Scanlon, E. & Clow, D., 2010. An Open Future for Higher Education. *EDUCAUSE Quarterly, EDUCAUSE*, 33(1). Available at: http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazineVolum/AnOpenFutureforHigherEducation/199388 [Accessed November 5, 2011].

McCabe, J.L. & Holmes, D., 2009. Reflexivity, critical qualitative research and emancipation: a Foucauldian perspective. *Journal of Advanced Nursing*, 65(7), pp.1518–1526.

McCance, T.V., McKenna, H.P. & Boore, J.R.P., 2001. Exploring caring using narrative methodology: an analysis of the approach. *Journal of Advanced Nursing*, 33(3), pp.350–356.

McCutcheon, R.P., 1924. The "Journal Des Scavans" and the "Philosophical Transactions of the Royal Society." *Studies in Philology*, 21(4), pp.626–628.

McLeod, J., 2003. Qualitative Research Methods in Counselling Psycology. In R. Woolfe, W. Dryden, & S. Strawbridge, eds. *Handbook of counselling psychology*. SAGE, pp. 74–92.

Mcloughlin, C. & Lee, M.J.W., 2007. Social software and participatory learning : Pedagogical choices with technology affordances in the Web 2 . 0 era Introduction : Social trends and challenges. *Current*, 2007(1), pp.664–675.

McLoughlin, C. & Lee, M.J.W., 2008. Future Learning Landscapes: Transforming Pedagogy through Social Software. *Innovate: Journal of Online Education*, 4(5). Available at: http://www.eric.ed.gov/ERICWebPortal/detail?accno=EJ840361 [Accessed January 9, 2012].

McNay, I., 2003. Assessing the Assessment: An Analysis of the UK Research Assessment Exercise, 2001, and Its Outcomes, with Special Reference to Research in Education. *Science and Public Policy*, 30(1), pp.47–54.

McQuillan, J., Falk, G. & Richer, I., 1978. A Review of the Development and Performance of the ARPANET Routing Algorithm. *IEEE Transactions on Communications*, 26(12), pp.1802– 1811.

McSporran, M. & Young, S., 2001. Does gender matter in online learning? *ALT-J*, 9(2), pp.3–15.

McIsaac, J., 2010. *Academic Development: conceptions and practice. An extended literature review*. UK: University of Lancaster.

Merchant, G., 2007. Writing the future in the digital age. *Literacy*, 41(3), pp.118–128.

Merton, R.K., 1938. Science, Technology and Society in Seventeenth Century England. *Osiris*, 4, pp.360–632.

Meyer, K., 2010. The Role of Disruptive Technology in the Future of Higher Education. *EDUCAUSE Quarterly*. Available at:

http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazineVolum/TheRoleofDisruptiveTechnologyi/199378 [Accessed December 29, 2011].

Millard, D., A Brief History of the Web. Available at: http://www.edshare.soton.ac.uk/6599 [Accessed August 20, 2011].

Miller, A.N., Taylor, S.G. & Bedeian, A.G., 2011. Publish or perish: academic life as management faculty live it. *Career Development International*, 16(5), pp.422–445.

Mirchandani, V., 2010. *The New Polymath: Profiles in Compound-Technology Innovations*, John Wiley and Sons.

Mishler, E., 1990. Validation in Inquiry-Guided Research: The Role of Exemplars in Narrative Studies. *Harvard Educational Review*, 60(4), pp.415–443.

Mishler, E.G., 1991. *Research interviewing: context and narrative*, Harvard University Press.

Morgan, G., 1980. Paradigms, Metaphors, and Puzzle Solving in Organization Theory. *Administrative Science Quarterly*, 25(4), pp.605–622.

Morgan, G. & Smircich, L., 1980. The Case for Qualitative Research. *The Academy of Management Review*, 5(4), pp.491–500.

Moss, G., 2004. Provisions of Trustworthiness in Critical Narrative Research: Bridging Intersubjectivity and Fidelity. *Qualitative Report*, 9(2), pp.359–374.

Muller, G., 2011. Industry and Academia: Why Practioners and Researchers are Disconnected. , pp.1–10.

Murray-Rust, P. et al., Panton Principles. Available at: http://pantonprinciples.org/ [Accessed September 2, 2011].

Myers, M., 1997. Qualitative Research in Information Systems. *MIS Quarterly*, 21(2), pp.241–2.

Myers, M. & Klein, H., 2011. A Set of Principles for Conducting Critical Research in Information Systems. *Management Information Systems Quarterly*, 35(1), pp.17–39.

Myers, M.D. & Avison, D.E., 2002. *Qualitative Research in Information Systems: A Reader* 1st ed., Sage Publications Ltd.

Myers, M.D. & Newman, M., 2007. The qualitative interview in IS research: Examining the craft. *Information and Organization*, 17(1), pp.2–26.

Naughton, J., 2012. *From Gutenberg to Zuckerberg: What You Really Need to Know About the Internet*, Quercus.

Nemati, H. ed., 2010. *Pervasive Information Security and Privacy Developments*, IGI Global.

Neresini, F. & Bucchi, M., 2011. Which indicators for the new public engagement activities? An exploratory study of European research institutions. *Public Understanding of Science*, 20(1), pp.64 –79.

Newhagen, J.E. & Rafaeli, S., 1996. Why Communication Researchers Should Study the Internet: A Dialogue. *Journal of Computer-Mediated Communication*, 1(4), pp.0–0.

Ngwenyama, O.K. & Lee, A.S., 1997. Communication Richness in Electronic Mail: Critical Social Theory and the Contextuality of Meaning. *MIS Quarterly*, 21(2), pp.145–167.

Nichols, S., 2009. Time to Change Our Thinking: Dismantling the Silo Model of Digital Scholarship. *Ariadne*, (58). Available at: http://www.ariadne.ac.uk/issue58/nichols/ [Accessed December 4, 2011].

Njenga, J.K. & Fourie, L.C.H., 2010. The myths about e-learning in higher education. *British Journal of Educational Technology*, 41(2), pp.199–212.

Noble, G. & Lupton, D., 1998. Consuming work: computers, subjectivity and appropriation in the university workplace. *The Sociological Review*, 46(4), pp.803–827.

Norris, M., Oppenheim, C. & Rowland, F., 2008. The citation advantage of open-access articles. *Journal of the American Society for Information Science and Technology*, 59(12), pp.1963–1972.

Northcott, D. & Linacre, S., 2010. Producing Spaces for Academic Discourse: The Impact of Research Assessment Exercises and Journal Quality Rankings. *Australian Accounting Review*, 20(1), pp.38–54.

Nov, O., 2007. What motivates Wikipedians? *Communications of the ACM*, 50(11), pp.60–64.

OpenAIRE, Open Access Policies and Mandates. Available at: http://www.openaire.eu/en/open-access/mandates-a-policies [Accessed May 19, 2012b].

O’Reilly, T., 2005. What is Web 2.0. Design Patterns and Business Models for the Next Generation of Software. *O’Reilly*. Available at: http://oreilly.com/web2/archive/what-is-web-20.html .

O’reilly, T., 2007. What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. *SSRN eLibrary*, Communications & Strategies(First Quarter), pp.17–37.

Oreg, S., 2006. Personality, context, and resistance to organizational change. *European Journal of Work and Organizational Psychology*, 15(1), pp.73–101.

Orlikowski, W.J. & Baroudi, J.J., 1991. Studying information technology in organizations: Research approaches and assumptions. *INFORMATION SYSTEMS RESEARCH*, 2, pp.1–28.

Ornstein, M., 1913. *The Role of the Scientific Societies in the Seventeenth Century*, The University of Chicago Press.

Orr, C.J., 1978. How shall we say: "Reality is socially constructed through communication?" *Central States Speech Journal*, 29(4), pp.263–274.

Ospina, S.M. & Dodge, J., 2005. It's About Time: Catching Method Up to Meaning—The Usefulness of Narrative Inquiry in Public Administration Research. *Public Administration Review*, 65(2), pp.143–157.

Østerlund, C.S., 1996. *Learning across contexts: a field study of salespeople's learning at work*, Carsten Østerlund.

Owen-Smith, J. & Powell, W.W., 2001. Careers and contradictions: faculty responses to the transformation of knowledge and its uses in the life sciences. , Research in the Sociology of Work(10), pp.109–140.

Panciera, K., Halfaker, A. & Terveen, L., 2009. Wikipedians are born, not made: a study of power editors on Wikipedia. In *Proceedings of the ACM 2009 international conference on Supporting group work*. GROUP '09. New York, NY, USA: ACM, pp. 51–60. Available at: http://doi.acm.org/10.1145/1531674.1531682 [Accessed March 17, 2012].

Papacharissi, Z., 2011. *A networked self: identity, community and culture on social network sites*, Taylor & Francis.

Papin-Ramcharan, J.I. & Dawe, R.A., 2006. Open access publishing. Available at: http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/1332/1252 [Accessed September 2, 2011].

Patton, M.Q., 1990. *Qualitative Evaluation and Research Methods* Second ed., Sage Publications, Inc.

Patton, M.Q., 2002. *Qualitative Research and Evaluation Methods*, SAGE.

Pearce, N. et al., 2010. Digital scholarship considered: how new technologies could transform academic work. *In Education*. Available at: http://www.ineducation.ca/article/digital-scholarship-considered-how-new-technologies-could-transform-academic-work [Accessed June 4, 2012].

Pearn, A., 2007. Darwin's letters archived on web. *BBC*. Available at: http://news.bbc.co.uk/1/hi/6657237.stm [Accessed November 16, 2011].

Pearson, B., 2009. social media for recruitment. *Human Resources Magazine*, 14(5), pp.6–7.

Peek, R.P., 1996. *Scholarly Publishing: The Electronic Frontier* 1st ed., MIT Press.

Phillion, J., 1999. Narrative and Formalistic Approaches to the Study of Multiculturalism. *Curriculum Inquiry*, 29(1), pp.129–140.

Polkinghorne, D.E., 2007. Validity Issues in Narrative Research. *Qualitative Inquiry*, 13(4), pp.471 –486.

Ponterotto, J.G., 2006. Brief Note on the Origins, Evolution, and Meaning of the Qualitative Research Concept "Thick Description." *Qualitative Report*, 11(3), pp.538–549.

Porter, S., 2007. Validity, trustworthiness and rigour: reasserting realism in qualitative research. *Journal of Advanced Nursing*, 60(1), pp.79–86.

Postman, N., 1993. *Technopoly: the surrender of culture to technology*, Vintage Books.

Potter, J., 1964. THE SCIENTIFIC JOURNAL--300TH ANNIVERSARY. *Bacteriological Reviews*, 28(3), pp.211–230.

Powell, W.W. & Snellman, K., 2004. The Knowledge Economy. *Annual Review of Sociology*, 30, pp.199–220.

Priem, J. & Hemminger, B., 2010. Scientometrics 2.0: New metrics of scholarly impact on the social Web. *First Monday*, 15(7). Available at: http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2874 [Accessed June 5, 2012].

Prieur, A. & Savage, M., 2011. Updating cultural capital theory: A discussion based on studies in Denmark and in Britain. *Poetics*, 39, pp.566–580.

Procter, R., williams, R. & Stewart, J., 2010. *If you build it, will they come? How researchers perceive and use web 2.0.*, A Research Information Network report. Available at: http://tinyurl.com/cva3476.

Procter, R. et al., 2010a. Adoption and use of Web 2.0 in scholarly communications. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 368(1926), pp.4039–4056.

Prosser, D.C., 2004. The next information revolution : how open access repositories and journals will transform scholarly communications. Available at: http://eprints.rclis.org/handle/10760/4732 [Accessed September 2, 2011].

Qualman, E., 2010. *Socialnomics: How Social Media Transforms the Way We Live and Do Business*, John Wiley and Sons.

Rallis, S.F. & Rossman, G.B., 2011. *Learning in the Field: An Introduction to Qualitative Research*, SAGE.

Ray, T., 2011. The “story” of digital excess in revolutions of the Arab Spring. *Journal of Media Practice*, 12(2), pp.189–196.

Reed-Danahay, D., 2005. *Locating Bourdieu*, Indiana University Press.

Rheingold, H., 2007. Using Participatory Media and Public Voice to Encourage Civic Engagement. *The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning*, -, pp.97–118.

Rhoades, E.B., Friedel, C.R. & Morgan, A.C., 2009. Can Web 2.0 Improve Our Collaboration? *Techniques: Connecting Education and Careers*, 84(1), pp.24–27.

Richardson, H., 2005. *Cultures of Consumption: Gender and Home e-Shopping in the ’Global Knowledge Economy*. Salford: University of Salford.

Richardson, H. & Robinson, B., 2007. The mysterious case of the missing paradigm: a review of critical information systems research 1991–2001. *Information Systems Journal*, 17(3), pp.251–270.

Richardson, H.J. & Howcroft, D., 2006. The contradictions of CRM - a critical lens on call centres. *Information and Organization*, 16(2), pp.143–168.

Riessman, C., 1993. *Narrative Analysis* 1st ed., Sage Publications, Inc.

Riessman, C., 2003. Narrative Analysis. In M. S. Lewis-Beck, A. Bryman, & T. F. Liao, eds. *The SAGE Encyclopedia of Social Science Research Methods*. Sage Publications, Inc.

Riessman, C., 2007. *Narrative Methods for the Human Sciences*, Sage Publications, Inc.

Riley, T. & Hawe, P., 2005. Researching practice: the methodological case for narrative inquiry. *Health Education Research*, 20(2), pp.226 –236.

RIN, 2009. *Patterns of information use and exchange: Case studies of researchers in the life sciences, A report by the Research Information Network and the British Library*, UK: RIN.

Available at: http://www.rin.ac.uk/our-work/using-and-accessing-information-resources/disciplinary-case-studies-life-sciences .

Ritchie, J.S. & Wilson, D.E., 2000. *Teacher narrative as critical inquiry: rewriting the script*, Teachers College Press.

Rizza, M.G., 2000. Perspectives on preservice teachers' attitudes toward technology. *The Teacher Educator*, 36(2), pp.132–147.

Robson, C., 2002. *Real world research: a resource for social scientists and practitioner-researchers*, Wiley-Blackwell.

Rorty, R., 1979. *Philosophy and the mirror of nature*, Princeton University Press.

Rosenfeld, M., 1998. *Just interpretations: law between ethics and politics*, University of California Press.

Rowlands, I., Nicholas, D. & Huntington, P., 2004. Scholarly communication in the digital environment: what do authors want? *Learned Publishing*, 17(4), pp.261–273.

Sallee, M.W., 2011. The Divided University: The impact of budget cuts on faculty in two disciplines. *Tertiary Education and Management*, 17(4), pp.319–335.

Salzman, H. & Rosenthal, S.R., 1994. *Software by Design: Shaping Technology and The Workplace*, Oxford University Press.

Sanz-Menéndez, L., 1995. Research Actors and the State: Research Evaluation and Evaluation of Science and Technology Policies in Spain. *Research Evaluation*, 5(1), pp.79–88.

Saumure, K. & Given, L., Using Skype as a Research Tool: Lessons Learned from Qualitative Interviews with Distance Students in a Teacher-Librarianship Program. Available at: www.lrsv.umd.edu/abstracts/Saumure_Given.pdf .

Savikas, M., 2000. *The future of career* A. Collin & R. A. Young, eds., Cambridge University Press.

Schatz, B.R. & Hardin, J.B., 1994. NCSA Mosaic and the World Wide Web: Global Hypermedia Protocols for the Internet. *Science*, 265(5174), pp.895 –901.

Schneckenberg, D., 2009. Web 2.0 and the empowerment of the knowledge worker. *Journal of Knowledge Management*, 13(6), pp.509–520.

Schroter, S., 2005. Perceptions of open access publishing: interviews with journal authors. *BMJ*, 330, pp.756–0.

Schultze, U., 2000. A Confessional Account of an Ethnography about Knowledge Work. *MIS Quarterly*, 24(1), pp.3–41.

Schwab, J.J., 1960. Inquiry, the Science Teacher, and the Educator. *The School Review*, 68(2), pp.176–195.

Schwarzer, R. & Fuchs, R., 1997. Changing Risk Behaviour and adopting health behaviours: the role of self-efficacy beliefs. In A. Bandura, ed. *Self-Efficacy in Changing Societies*. Cambridge University Press, pp. 259–288.

Shankar-Brown, R., 2008. *A Case Study of the Social and Educational Experiences of Homeless Children*, ProQuest.

Shaw, E., 1999. A guide to the qualitative research process: evidence from a small firm study. *Qualitative Market Research: An International Journal*, 2(2), pp.59–70.

Schein, E., 1978. *Career dynamics: matching individual and organizational needs*, Addison-Wesley Pub. Co.

Sheḳedi, A., 2005. *Multiple case narrative: a qualitative approach to studying multiple populations*, John Benjamins Publishing Company.

Sheridan, V., 2010. A holistic approach to international students, institutional habitus and academic literacies in an Irish third level institution. *Higher Education*, 62(2), pp.129–140.

Shirky, C., 2010. *Cognitive Surplus: Creativity and Generosity in a Connected Age*, Penguin Books Ltd.

Shirky, C., 2009. *Here Comes Everybody: How Change Happens when People Come Together*, Penguin Adult.

Shirky, Clay, 2011. The Political Power of Social Media. *Foreign Affairs*, 90(1), pp.1–9.

Siffert, P. & Krimmel, E.F., 2004. *Silicon: evolution and future of a technology*, Springer.

Siisiäinen, M., 2000. Two Concepts of Social Capital: Bourdieu vs. Putnam. In *The Third Sector: For What and for Whom?* ISTR Fourth International Conference. Trinity College, Dublin, Ireland. Available at: http://www.suz.uzh.ch/fux/lehre/Sozialkapital/siisiainen.pdf .

Simon, K.D., 2005. The value of open standards and open-source software in government environments. *IBM Systems Journal*, 44(2), pp.227 –238.

Slay, H.S. & Smith, D.A., 2011. Professional Identity Construction: Using Narrative to Understand the Negotiation of Professional and Stigmatized Cultural Identities. *Human Relations*, 64(1), pp.85–107.

Slevin, J., 2000. *The internet and society*, Wiley-Blackwell.

Smith, C., 2000. Content Analysis and Narrative Analysis. In H. T. Reis & C. M. Judd, eds. *Handbook of Research Methods in Social and Personality Psychology*. Cambridge University Press, pp. 313–338.

Smith, R., 1993. Potentials for empowerment in critical education research. *The Australian Educational Researcher*, 20(2), pp.75–93.

Smith, S., Ward, V. & House, A., 2011. "Impact" in the proposals for the UK's Research Excellence Framework: Shifting the boundaries of academic autonomy. *Research Policy*, 40(10), pp.1369–1379.

Snape, D. & Spencer, L., 2003. The Foundations of Qualitative Research. In J. Ritchie & J. Lewis, eds. *Qualitative research practice: a guide for social science students and researchers*. SAGE, pp. 1–23.

Solis, B. & Breakenridge, D., 2009. *Putting the public back in public relations: how social media is reinventing the aging business of PR*, FT Press.

Solomon, G. & Schrum, L., 2007. *Web 2.0: new tools, new schools*, ISTE (Interntl Soc Tech Educ.

Somers, M.R., 1994. The narrative constitution of identity: A relational and network approach. *Theory and Society*, 23(5), pp.605–649.

Sorensen, K.H. and Williams, R. 2002 (ed) *Shaping Technology Guiding Policy. Concepts, Spaces and Tools* Edward Elgar Cheltenham, UK and Brookfield US

Spector, R., 2002. *Amazon.com: get big fast*, HarperCollins.

Spencer, A., 2005. *DIY: the rise of lo-fi culture*, Marion Boyars.

Spielvogel, J.J., 2011. *Western Civilization: Since 1300*, Cengage Learning.

Stacey, P., 2007. Open educational resources in a global context. *First Monday*, 12(4).

Stahl, B., 2011. Critical Social Information Systems Research. In R. D. Galliers & W. Currie, eds. *The Oxford Handbook of Management Information Systems: Critical Perspectives and New Directions*. Oxford University Press, pp. 199–228.

Stahl, B.C., 2008. The ethical nature of critical research in information systems. *Information Systems Journal*, 18(2), pp.137–163.

Steinberg, S.R. & Kincheloe, J.L., 2010. Power, Emancipation, and Complexity: employing critical theory. *Power and Education*, 2(2), p.140.

Steinfield, C. et al., 2009. Bowling online: social networking and social capital within the organization. In *Proceedings of the fourth international conference on Communities and technologies*. C&T '09. New York, NY, USA: ACM, pp. 245–254. Available at: http://doi.acm.org/10.1145/1556460.1556496 [Accessed December 3, 2011].

Surowiecki, J., 2005. *The Wisdom of Crowds: Why the Many Are Smarter Than the Few* New ed., Abacus.

Swan, A. & Brown, S., 2004. Authors and open access publishing. *Learned Publishing*, 17(3), pp.219–224.

Szklo, M., 2008. Impact Factor. *Epidemiology*, 19(3), p.369.

Talib, A.A., 1999. Simulations of the Submission Decision in the Research Assessment Exercise; the "who" and "where" decision. *Education Economics*, 7(1), pp.39–51.

Talib, A.A., 2001. The Continuing Behavioural Modification of Academics since the 1992 Research Assessment Exercise. *Higher Education Review*, 33(3), pp.30–46.

Talib, A.A., 2002. The Research Assessment Exercise and Motivation: A Note on the Difference in the Impact on the Active Researchers and the Non-Active. *Higher Education Review*, 34(2), pp.51–59.

Tan, F.B. & Hunter, M.G., 2003. Using narrative inquiry in a study of information systems professionals. In *Proceedings of the 36th Annual Hawaii International Conference on System Sciences, 2003*. Proceedings of the 36th Annual Hawaii International Conference on System Sciences, 2003. p. 7 pp.

Tapscott, D. & Williams, A.D., 2006. *Wikinomics: how mass collaboration changes everything*, Portfolio.

Taylor, B. & Trujillo, N., 2000. Qualitative Research Methods. In F. M. Jablin & L. Putnam, eds. *The New Handbook of Organizational Communication: Advances in Theory, Research, and Methods*. SAGE.

Taylor, C., 1994. Interpretation and the Sciences of Man. In M. Martin, ed. *Readings in the philosophy of social science*. MIT Press, pp. 181–212.

Taylor, C., 1989. *Sources of the self: the making of the modern identity*, Cambridge University Press.

Thanacoody, P.R. et al., 2006. Career progression among female academics: A comparative study of Australia and Mauritius. *Women In Management Review*, 21(7), pp.536–553.

Thomas, H., 2001. Funding Mechanism or Quality Assessment: Responses to the Research Assessment Exercise in English institutions. *Journal of Higher Education Policy and Management*, 23(2), pp.171–179.

Thomas, L., 2002. Student Retention in Higher Education: The Role of Institutional Habitus. *Journal of Education Policy*, 17(4), pp.423–42.

Thompson, J.B., 2005. *Books in the digital age: the transformation of academic and higher education publishing in Britain and the United States*, Polity.

Tierney, W.G., 1998. Life History's History: Subjects Foretold. *Qualitative Inquiry*, 4(1), pp.49 – 70.

Topp, L., Barker, B. & Degenhardt, L., 2004. The external validity of results derived from ecstasy users recruited using purposive sampling strategies. *Drug and Alcohol Dependence*, 73(1), pp.33–40.

Townsend, A.M., DeMarie, S.M. & Hendrickson, A.R., 1998. Virtual Teams: Technology and the Workplace of the Future. *The Academy of Management Executive (1993-2005)*, 12(3), pp.17–29.

Trahar, S., 2009. Beyond the Story Itself: Narrative Inquiry and Autoethnography in Intercultural Research in Higher Education. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 10(1). Available at: http://www.qualitative-research.net/index.php/fqs/article/view/1218/2653 [Accessed December 22, 2011].

Trauth, E.M., 2001. *Qualitative research in IS: issues and trends*, Idea Group Inc (IGI).

Turner, J., 1986. New directions in communications (or which way to the information age?). *IEEE Communications Magazine*, 24(10), pp.8–15.

Tuten, T.L., 2010. *Enterprise 2.0: How Technology, Ecommerce, and Web 2.0 Are Transforming Business Virtually*, ABC-CLIO.

Veletsianos, G., 2010. Participatory Scholars and 21st Century Scholarship. *George Veletsianos... a place to log ideas and thoughts*. Available at: http://www.veletsianos.com/2010/04/06/participatory-scholars-scholarshi/ .

Veletsianos, G. & Kimmons, R., 2012. Networked Participatory Scholarship: Emergent techno-cultural pressures toward open and digital scholarship in online networks. *Computers & Education*, 58(2), pp.766–774.

Vetter, R.J., Spell, C. & Ward, C., 1994. Mosaic and the World Wide Web. *Computer*, 27(10), pp.49–57.

Voss, J., 2009. Wikipedia as a Knowledge Organization System.

Wagena, E.J., 2005. The Scandal of Unfair Behaviour of Senior Faculty. *Journal of Medical Ethics*, 31(5), pp.308–308.

Walker, J., 2006. Blogging From Inside the Ivory Tower. In *Uses of Blogs*. Peter Lang, pp. 127–138. Available at: https://bora.uib.no/handle/1956/1846 [Accessed July 26, 2012].

Wallace, P.M., 2004. *The Internet in the workplace: how new technology is transforming work*, Cambridge University Press.

Walsham, G, 5/1995a. Interpretive case studies in IS research: nature and method. *European Journal of Information Systems*, 4(2), pp.74–81.

Walsham, G., 2006. Doing interpretive research. *European Journal of Information Systems*, 15(3), pp.320–330.

Walsham, G., 1995. The Emergence of Interpretivism in IS Research. *Information Systems Research*, 6(4), pp.376 –394.

Warburton, S., *Digital Identity Matters*, London: King;s College London. Available at: http://digitaldisruptions.org/rhizome/wp-content/uploads/2010/06/rhiz08_DigitalIdentityMatters.pdf [Accessed December 28, 2011].

Watson-Manheim, M.B., Chudoba, K.M. & Crowston, K., 2002. Discontinuities and continuities: a new way to understand virtual work. *Information Technology & People*, 15(3), pp.191–209.

Watson-Manheim, M.B., Chudoba, K.M. & Crowston, K., 2012. Perceived discontinuities and constructed continuities in virtual work. *Information Systems Journal*, 22(1), pp.29–52.

Webster, L. & Mertova, P., 2007. *Using narrative inquiry as a research method: an introduction to using critical event narrative analysis in research on learning and teaching*, Psychology Press.

Weil, S.W., 1986. Non-Traditional Learners Within Traditional Higher Education Institutions: Discovery and Disappointment. *Studies in Higher Education*, 11(3), pp.219–35.

Weiss, A., 2005. The power of collective intelligence. *netWorker*, 9(3), pp.16–23.

Wellcome Trust, Position statement in support of open access publishing | Wellcome Trust. Available at: http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTD002766.htm [Accessed May 19, 2012].

Weller, M., 2011. *The Digital Scholar: How Technology is Changing Academic Practice*, Bloomsbury Publishing PLC.

Weller, M., 2010. The return on peer review. *The Ed Techie*. Available at: http://nogoodreason.typepad.co.uk/no_good_reason/2010/06/the-return-on-peer-review.html [Accessed November 5, 2011].

Wellington, J. & Torgerson, C.J., 2005. Writing for publication: what counts as a "high status, eminent academic journal"? *Journal of Further and Higher Education*, 29(1), pp.35–48.

Wellman, B. & Haythornthwaite, C.A., 2002. *The Internet in everyday life*, Wiley-Blackwell.

Wenger, E., 2010. Communities of practice and social learning systems: the career of a concept. In pp. 179–198.

Wenger, E., 1998. *Communities of practice: learning, meaning, and identity*, Cambridge University Press.

Wenger, E., Trayner, B. & de Laat, M., 2011. *Promoting and assessing value creation in communities and networks: a conceptual framework*,

Wenger, E., White, N. & Smith, J.D., 2010. *Digital Habitats; Stewarding Technology for Communities*, CPsquare.

Whatley, J.E. & Bell, F., 2001. Collaboration on teamwork projects across borders. Available at: http://usir.salford.ac.uk/2078/ [Accessed January 15, 2012].

Wheeler, S., 2011. Sharp practice. *Learning with "e"s*. Available at: http://steve-wheeler.blogspot.com/2011/09/sharp-practice.html [Accessed November 5, 2011].

White, S.A., 2003. *Participatory Video: Images That Transform and Empower*, SAGE.

Whitley, R., 2000. *The intellectual and social organization of the sciences*, Oxford University Press.

Willets, D., 2011. Gareth Roberts Science Policy Lecture | News | BIS. Available at: http://www.bis.gov.uk/news/speeches/david-willetts-gareth-roberts-science-policy-lecture-2011 [Accessed June 3, 2012].

WIllets, D., 2012. Public access to publicly-funded research | News | BIS. Available at: http://www.bis.gov.uk/news/speeches/david-willetts-public-access-to-research [Accessed July 25, 2012].

Williams, G., 1998. Misleading, unscientific, and unjust: the United Kingdom's research assessment exercise. *BMJ (Clinical research ed.)*, 316(7137), pp.1079–1082.

Williams, J.F., 2001. Leadership Evaluation and Assessment. *Journal of Library Administration*, 32, pp.153–176.

Williams, R. & Edge, D., 1996. The social shaping of technology. *Research Policy*, 25(6), pp.865–899.

Willinsky, J., 2003. Scholarly Associations and the Economic Viability of Open Access Publishing. *Journal Of Digital Information*, 4(2), pp.2003–04.

Willinsky, J., 2006. *The access principle: the case for open access to research and scholarship*, MIT Press.

Wilson, A., 2010. *Knowledge power: interdisciplinary education for a complex world*, Taylor & Francis.

Wilson, T., 2011. The developing role of the educator in Web 2.0 and OER environments. Available at: http://oro.open.ac.uk/29819/ [Accessed December 27, 2011].

Winston, B., 1998. *Media technology and society: a history : from the telegraph to the Internet*, Routledge.

Wolf, M.M. et al., 2012. *Using Social Media to Enhance Learning through Collaboration in Higher Education: A Case Study*, Agricultural and Applied Economics Association. Available at: http://ideas.repec.org/p/ags/aaea12/124597.html [Accessed July 28, 2012].

Wouters, P., 2007. Conservative culture or diverging identities? – studying resistance to technology in academia. Available at: http://tinyurl.com/dy6pwle.

Xia, J., 2010. A longitudinal study of scholars attitudes and behaviors toward open-access journal publishing. *Journal of the American Society for Information Science and Technology*, 61(3), pp.615–624.

Yoo, Y., 2010. Computing in Everyday Life: A Call for Research on Experiential Computing. *Management Information Systems Quarterly*, 34(2), pp.213–231.

Zettsu, K. & Kiyoki, Y., 2006. Towards Knowledge Management Based on Harnessing Collective Intelligence on the Web. In S. Staab & V. Svátek, eds. *Managing Knowledge in a World of*

Networks. Berlin, Heidelberg: Springer Berlin Heidelberg, pp. 350–357. Available at: http://www.springerlink.com/content/v72216441g635445/ [Accessed January 9, 2012].

Zimmer, M., 2008. Preface: Critical perspectives on Web 2.0. *First Monday*, 13(3).

Annexes

Annex 1

Information and consent form

What the Research is about

This project focuses on the study of academic researchers and their networking culture in a changing environment. Our interest arises from the observation that we find ourselves as active members of a society in change, which consequently stimulates the development of new working and social practices. In the last decade we have witnessed an exponential development of key areas of society. The digital and technological advancements are probably the most important landmarks of this era, being the most visible, rapidly recognised phenomenon the web. It has revolutionized the way people access, produce, publish and repurpose content at a global scale. As society become more technological reliant, it is important to understand what implications it has on one's practice and how it eases one's adaptation to a world in progress.

Many forms of stimulating networking have been developed over the years. From conferences, fellowships at guest universities to research summer camps, academics attempt to develop a suitable platform to engage and make their profiles known in their researcher communities. However, with the emergence of digital technologies, the networking capacity has been augmented and opened in ways almost unimaginable a couple of decades ago. Researchers now have the possibility to create their own web presence (websites, blogs, etc), develop collaborative spaces (wikis, google docs, zotero, etc) and share the contents of their work more broadly, and in different formats, through easy to use and easy to access applications and networks (presentation share, videocasts, podcasts, social networking sites, microblogging, etc).

Hence, studying the current networking practices of networked academic researchers, the dilemmas they face regarding their work becoming public and the implication the new networking contexts have in their research practice are important to our research. Understanding how it has evolved over years (regarding the periods in which our research participants have been in practice), and to what extend web technologies have impacted in the participants' academic networking activities is also central to this project.

Who am I

I am a PhD student doing research on web-based networking practices at the University of Salford

Confidentiality and Safety of Data

The information you provide will be considered confidential, and coded for that purpose, unless you state it otherwise. The same applies to full anonymity. Data will be disclosed only with your permission, except as required by law. In any publications resulting from this research, findings will be presented in such a way that **NO** individual can be identified unless s/he expressly agrees otherwise.

mmunication/ Data	**ts**	**Vithdrawal of Consent ents**	
ianges with rs	r and ts	ded	private
emic profiles	r and ts	on voluntary. Consent r to the interviews. t can withdraw at any	private, unless CV / profile is available on or open access
Interviews	r and ts	on voluntary. Consent r to the interviews. t can withdraw at any	is, used as main data method. Made public quest of the interviewee
e case studies via a ed for this purpose e to face meeting	r and ts	iven when participants ake part on this study. ts can withdraw at any	anonymously, unless ew requires the
nal	r	ded	private reflection, and form construction of as well as research

Right of Withdrawal

All those being interviewed or whose discussion contributions are analysed will be given the opportunity to discuss issues raised in this protocol, by contacting c.mendesdacosta@salford.ac.uk.

Consent

You will be given a copy of this form. You are making a decision whether or not to participate. Your signature indicates that, having read the information overleaf, you have decided to take part in the study.

………………………………………………
Signature of Research Participant

………………………………………………
(Please PRINT name)

………………………………………………
Date

………………………………………………
Signature(s) of Investigator(s)

……………………………………………….
Please PRINT Name

Revocation of Consent

I hereby wish to WITHDRAW my consent to participate in the research proposal described above. By doing so, I reserve the right to also withdraw any consent previously given to use data that might have already been collected about me. I understand that all data will be destroyed and not included in the study, provided that the project hasn't yet come to an end or the research been published, in which case this will no longer be possible.

Signature Date

………………………………………………
Please PRINT Name
The section for Revocation of Consent should be forwarded to <<Researcher Name and Address>>

Annex 2

Narrative Interview Guide

Background information
Purpose: to establish a view of your research field (particularly with regards to collaboration / networking), an d how it may have changed / is changing over the time you have been a researcher

Key points:

- Description of your research field
- Change in your field of practice since you started as a researcher. tell us about your journey.

Research Practice
Purpose: to learn 'how things are done around here' in your research field

Key points:

- Description a 'regular' day in your research practice
- Analyzing collaboration in your field

Research Dissemination
Purpose: learn about through which channels research is communicated, and how

Key points:

- refer to the common approach to disseminate research
- formal vs informal channels
- current enablers / barriers to dissemination

Catch-up questions

Attitudes regarding the use the web
Purpose: learn about personal traits / approaches

Key points:

- personal views on the use of the web in the context of learning and researching

Use of the web
Purpose: gather information about research participant's web practices / habits

Key points:

- frequency
- kind of tools used / sites accessed
- change in practice
- importance of online presence
- awareness of the 'judgments' of peers and colleagues

Influences
Purpose: gather information about perceived impact

Key points:

- impact on the web on academic practice
- agents of influence

Interview guide influenced by J. Fry , 2004, Scholarly research and information practices: a domain analytic approach. Information Processing and Management. 42,pp. 299-316

Annex 3

Invitation letter sent to research participants

Dear xxx,

I am emailing you with regards my PhD research project.

I am looking at the networking practices of academic researchers, who are actively engaged online, through a story telling approach. I would like to invite you to be one of my research participants.

I observe the following protocol:

- I start by asking for a CV - any portfolio, etc that represents your career/training path.
- I conduct all interviews via Skype. Video and/or audio are recorded and shared with participants upon their request.
- From there, I will try to reconstruct what was told during our conversation into a kind of of blogstory which I will share with the person for their comments. (blogposts are accessed via a password).

Yet, nothing stops them from blogging about it in the open or use any other means of reflecting/ documenting it afterwards.

If Research Participants decide to disclose their identity , i.e., decide not to go as anonymous participants, they will be asked to explicitly mention that in the form. In case people want to go anonymous, they just need to sign it, provided they agree with it. After that, they should return it to me.

If you are able to get involved, please suggest a time and day so we can conduct an interview via Skype.

I look forward to it.

Kind regards,
Cristina Costa

Annex 4

Thick description of research participants

Anne (Code: RP0)

The interview with Anne served as the pilot interview for this research. It aimed to test the interview guide as well as my narrative interview skills. It was also used to screen the viability of the questions and research participants' reactions to it. The interview went so well that I decided to include it as part of the overall research project. As such the data from Anne's interview has been dealt with in the same way as all the data derived from the subsequent interviews. I must however highlight that Anne's interview was the only one that was conducted face to face. All the other interviews were conducted via web telephony, as described in chapter 3, given the physical distance between the research participants and myself. Nonetheless, I do not consider this made any significant difference regarding the development or the dynamics of how the other interviews were conducted. This may be attributed to the proficiency with which the research participants use such tools on a daily basis.

I met Anne at one of her University's lunch spaces during an afternoon. Anne introduced herself as an academic in the field of Information Systems; an area/discipline which, according to her own words, is in the borderline with many other disciplines, such as Business, Education, Learning Technologies, etc. She also pondered about her 'identity of practice' as she positioned herself within her field:

I position myself on the boundary between learning technology and information systems, which itself is an edge discipline – as is learning technology, I think. Learning technology is on the edge really isn't it? Education, computing, information, all of those things. So I'm an edgy sort of person!

Anne gave me a thorough explanation of the changes the area of Information Systems has witnessed regarding the wider field in which it is positioned. She also told me how her field lends itself to the development of collaborative links within and beyond her institution and disciplinary field, despite the difficulty of getting funding given the current economical climate in Great Britain.

As we looked back into her career history, it was easy to identify that Anne is a ‘networker’ - a term she used to describe herself. She is someone who connects easily to people and who capitalises on her contacts to create new opportunities and thus advance in her research. She provided examples that illustrated this capacity of hers and talked about her connections with other researchers across disciplines, within and beyond the institution.

Anne also reflected about her career path, and provided me with useful glimpses into changes she had to make in her life for personal reasons. In doing so, she pointed out how she was able to change and adapt to the situations ahead given the circumstances she faced in her personal and professional life.

I used to work in industry as a programmer and business analyst, then when I wanted to start a family, the time at which I did that job, it was a very unfriendly job for somebody who had family responsibilities, because you had to work a lot of overtime, and I couldn’t see how that would work, so the other thing that I was also interested in was teaching. I have actually taught at all levels from 11 year olds to PhD. (...)

I’m very interested in people who have second chances.

(...) the great thing about university is that you don’t just have to be someone in a department, you have to be a member of the university, and you can work with people right across the university. Sometimes, when you can’t change things where you – in your day to day working life – you can actually then team up with people from across the university, and I think I’m somebody who does a lot of that.

She ended up sumarising her career trajectory as a “self made curriculum”.

As the conversation shifted into a more recent past, Anne described some recent episodes of practice, when she was reconnected with former colleagues via the Participatory Web. She came across as a keen user of new technologies, but she was equally very critical of the way they are used, ‘and misused’ by some colleagues.

Approaching the topic of Participatory Web applications, Anne provided a practical account about her use of the medium. For instance, whereas the social network site Twitter seems to provide a good conduit for her professional presence, she did not seem too keen in exploring Facebook in the same way. She also put a strong emphasis on the use of her blog as a personalised record of her experience and journey, and admitted to its value in raising her profile. Yet, she was critical of these channels of communication as a replacement mechanism for the publication of scientific work. Although she defended the need to exploit the new medium she was reticent to completely break away from more classic practices. In doing so, she pointed out how democratisation online is as utopic as it is face to face.

I don’t personally think that it replaces traditional methods of publication, I think a lot of the discussion on, in the blogosphere, it’s very local and superficial, and it’s very much, I mean I’m very interested in gender aspects of communication because I don’t really see anything changing. I think women are still very much ignored in these settings. The boys are much more likely to quote each other. So I think that it’s the same old opportunities and problems that society has always had but in a new setting, and thinking that somehow it’s democratising it is not really the case. So I think that it’s another channel of communication that’s more suited to some things than to others, but it can definitely amplify – these channels can amplify each other, and they do cost you time as well.

We concluded the interview with a reflection on creativity (after the recording had stopped), which Anne prompted herself. She told me how she recognised the role of creativity in her life and how crucial it has been to her to be able to reinvent herself in the changing environment.

John (Code: RP1)

The interview covered John's experiences, concerns and attitudes towards the Participatory Web.

John is a lecturer in History. He specialised in military, imperial and colonial History as part of his doctoral research in his home country. His interests have however evolved to the fields of geo-politics and complexity sciences since then. He attributed the shift of interests to his moving to the UK, where he started having access to other sources of information and archives. He also claimed to have more recently developed a side interest for the Participatory Web. Nonetheless, this is a field which was not yet fully embedded in his research practice.

He asserted that his field research is still conducted in a 'fairly traditional form', with historians spending most of their time in archives, where they write and interpret History as a solo journey. As a result, the research outcomes are only made known through peer-reviewed publication which only few have access to. He used this example to clarify that his interest in the Participatory Web comes from a practice perspective rather than a research one. 'As an amateur', he announced during the interview. He justified his position by saying:

I have been thinking about it for a long time, and I find that, I think it is a very big jump to really start doing research quite openly instead of waiting for the results to be there and publish them, but my experience with twitter, my experience with sharing ideas and sharing micro content, showed me that there is a lot more to win from being open and sharing stuff.

Although John started blogging in the 90s, his blogging activity was consciously not about his topics of research but other topics that informed his knowledge about other fields he's interested in. He justified this approach as a form of conforming with what he thinks to be the culture of his discipline, and acknowledged the low levels of tolerance of changes in practice or innovations in his field. He stated:

The typical historian is very much some kind of lone ranger who works in his ivory tower, or in the boiler rooms of the ivory tower, if you work in a less prestigious university, but very, very few people are collaborating in that way, and they certainly will not do it openly.

His use of the Participatory Web outside his field of research gives him the freedom to explore it without the pressure of his peers. It has also enabled him to get involved in a different 'learning and researching culture'. John shared the following:

I think it [the Participatory Web] has exposed me to totally new ways of thinking, to a culture which is very, very different from the dominant culture in academia. I've been involved in following people on twitter who are part of... who are really into using social media to share information'

John provided a very interesting account of his take on the use of the Participatory Web for research at the same time he insisted he cannot apply those ideas to the field of History. He did not restrict the use of the Participatory Web to the availability of research publications. He went beyond this concept to discuss about open practice (recording the research process through the Participatory Web) and how big a jump it would be to start researching in a very open way. In John's perspectives the real potential of the Participatory Web is in sharing content, in unveiling the research process, and not just publishing the results, as the typical historians still do.

The real potential as I see it is for social media, or open media, to be fully integrated into the way that research is conducted, not simply broadcasting the results, or sharing elements of the results. I think the real benefit of open media is in the thinking process, not in the dissemination process, and I feel this is very much a problem. People think 'media', they think publication, dissemination, but I think that this is only one aspect, and perhaps the most important aspect – is to help in the thinking process.

But as he realised 'we are still not there'.

John, once again, emphasised that this idea does not apply to History as a discipline, as he claimed that there is a 'problem of perception'. He illustrated this with examples of his own practice, as he expressed his reluctance in sharing content of archival discoveries he made recently. Although he recognised that this could help advance his thinking, he was also aware that it could potentially hinder his career and research activity as others could take the opportunity to publish it in official journals before he did.

It can be problematic as there is still not a culture of sharing in place, with very few researchers, if any at all, conducting open research.

John also evaluated emergent practices. He said that 'people are increasingly aware of sharing articles online'. But he was quick to admit that this is due to their need to be cited more often, and that it does not come from a genuine idea of sharing knowledge. It is rather a more strategic need.

Although John is a proficient user of the Participatory Web, he does not consider himself to be a networked researcher for the reasons already mentioned. Yet, he sees himself as a practitioner involved in the Participatory Web, and who is hyper-connected at a private level. In his own words, he also sees himself as 'an outcast' as he has a very different approach to research with the support of the Participatory Web from the majority of his Historian colleagues. The interview is concluded with a short reflection on the effects of the Web on his practice. He pondered about the web being a place of intellectual stimulation which for him does nor result in the publication of new research. Yet, he admits to the potential of the belonging to networks that help the maturing of ideas.

Lucy (Code: RP2)

Lucy is a midwife by training who has got a long passion for learning and helping others in her craft. After she left practice she used to work as a midwife educator at an institution that moved its strategy from face to face teaching to e-learning and blended learning. She was introduced to online environments as she followed the transformation of her institution. Later, as she moved to another institution, she also traded subjects, being her practice now more connected with the field of educational sciences. Her work still relates to learning in online environments, being her greatest interest in supporting other academics with the use of Participatory Web. She also works as a consultant bringing her two fields of expertise together: education and midwifery. She is also doing a PhD.

Lucy reported about a clear shift in the way she has been conducting her research practice. As she described, until 3 years ago she took a fairly traditional approach to research. She would initiate any research project with the typical research structure, starting with literature research, searching the electronic databases, going off to the library, writing a plan, and probably even talking to some people 'in the coffee lounge'. Yet things have changed for her with the development of the new technologies, although she admits that was already the case before the emergence of the current Participatory Web.

She talked about her 'love affair with the internet'. She attributed her enthusiasm for the Web to the fact that she used to live in a rural community and that she felt 'very isolated not just physically but also professionally'. As part of her reflection, she recalled her participation in discussion groups and how those forms of networking and sources of information were useful for her, but not regarded as credible at the eyes of her peers.

Fast forwarding her narrative to her current circumstances, Lucy shared a different opinion. She acknowledged that her approach to research has changed. She still does her literature search, but it is not restricted to the library. "It tends to be all electronic' through databases. She even confessed that the visit to the library is often not considered anymore. At a certain point in our talk Lucy even admitted, jokingly, that if something isn't online, it probably won't get used.

Now I take a very different approach, well, yes instead of saying a different approach... I mean I would still do the literature searches, I mean I think that all my research begins with a good literature search, but that literature search won't just be going physically to the library. It tends to be all electronic databases, I very rarely physically trot off to the library these days, actually I probably – Cristina – if I can't actually find something on the internet then I probably won't use it, which brings up all sorts of interesting questions

Lucy complemented her thought by listing other alternative sources besides the regular institutional databases. These include googlescholar, youtube, slideshare, or even wikipedia. She admitted not to use only the 'so called credible academic resources…' because sources such as wikipedia might give her access to useful background information which will help fill some gaps. Lucy also listed active participation online as a form of supporting her research endeavour: she talks to people on twitter, and blogs about her practice as a way of starting 'documenting the whole process of that research process'. She complemented her thought by saying:

The reason I do that is I think probably 3-fold. It helps me put some order to my thoughts. It helps me document the whole process and I can go back and look on it and see, follow my own journey, but thirdly, and probably the most important to me, is I get feedback from people.

Lucy showed evidence of her advocacy for Open Access. She makes sure all her published work is accessible to all. She reported about her involvement in projects that take such approach and reflected about the importance of having been involved in teams that support the same ideology.

I think I need to make it quite clear here that the research that I've done over the years has been very much my own research, or being involved in teams that like to take the open approach to things. So, for example, the second life research that I was involved in last year was open, it was very much open. Every time we sneezed we blogged about it. So I've never been, luckily, or not, depending on your point of view, that I've been in a big team of researchers that have been tied down to a lot of university protocols.

As part of her dedication to the openness of knowledge, Lucy has made a conscious decision of licensing all her work under a creative commons license and only publishes in Open Access journals. This has huge implications, as she reported, as Open Academic journals are still scarce, thus limiting her options.

Lucy is clearly moved by practical purposes and by the need to make her research serve practice too:

I haven't got hundreds of publications in high rated journals (...) I am an ordinary person, and ordinary midwife, I see myself as demonstrating what ordinary midwives can achieve when they put their minds to it. So I'm not a high saluting academic, I'm just an ordinary person. (...). So I very much made the decisions that I was going to make a creative commons license on all my work (...). And I made a decision a couple of months ago that whatever publications I do, when I do get around to it, that I follow Terry Anderson's lead and only publish in open access journals, and that has huge implications for me as a practitioner, because there aren't many credible midwifery or nursing journals in the open access environment.

As we move on with the interview, Lucy states she does not see herself as a young academic and that being at the stage of the career she is currently at allows her you pick and choose what she wants to do. She has more freedom to challenge more conservative practices. She acknowledges the tensions between 'pushing the boundaries and paying the bills', and questions if she would have taken the same approaches had she been attached to an institution which would not support such ventures.

I'm not an early researcher – I'm not someone in my early or late twenties, early thirties that's building up an academic career, that wants to be a professor in ten years time, (...) I'm in a position where I can pick and choose what I want to do. (...) I'm not a young researcher, I'm not a young academic who's having to fulfil academic and university expectations to get a job and get promotion.

Lucy’s support of Open Access practices also displays a more pragmatic reason. She aims to build a reputation for herself by putting her‘ research out there‘ and be open about her practice.

I’m very wedded to the whole concept of being open. But also it’s being pragmatic. I’m trying to build my reputation as someone who could be a consultant, because I do want work, I do want to pay the mortgage, and the more you publish online the more you’re going to – the more people are going to know who you are.

Her online practices have helped her establish informal partnerships. She described herself as following

I probably see myself as multi faceted, I mean I still see myself as a student, a learner. I see myself as a follower, but I’m also mindful of the fact that I think now I’m starting to become someone that people follow, and I see myself as a mentor, and that is becoming increasingly obvious.

But she also describes the isolation she submits herself to when making such choices:

it’s very important for me to be transparent, but I am probably quite, I have always felt – I have for the last 2 or 3 years – and I’m very alone in this in the profession (...).

I do see myself as being a bit of a role model, and I know that sounds conceited, (...) but I see myself as a bit of a lone cowboy on the frontier of the wild west.

Alex (Code: RP3)

Alex is an early career researcher with quite a few experiences in real life situations, as he took the time to explain during our conversation. He took 2 years away from education between college and university and did volunteer work in his field of his studies while doing his degree. He had hoped to go into clinical psychology but ended up changing career paths into social works. As he stated, he was not so much interested in Academia per se but rather in getting a qualification which would guarantee him a job. Yet, he admitted that by the end of his Master's degree there was a turning point in terms of his own perspective, that of a mature approach towards education as a way of being intellectually challenged and not in acquiring a grade or a certificate. As the story progresses there are mention of key people who keep Alex in an academic path. First by being encouraged to publish his under-graduate course dissertation and later by the suggesting he enrolled for a PhD. Alex is now an associate researcher and a PhD student.

As we carry on with his 'story' he refers to his research field as 'not a traditional academic environment', where people don't necessarily carry out research based on their academic interest, but rather follow the available funding opportunities. As such the research practice becomes shaped by the funder and what they expect from the researchers. He also asserted that when it comes to conduct research driven by individual interest things are a bit different and there is more scope to be innovative and advance new ways of researching.

Alex portrays a very pragmatic approach to the way he exploits the web for his research purposes. As he noted: 'It's all about information…exchanging of information'.

He regards his online presence as an enabler for sharing information with audiences independently of where they are. He also uses the web to 'feed him' [with relevant information]. 'Twitter is really good for that', he said. As he described his participation online, he highlighted the practice of 'sharing' as very important as it enables reciprocal contributions. He stated:

When you have got something worthwhile to say that will add to what they are already thinking, or it is going help them think, or make them think about something they might not have done before… and I guess that is an output of your own research…to be able to contribute to what other people are doing.

As our conversation moved deeper into the topic of research dissemination, Alex claims that the primary focus is put on traditional ways of communicating research. He supported his claim by saying how he has come to realise how standard research dissemination can be. He anecdotally mentions what it is done when colleagues are bidding for research

(…) conference presentation and journal article…which goes on every single bid…. as if that is all there ever is (…).

Yet, Alex is quick to recognise the value of conferences and journal articles in terms of career progression. As he stated,

That is still what's valid, isn't it… that is still what's recognised as being important no matter how much people might want other things to be. … the REF …the REF is still dead important, isn't it?… that is what is important for the University (…).

Parallel to those dissemination strategies there are some innovative strategies he feels that need to be highlighted and

Which expose more. It is more outer facing… it is not for the academic community' as part of a different agenda, that of 'engaging the public'. That is where Social Media comes in.

However, as he admits, these

are not really established' or 'there isn't the same recognition for it … and it is not clear and easy what you are supposed to do.

In his reflection, he also reported about the little interest other researchers working in his research unit show about the research blog. He attributes that to the little value is attributed to such communication strategies, and Participatory Media in general. This is represented in the following quote:

(...) What I've realised… the academic community… in terms of career progression (…) the things are going to get recognised are those old, traditional things like getting to a conference, writing a journal article that no one's gonna read … it's those kind of things academic community still values the most.. so I could write the most amazing blog, I could get 5000 followers on twitter, hanging on my every word, but basically if I don't do the traditional things … I am not gonna… I am not perceived as being successful in my field… I suppose…. so would I do it again. Yeah, I'd do it again, but I didn't know it had to be balanced really… it has to be put into perspective to all the other demands upon you.

The interview with Alex ended with a reflection about his identity as a researcher. He describes himself as 'sometimes young and unexperienced', but also as a 'bit more radical, someone who has a bit more of forward thinking' than the majority of his colleagues.

Heidi (Code: RP4)

I knew Heidi and had worked with her before. However, I was still impressed with the enthusiasm, energy and passion with which she narrated her academic experiences. Heidi came from practice into an academic role. She is now a Professor of Nursing, being her role to champion research activity and provide leadership to about 40 researchers/lecturers. Her role, as she described it is about 'capability building'. As such she manages her team of researchers, supporting their research activity and promoting new ways of researching.

Heidi came into Academia as a researcher. Throughout her time in Academia she has helped other people deploying their own research ventures with the use of technology. She claimed that has to do with the fact that

(...) in nursing, people don't seem to be very technologically minded…because I know how to put blogs and wikis and webpages together I can encourage and help them with that.

Heidi talked about wanting to move forward, to make research more accessible and interesting. She said:

Certainly in my own field of research, particularly with end life care and assisted dying…what we want to do is to move it forwards…and looking at things that help people make digital stories, get their ideas across, looking at what messages nurses hear when patiences drop into their conversations and develop things like that. That's locally and also internationally because I also have links with someone in Australia and someone in America and we are all working together on this and trying to put a big research together on this and moving that forward.

As we moved on in our conversation, Heidi mentioned that her research interests within her subject area are rather distributed and emergent, in the sense she has never restricted her research scope to a single topic or remained closed to new topics. Although Heidi pondered that not having that 'strong a focus' on a single area may be seen as a weakness, she was quick to admit that it is indeed a plus for her. In her own words, Heidi described herself:

As someone who seems to reinvent herself all the time' and she goes on to say: 'some researchers research the same thing for the whole of their careers and others are more….research 'whores' like me (laughs) who get bored easily" and look at other areas.

Reflecting on her current research environment, Heidi points out two parallel situations:

Looking at the research environment we are in at the moment, two things are happening: firstly, the lonely research is increasingly a dying beast. (…) journals are more interested in papers that have got joint authorship with other disciplines, or other universities… the second thing is that when you actually start looking at where the research funding is coming from…they are very open and very interested in multi-centre, collaborative research…clinicians and academics working together… that's seen as more attractive.

As Heidi moved on in her narration, it was inevitable to note that there is a strong emphasis on practice, and how practice leads her research and how, in exchange, her research is aimed at having a practical impact.

Collaboration in research and amongst researchers came across as an important aspect of Heidi's practice. During our talk, she mentioned the crucial role the Participatory Web has in assisting that purpose. She stated that "collaborating with technology makes things so much easier", and went own to describe how she is committed to support her own research students in "expanding their research" through such means of communication. Yet, Heidi is aware that her enthusiasm for technology is not a shared practice amongst peers.

This takes our conversation to the effects the Participatory Web have on Heidi's career and profile as a researcher. Heidi admits that there are not many people in her field using the Web in the same way she does. Her prolific presence across different Web platforms has gained her some recognition in the field, so much so she is now often "asked to review papers that have the word Internet in it".

Using the Participatory Web is, in the words of Heidi, "a niche activity in term of reputation". Yet, the vibrant environment Heidi embraces for collaborative ventures and profile raising does not seem to be exploited the same way for research dissemination purposes.

Heidi's first reaction when I asked her about dissemination of research with the Participatory Web was one of discontentment. The rhythm of her speech seemed to slow down as she said:

> Not a lot [goes on] to be honest. It's still…when people think about dissemination I think their first thought is still high impact journals, and I think that is probably because we are still driven by the REF in Universities. And it's quite disappointing that there is this focus on just that.

Having said that Heidi did offer an example of less conservative methods: self publishing. She told me she encouraged a friend to publish his literature review on his website. 'For him it would be OK 'because he doesn't care about the REF, he doesn't work for a University'.

As our conversation moves into the realm of research publication, Heidi reflected about other areas of dissemination beyond the journal article that are begging to be explored . She stated:

There is a whole area of writing out there that we are missing…given health care obsession with user involvement we need to be creating stuff that is user accessible. And clearly the first place users look is the Internet. So we need something that is evidence based, better than the opinion pieces that are out there, but accessible to the average person. And that is a new whole area to think about.

As her reflection evolved, she also touched upon another important topic: Open Access. She said:

I am all Open Access, the difficulty is that the journals aren't. The other difficulty from a University researchers' viewpoint is the IT infrastructure is bad. The other difficulty is copyright.

Heidi ended her interview with a positive note as she remarked about its potential to raise her profile and extend her research beyond her physical space.

Neil (Code: RP5)

Neil is currently a lecturer in Climate Change at a University in the UK. He is based on a 'research intensive unit'. This allows him to continue focusing on the research he was doing at another institution as a post-doctoral fellow. Trying to 'build a group in that field' is also part of his role. 'So, [he concludes], getting research funding and publishing papers' is also a core part pf his role.

Neil started his PhD in 2001 when 'things were very different.' His area of research revolves around big data sets, and the integration of computers in his workplace has come to make a difference regarding the flow of huge amounts of data:

(...) a few gigabytes isn't unusual for 1 dataset, and 10 years ago that just wouldn't have been possible to use on the kinds of computers that were standard for PhD students at that time. So in that respect the flow of data between researchers wasn't particularly good. Certainly now, you could put a file of a gigabyte on an FTP site and let people know it's there – so it's a distributor.

Altough Neil regards the use of networked environments as very positive in his area of research, he is also very careful with regards to the practices of open sharing, as it can expose researchers' work in rather unpredicted ways. He provides an example:

People at the University X were happy to share their data with other academics, but less happy to share it with people that they were knew were just looking to pick holes in their work. So in that respect, people are relatively guarded of who they give their data to, but once it's processed into something that you're happy for the world to see, you do see it on a lot of websites (...), but the actual raw data that was used to produce that is less easy to get hold of, and in my work, the field campaigns I worked on between 2005 and 2007 we collected an awful lot of data but we kind of kept it private for a couple of years. So within the project we were happy to exchange data between one another, but outside of the project we weren't distributing the data so that we had the first chance to write the papers and do the investigation from that data.

Reflecting further about the power and potential on the Participatory Web as part of his research enterprise, he states that it's quite common that people in his area use new technologies as part of their work. He goes on to providing another example that illustrates on that:

If you get in touch with someone you don't know and say I've seen your paper on this, I think it would be good if we combined our datasets, we'd come up with something new, in that respect you would be co-authors on any papers you wrote, so it's making the most of the data that you went to some sort of effort to collect.

We then shifted our conversation on to online collaboration. Neil points out that he does make use of the Participatory Web for collaborative purposes but 'it tends to be mostly local', and it focuses more on the of sharing data and code relevant to the teams he works with rather than on 'in-depth collaboration'.

Neil's narrative progressed on to the ways he exploits the Participatory Web to establish his online presence and raise his own research profile. He talks about the usefulness of his blog to share his research, and augment its impact beyond the publication:

I've written a few blog posts based on my own research, so if I have a new paper coming out or something I'll try and summarise and put it in context with a big picture. So it's partly to help increase awareness with publications I have.

As he goes further into the topic of blogging he shares his strategies about aggregating his blog to researchblogging.org to make his research more available, and ponders how this can bring him new opportunties. In doing so, he provides an example:

I suppose 1 or 2 posts I've written have potentially started maybe new directions for research, so the last post I wrote was probably about a meeting I went to last week that was in collaboration with, well it was a joint meeting between climate scientists and insurance companies, so how to access risk from climate projections. And that's not really something I've done in the past, but yes, someone commented on my post saying they're at [a given British institution] doing something like that, and I'll probably email them at some point in the future to see if there's a seminar coming up, to find out more about that, so that's a potential field for writing a research proposal on something that is a little bit outside my area of expertise, but that wouldn't have happened without the blog I don't think.

Neil also talks about the fact that the Participatory Web helps widen his network. This is due to the informalities and connectivity such communication channels enable. Yet, he is also concious that this does not necessarly transform people's research practice:

There's a few people on twitter that I would now feel more comfortable about emailing and saying 'can you help me out with this'. (...) But more generally I don't know if it's changing the way people do research. I think it's more the way that you find people to do research with and then let people know about it. For example, just before I left [his former institution] we set up a podcast, and the way that we plan episodes on that is using a wiki, which worked really well. And I've tried using that with research projects as well, using a wiki to plan how were going to do small research projects with 3 or 4 people involved, and it hasn't quite worked because the more senior members of that research team aren't that keen on adopting it.

This takes our conversation to another sub-topic of the research cycle: dessimination of research, which according to Neil does not seem to have changed much. The processes he follows is his area seem to be the standard ones, as he described:

It's not a very well developed system I don't think. It's just that you publish a paper that you'll talk about twice at conferences. Once when you're doing the work and maybe once when you finish it. That 's pretty much it.

He goes on to reflect about his use of the Participatory Web and how that may give him some advantage.

Yes, I think I'm more findable and open about what I do, or not, I talk about what I do more than most people I work with I think (...) I think with the move towards putting impact assessments in research proposals, it certainly gives me a little bit more to talk about in that respect. You know, you can talk about blogstats and podcast stats and things like that, and I don't know if that helps you stand out from the crowd, but I don't think it does much harm.

But he also admitted that, at the time this interview was done, he was 'the only one who blogs at all' in his team. This may be due, as he went on to explain, because

Most of the high profile climate blogs are quite anti-science, they're run by amateurs who have a strong agenda against the scientific consensus. [This makes] people see blogs as a bad thing.

Our conversation ended with a short reflection about research impact and its relation to Neil's use of the Participatory Web. He concluded:

There's clearly an overlap because I tweet and blog because I'm a scientist, but at the moment it's relatively one way, in that my research feeds into the blogging but the blogging hasn't, doesn't contribute much to the research at the moment.

Hector (Code: RP6)

I interviewed Hector via Skype. His narrative provides a rather in-depth view not only on his practice and the tensions in which it is embedded. There is a clear tone of discontentment evident by the emphasis on existing tensions between his approach to practice and institution's expectations.

Hector's background is in Bilogical sciences. He did his PhD in this area, having also had several post-doctoral positions before accepting a lectureship position, because he "wanted a teaching job" after having been a lab researcher for several years. His choice for a teaching focused career implied that he eventually would leave lab research to focus education research within a 'lab research unit' in the School of Medicine of the University he works at. This, as he pointed out, 'causes some tensions' regarding research income and the way other lab researchers regard the activities of those who dedicate themselves to educational research.

Hector went on to explain that his research enterprise was, however, recognised recently with the decision for the school to have research themes, of which pedagogical research has become one of them. But he still regards this new decision with skepticism, attributing this to be prompted by external interests, such as the institution's participation in the Research Excellence Framework, also known as REF, rather than that of acknowledging the value of his research field:

So theoretically even though I'm in the School of Medicine, theoretically, pedagogical research is a valid research theme. Now the reality is that the details of that have to be worked out. Obviously all of this is being conducted with a view towards the Research Excellence Framework as well, which is obviously the university's main consideration. So in theory I've got a legitimate post. In practice there are sometimes some tensions.

Hector elaborated even further about the tensions he faces, as he mentioned the discrepancies in funding awards between the life sciences and educational sciences. This seems to create issues amongst the teams of researchers in his units as comparisons regarding the moneys the teams attract are often target of comparison:

We're working alongside cancer researchers who pull in programme grants from the Welcome Trust or the Medical Research Council for £3 or 4 million, and even standard lab research in the life sciences (...). Now clearly the sums of money that we pull in for educational research are much smaller than that, even when we've got what we would consider to be a rather large grant, we're talking up to say £50,000, we're not talking about millions of pounds. That's an issue, because we do, of course, get compared, and that creates a problem.

And he elaborated that the comparisons are also extended to research outputs, which according to hector, seem to be quite standard, and not in synch with his own philosophy:

The way in which, or the places, firstly the places, but also the way in which we publish information, is also a problem because our colleagues are trying to publish information in journals with impact factors between 20 and 30, and I'm afraid the University is completely hung up on impact factor as a means of measuring the research, because it has such great importance in the REF. So even the best education journals have got impact factors in low single figures. And many of the places that I'd actually like to publish my research – many of the open access journals, for example – have got no impact factor at all.

Hector continued his narrative of conflict by providing further examples that illustrate well the tensions he faces. He refers to the Research Assessment Exercise (RAE) that proceeded REF in 2008:

The university's policy is to return 100% of its academic staff in the RAE. That means, again, that I am viewed – and this phrase has been used – I am viewed as a problem, because I'm not included.

As our conversation progressed in terms of research publications and research outputs, we moved on to talk about the Open Access movement. Here Hector also expresses his strong resentment towards his institution's lack of vision:

So things like conferences and publishing in open access, but not impact factor journals – has no institutional recognition. Really the only thing that counts at the present time here is grant income and impact factor.

He also discussed the effect the Participatory Web has on his practice and that of his peers. Here he portrayed a happier scenario, as he is aware of how his online practices have an influencing factor on other practitioners' practices. And he only regretted the fact that such impact is not formalised:

I blog most of my activity, including a lot of stuff that might ultimately find its way into a paper in a peer reviewed journal. And I know, I've got a lot of evidence that that has quite a lot of horizontal influence across the university, in other departments and other disciplines across the University. Things that we've started doing have been picked up and copied elsewhere in the University, and that is personally very satisfying and I'm very happy about that. But every four years, or less than that now, more frequently, there's a lot of pressure, because you know, blogging isn't counted as any kind of output. So, they're not interested in how many people read it, or however many people, however many pieces of evidence that you collect that your practice has been replicated by other institutions or in other departments within the university. It doesn't count for anything.

He also reflected about the rapid changing pace of research practice in educational sciences and how that is not replicated in the norms that are established to measure research activity:

The culture in educational research is moving very rapidly towards open access publication and informal sharing through blogging and conference presentations and so on and so forth, and that's not something that's recognised in other disciplines, such as in medicine or in life sciences, so that causes problems.

As we shifted our conversation to the topic of collaboration the tone of Hector's speech changes considerably. Here he sketches a much more vibrant picture of his practice. The claimed that the Participatory Web has 'an enormous role' in his practice:

These technologies are extremely important for keeping in touch with colleagues both in other places around the university, but also in other institutions.

But still he admitted that being immersed in a connected world means "he's working fairly much in isolation" when it's comes to using the Participatory Web in such an active away and advocating for different practices. He described himself as the following:

If you were to take an average across the university I would be at one extreme end of that in terms of social media use, most people are basically non-users.

Hector's proficient use of the Participatory Web then does shape his identity and approach to research. As he said:

Being immersed in the technologies on a daily basis has certainly influenced the research that I do, because that's now what I'm currently engaged in.

Our conversation ends with an overall reflection about the potential of the Participatory Web in changing and shaping practice, and also about the concerns that this kind of innovation be relegated to a second plan given the financial crisis. As institutions face budget cuts and research funding awards become scarcer, their attention will be shifted to perform to the standards established by the Research Excellence Framework which puts an emphasis on classic forms of impact and dessimination. As hector concluded:

The REF has such a corrosive impact on practice, because certainly here we're just completely obsessed with impact factors and grant income as well, as the only way of measuring research output effectively.

Richard (Code: RP7)

Richard is a Professor of Educational Technology. After having completed his PhD he immediately got involved in the field of e-learning, having chaired the first e-learning course at his institution. He has since then been involved in a series of e-learning and social media projects which exploit the latest Web technologies. His main research interest is now in exploring the concept of digital scholarship:

how new technologies are changing the practice of scholars, across all areas of scholarship not just teaching, but research, interdisciplinary stuff, public engagement all that kind of stuff.

His engagement with his current research topic has also changed the way he addresses his practice. To illustrate this, Richard gave the example of the book he was currently writing and how the process of writing was quite different from his previous publications. He claimed that all his sources are online and that he no longer visits the library. As he concluded:

What's really changed is how I'm getting the information(...). (...) Social network filter has been a big change in how I find my information and how I interact with my peers. (...) Since I've become a blogger I've kind of established that global network of peers without having to leave the house almost. You do occasionally meet up with them and I think that's, we're coming to that stage now, so this year I've met a lot of the people that I know online. But you don't need to meet them, you know you build up quite meaningful relationships with people just by building up ideas around stuff, so I think that's quite a significant change, how you can maintain and develop these networks.

Richard is an avid supporter of online participation as a form of extending his network, establishing new links, and learning and working with others. He sees the Participatory Web as a new channel for collaboration as he reports that his links with other researchers are starting to 'merge into proper research projects now'. Richard is also very pragmatic about the way he uses and perceives the Web. He sees the Participatory Web as an alternative conduit for sharing ideas and communicating research in a much faster and personal way. As a result it has changed the way he conducts his research and publishes in his field:

I think that extended network and being able to share has been the big change in research for me. And the other change is that I've stopped publishing journal articles much. I think beforehand the only outlet you had was really conference papers or journal articles, (...), I like to write stuff, and that was the only kind of outlet you had. Whereas now (...) the creative writing itch is scratched by having a blog. (...) it's much quicker to get stuff up there. And before you had to write a whole journal article and there was only one paragraph really that was actually the bit you wanted to get across, and (...) the whole style of journal articles is there to scratch away any personal opinion, all that intellectual debate that you want to have wasn't really happening. So I find that the blogosphere is much more enriched for that kind of stuff, so there's been a kind of drop off in journal articles, because I do other things, and I find them more fulfilling.

Richard's engagement in a more creative practice, an affordance provided by the Participatory Web, has its downside too. We discussed the implications it has on his career and the boundaries his Institution provides. Richard described how he copes to please his need to engage creatively and meet the expectations of the institution:

I do feel that pressure and I'm trying to play both games, so I've not completely stopped publishing, so I'll try and do enough publications to meet the REF requirements, and publications are still important, I think there's some things that are well suited to the journal article, but before I didn't have an option, it was journal article or nothing, and now there's some alternatives.

He also reflects about the stage he is at and how that provides him with more freedom to put his beliefs in practice:

I'm also lucky in that I was already a professor when I got into blogging, so in some ways I've reached that part and I've got room to play and explore with my career.

Based on his research he went on to reflect as to why most researchers do not have a more active presence online. He attributed that to the fact that:

What you get rewarded for are journal articles and traditional metrics, so the message often to young researchers is not to bother with all this sort of stuff, that it's a waste of time.

And he ended up reaffirming his position in that he needs to play "both games". On one hand he feels he needs to meet the more conservative approaches which regulate the research outputs at an institutional and national level:

(...) universities don't know – particularly the people that sit on research panels are often quite conservative, and they know what a good journal article and a good publication record looks like, but they don't know what a good blogging persona looks like.

On the other hand, he also wants to push the boundaries and practice what he believes to be the future of scholarship; something he can afford to do based on the privileged position he occupies in the Institution's hierarchy.

So I'm trying to play both games. I haven't completely abandoned the traditional format, and I hope to do enough of that to satisfy the demands but it's certainly not where my heart is anymore, and also I'm in the reasonably privileged position of not having to seek the promotion – I'm not on the promotion ladder.

As we discussed further the barriers to change in Academia, Richard shared his disappointment for the lack of vision in academia that stalls innovation. He compared Academia to industry as being at opposite ends. He described the academic structure that perpetuates a more conservative practice :

When we bring our new blood in we deliberately say to them, "don't engage with any of this new stuff, don't try and change practice, because you won't get recognised, you won't get promoted", so we make them very conservative, so then the only pool of innovation left are the people who've got tenure and who've got promoted, and often they've got promoted by following a very traditional path, so they're the people who are least likely to engage in stuff. So the pool of people who will be innovative and take these kinds of things on is kind of unnaturally reduced in academia because of the context and the environment that we've set up.

We then shifted our conversation to the 'routines' and processes of conducting research. Richard again adopts more creative forms of gathering data and developing ideas by relying strongly on people in his networks and search engines such as google scholar. Yet, he does not discard the 'the traditional research stuff [and] ...follows the references from papers...'. Richard combines the best of both worlds as he tries to explore the advantages of both. As part of his research practice he also highlights that he uses his blog frequently: it 'becomes [his] own research archive'. He went on to support that ideas by saying that:

My own writing is itself an archive and a resource, which I think again, is something different from how I used to do it. So I'll gather that stuff together and work from there. Sometimes I'll share that back, so the outcome might be a blog post, which is not usually a whole chapter, but it might be a key idea of that chapter – it might be 1000 words or something, so you'll share that back to get feedback, and then people might come back to say that doesn't make sense, or this bit is relevant as well. So you've got this nice iterative cycle that you're going through before you get to full publication.

Richard's blog seem to be at the heart of his research practice. As he himself asserted his blog has changed his concept of research, in that researchers are socialised in the action of sharing only peer reviewed articles. The blog, however, provides a different 'sharable output'.

Moreover, Richard's blog is also 'at the heart of [his] academic identity'. Although he reports about the use of other Web tools and having a presence in different online environments, his blog is what brings all his research ideas and research identity together. Yet, he also admitted that for funded research his blog stops being a central space to share that kind of research. He said:

I may blog about that kind of stuff, but research funders don't really get blogging. So it's not a key element to it.

(...) we've got one model of working at the moment, and nobody's rethinking with the possibilities that being digital and networked offer you, that might also work in conjunction with existing practices. So I think research councils aren't being very innovative in what they do or how they fund this kind of stuff.

(...) I think the research councils aren't being very innovative or forward thinking about this – they're just carrying on with the same old monolithic approach.

Such remarks made our conversation move to the topic of Open Access, and the possibilities the Participatory Web offers regarding a wider accessibility of research. Richard is an active advocator of the Open Access movement in that he 'only publish[es] in Open Access journals'. He also uses his blog and institution repository to share link to his publications and raise awareness about them within the networks he participates in. Although he sees this has a considerable impact in terms of readership and people's engagement with his research outputs, the institution is slow is acknowledging it. Nonetheless, Richard is pro-active in seeking that recognition by 'push[ing] it into the formal system'. He shared the following:

We do an annual appraisal where you say what you've done in the past year, and on that form you have to put your outputs, and I've started to try and list things –not everything – but slideshare presentations with x-thousand views (...). I just think if I start listing them they start getting into the system. So we had to do a research audit recently for the REF, and I know these things don't count for the REF and that's fine, but I put my blog and I put my slideshare presentations (...) stuff that I thought had significant impact, so I've started trying to use the formal systems to at least log these things.

We concluded our conversation with a reflection on identity as a researcher. I was interested in learning how Richard saw and would describe himself given his proactive engagement and advocacy for the transformation of scholarship. He stated that it was about "having room to play: which clearly has to do with the fact he is a professor and can afford to take a different approach from the norm. More curious though was the way he complemented his answer by saying 'perhaps it suits my personality' as he describes his organic approach to his participation online and the purpose that brought him into Academia:

I don't set out with very deliberate plans. (...). It's more things that come across you and you play with them, and some stay with you and some do – you find a use for them (...). I like it the kind of engagement and the forms of the networks that you get online – which is what you came into academia for really.

Luke (Code: RP9)

Luke is a physiotherapist by trade. After graduating in 2001, he spent the next 7 years doing clinical work with no connection to research. As he came to end of that phase of his life he got interested in teaching. In his home country a Masters' degree is required, so he decided to enroll for a Masters degree while working in practice. He reported that he started enjoying it and as he had always been interested in computers it was not hard to decide for that topic as the focus of his Masters research project. Luke elaborated on his choice by saying:

For my masters I wanted to look at how we could potentially use the internet to support physiotherapy students. One of the things that physios have to do in South Africa when they graduate is they have to do a year of community service where you get placed by the government anywhere in the country, and oftentimes it's very rural placements, without direct supervision, and I was really interested to see how the internet could be used to provide professional and social support to new graduates.

Luke is extremely committed to bring practice and research together and thus make a significant contribution to his field. He sees the Participatory Web as a niche area that is worth exploring in the context of Health education, his research field. This has led him to continue his ventures as a researcher, working full time at an Higher Education institution. That is when he decided to start his PhD:

There's so much happening in this field at the moment – in higher education – there's very little happening in health education, and even less happening in physiotherapy. So I thought, if I want to make a little niche for myself in terms of exploring this domain using emerging technologies in physiotherapy education, if I start now I'll kind of get a jump start on many other people in the country. You know, there are very few physios who are interested in teaching, and of that small sub-group there are even fewer people interested in using the internet to improve teaching and learning.

This led me to explore his perception of self, i.e., how he feels and sees himself in his field of practice and research. He replied that there are 'very few people who get what [he] do[es]', and he complemented his thought by saying that :

I do feel that there are very few people in the country that I can talk to, (...) a lot of physiotherapy academics are often older, and not necessarily comfortable or familiar with emerging technology.

Luke is an active advocator of “openness and transparency” in research, an action that leave the majority of his colleagues in ‘shock’ and think he’s ‘radical’ in his approach. Although he reported that some of his peers are already acquainted with the Participatory Web, the majority is still not comfortable in using such means of communication and collaboration. As he described, this using the Participatory Web as part of one’s academic practice it is still something they don’t see themselves engaging with: ‘They’re still saying “that’s what you do, not what I do”’

A striking aspect of Luke’s narrative it’s the emphasis on practice and research focused on physio-therapy education as the opposite to clinical practices, which seem to be the main strand of research in his country. Alongside that, is Luke’s constant reminder of what drives his practice: the need to exceed one self. He supported that by saying that ‘we should always be looking to improve what we do’. In Luke’s case, the use of the Participatory Web plays a crucial role in improving and challenging his practice.

We then shift our dialog to talk about the processes that assist his research practice. There is clearly a focus on the use of technology to mediate that process. There is a strong emphasis on the access of what Luke names ‘informal literature’ through access to relevant blogs and wikis, engagement with people from other institutions and countries via social networks, and the use of his own blog as a reflective diary where he archives and shares his research ideas. Then, there is also what Luke calls ‘a more formal approach... writing an article, meeting with supervisors (...)’.

It is interesting how Luke went on to distinguish both approaches as separate practices. This shifted the conversation to the realm of article writing and publication. He talked about the expectations of his department: the publication of 3 articles every two years and the presentation of conference papers at research conferences, which are also supposed to be converted into articles. This kinds of outputs are monitored by the department which makes it very hard to escape this kind of standard and rules. Luke illustrates this reality further by saying:

I can say well I wrote 15 blogposts and my wiki has grown exponentially and I'm having all this great conversation with people and I'm learning a lot, and they're like 'ermmmmm', so. So unless I'm producing output in a format that the university values they don't look at what I'm doing as research. So that's the main reason that I split it into formal and informal. It's really just to make sure that in the formal track I am keeping up with the expectations of the university and what they expect from me, and then my informal track is everything else. In reality there is no clear boundary in my opinion between the two. They very much blur into each other. It just helps for me keeping a list of outputs that I'm going to be accountable for and everything else that I do.

As part of his reflection, Luke also mentioned that there is no 'incentive or motivation coming from the top down' to value the use of the Participatory Web in academic practice. He provides an example that illustrates that well:

The university obviously gets money from the Department of Education for every publication that I produce, but if I publish that article in an open access journal ... there are very few accredited open access journals, so the university won't get reimbursed by the Department of Education, so the University won't recognise my publication. So there's absolutely no incentive for me, in terms of something coming from the institution, there's no incentive for me to publish in an open access journal.

Luke is aware of the constraints imposed by his institution. As such he tries to compromise by complying with the institution's regulations at the same he tries not to lose sight of his own beliefs and approaches to a more open and transparent practice.

I have to publish 3 articles every two years – it's not a lot. And what I'm hoping to try and do is put one in an accredited journal, one in a peer reviewed journal and one in an open access journal. You know that way I can say to them OK, I'm playing your game, I'm jumping through your hoops, but I can also do the things that are important to me.

In doing so Luke highlighted once again his determination to make research more open and accessible:

I think open access – that's the way it should be to me – we do all this research and then put it into a journal that 200 people read, and I'm not interested in that, if I'm going to do something I want as many people as possible to read it.

As Luke continued to justify his position, we deepened our discussion into the topic of research dissemination. In doing so, Luke revealed what he considers to be the role of the academic, an important clue into his approach and determination in supporting open practice.

I don't get any financial reward, but surely as an academic you want your work to be disseminated as widely as possible and you want people to know that this is a domain that you are interested in, because you want to be able to communicate with people, and if people don't know what you're doing then you're not going to be able to meet other people who are interested in some of the things.

In assuming such approach, Luke does see himself as someone who takes a very different approach from the majority of his colleagues. He stated:

I'm definitely someone who's breaking new ground in terms of physiotherapy education in South Africa (...) [I'm] doing research in a different way. (...) I see myself as carving out a little niche in the physiotherapy education space, for me.

We terminate our conversation with a reflection on Luke's approach to research:

I think about research and how I think about teaching as a result of using the technology (...) with openness and honesty.

Maria (RP10)

Maria is a lecturer in Education. She came into the world of research when she was still doing her undergraduate degree as an assistant to her dissertation supervisor. Her use f technology was merely to seek information on the web or communicate via e-mail, she described. After finishing her first degree, she went on to do a combined degree of Masters and PhD in Educational Technology. This new phase of her life opened up new doors to new realities and partnerships as she spent in the UK as a visiting researcher. Her short stay in the UK also meant that she started to use social software more often, not just as part of her research but rather as a way of communicating and sharing her experiences with people back home. She explained:

Being there [in the UK] I started to use social software, I started to use my flickr, I started to use skyping and so on (...) more regularly.

Once she returned to her country she had the opportunity to apply to a lectureship, a position she still holds today. This implied she had to divide her time teaching, doing research in her group, and continuing doing her PhD. One of her first contributions to her research group was the creation of a webpage that would represent their research activity. She said that now it looks 'quite primitive' but back then that was what she could do. Since then, Maria has finished her PhD, participated in several summer schools and numerous research conferences. She has also been a visiting researcher at two other institutions.

Our conversation then progresses to the topic of research. Maria claimed that 'there are two ways' in which we can approach research:

The classical view of the research, and this classical view of research is very face-to-face, as you know, for our professors, for the classical professors the valuable things are face-to-face. The conference face-to-face, papers face-to-face and all face-to-face. But also there is a new way to collaborate, to introduce and to defend your research and definitely this is online. I think for me this work was explicit in [the British research group], definitely, when I was there, because this group was more modern than my original one, definitely. They are more technological.

She regarded her visiting researcher status in other institutions as very positive as it allowed to be come more aware of the technology and the possibilities the Participatory Web allows. As a result, she's very conscious about the need to maintain those links alive.

I was very aware about the need of continuing in touch with them. (...) And because this group more technological I started to use more, for example twitter, and twitter has been crucial in my story of research. (...) I use it very much to know what people are reading about, I think it's quite powerful in this way. And also (...) because of twitter and because of my links in twitter and because of my links face-to-face and the mixing of them – face-to-face, twitter and so on, I have made another links, and I have found opportunities to collaborate with other people. (...) We have made some proposals of projects together, we have tried to write an article together, and we continue trying, and I have found very nice people for including in some proposals and so on.

This led me to question if this is a standard approach in Maria's research group. She said that her fellow researchers are not so inclined to technology as she is. As a result she stands out in this area.

For the majority of them this kind of make a blog or twitter or being, reading your RSS continuously, being connected, it's too much geek for them. I'm the geek of my group and it's ok.

Maria developed this topic even more by saying that her participation online complements her research activity:

My web network is definitely... is completely linked to my research.

It also influences her as a researcher.

[my network]... it's global. (...) They have very different perspectives about many, many things.

I think that without these kind of emerging technologies, nobody [would know who Maria is]... and thanks to this I can, for example, ask them to collaborate in a project in Spain today.

I would be a completely different researcher (...)

We then moved on to talk about dissemination of research. Maria admitted that she does not 'do that properly'. She has a got her own 'webpage and put[s] the majority of [her] papers on that, but that's all'. She elaborates on this with her account on career progression in her country. Publishing in formal platforms is a requirement to maintain a job and progress in academia. This leads Maria to play a 'double game' :

This is a very very big problem, and right now at this moment, I am completely inside of this process, because to get a full position in the university, a full fixed position, you have to be accredited, and to accredit yourself you have to have papers in journals with impact in the citation index, and without any other question, for them if you have some very nice interesting webpages and so on and you're on twitter, it's ok, but it's the same for them if you're a nobody in the website, but you have 5 or 6 or 10 or whatever papers in this kind of journals, you are the lecturer. So I have to make a kind of double game.

Maria described how she needs to compromise as to ensure she keeps up to the standards and expectations of her institution while she also do what she advocates:

And I am making this kind of double game. On one hand I'm trying to go to the most interesting conference that I [know of], even if they are not too serious (...). Probably 2 important ones a year, and the other ones interesting.

In the case of papers I think they are not changing at all. And we have to, in my case... I have to make this kind of double game to survive here, because if I'm not fixed here I cannot make different things. So I want to get my position, my full position forever, and then start to decide what I want to do, and for what I want to write. But definitely in case of papers it's different that I want to change, because the open journals and the open form, the paper is indeed condemned to die. Because when you write a paper it is good today, probably tomorrow or in two weeks, or in two months, but not in a year. In a year it is old. In a year it is primitive, so when you're reading a journal [article] it is not one year, it is three year's old, so these data are rubbish, so you don't need it. So definitely the knowledge is moving in blogosphere, the knowledge is moving in twitter, is moving in blogs, is moving in very collaborative, and sharing, and dynamic formats. It is not moving in papers. Probably in media people don't want to read anything, people prefer to see a video, so but I think there is not ... at the moment ... I think there is no solution for it.

Maria reflected further about her practice as a 'double game'. She recognised that she is 'in a different kind generation of researchers' and that she can make a difference. Yet, for that to happen she needs to secure her position:

We have to get all these kind of papers in these kinds of journals to get these positions. But once we get these positions I think we can make some different things. I want to do them, I want to write collaborative books, for example, and don't want to differentiate the quality of someone because of their editors or so on.

Maria also elaborated about the question of quality of research which she claims to be often lost in meaning:

Quality that has lost a lot of meaning in the last year, with all this stuff about prestige and impact and so on, if you see the papers there's not many quality on them. And the concept of quality research is a bit lost.

Maria also shared her opinion about institutions based on her experience:

I think definitely institutions are conservative, and some of them, (...) so they don't want to listen anything too different. (...) We got an incredible need of publishing. We need to produce at least four papers a year, four papers! ... accreditations and CVs and so on, and they pulled all this in a scale... like how much you have. It's not about what you have, it's about how much you have. (...) so it's a career and it's a contest to get more and more.

We concluded our talk with Maria describing how she exploits the Participatory Web to assist her research career. She writes a blog for professional purposes. That is where she publishes her 'reflections about [her] teacher role, [her] educational technologist role'. This reflected her need and desire to share. She also is an active user of twitter, where she has a vast network of people at a global scale, which she called her 'support team'.

Annex 5

Analysis grid

Themes		Illustrative excerpts from RP0 (Anne)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	I'm a member of far too many of these things. The most important thing for me, apart from email which obviously everybody uses, is twitter at the moment. I treat twitter as a learning technology personal network, so people that are useful to me for that. The networks are not just the people but the people and things. So Flickr and Youtube to some extent, are important parts of that network for me because they've got objects, media objects on that say, for example, if I was to use a diagram in my blog, I have a set called work or blog or something on Flickr. My blog is really important to me even though I go through periods when I don't post very much (…) because right from the word go, although I'm really interested to see who reads it, I decided I hadn't a care if anybody read it or not. It was primarily for me, so it's about me writing my thoughts and not minding if somebody else reads them, and it's very, very important for me.	Prolific use of tech → follow networks that are relevant to her PW as people and artefacts PW (blogs) space of shared reflection
	Communication/ Dissemination of knowledge	I don't personally think that it [the Participatory Web] replaces traditional methods of publication, I think a lot of the discussion on, in the blogosphere, it's very local and superficial I think that it's another channel of communication that's more suited to some things than to others, but it can definitely amplify – these channels can amplify each other, and they do cost you time as well. They've got definite communications policies in XXX [an academic journal], so one of the things that they do is we're trying to amplify the channel that might be the newsletter, the channel that might be the journal, so we're trying to think how we can reinforce each other, so for example.	PW as an alternative; not a replacement of conduits for communication and publication of research

	(Sense of) Identity	I position myself on the boundary between learning technology and information systems, which itself is an edge discipline – as is learning technology, I think. Learning technology is on the edge really isn't it? Education, computing, information, all of those things. I'm an edgy sort of person! Somebody said to me the other day, she said you are a networker, you know a lot of ... so I suppose that you have to start from that, whether or not we had online things, I am a networker.	Edgy – works on the border of different disciplines
	Role of the Participatory Web in scholarly practice	It's important for finding out what other people are doing, and hearing about things, but it's also important for having a voice as well.	PW creates a space for communicating and sharing with distributed communities and networks
	Turning point	I used to work in industry as a programmer and business analyst, then when I wanted to start a family, the time at which I did that job, it was a very unfriendly job for somebody who had family responsibilities, because you had to work a lot of overtime, and I couldn't see how that would work, so the other thing that I was also interested in was teaching. I have actually taught at all levels from 11 year olds to PhD.	From industry to HE
	Polymathic approach	Well I suppose my home discipline is information systems and that's where I teach, and information systems is in itself what you might call a boundary discipline; it sits on the edge of lots of other disciplines, so management science, computing, business, organisational studies, sociology. So it has lot of reference disciplines and it's tried quite hard to carve itself out as a discipline in its own right, but really it owes its allegiance to other disciplines as well. So it's hard to say if it's a clear field in its own right. If you work on a discipline on the edge then you have to have contact with people in other areas (…). So I think there's that sense in which information systems is on the edge of these different disciplines. When I became interested in learning technology I thought that, that was	Working across fields Curious inquiry → links interests in different disciplines with her own

		something that I could bring to learning technology. So my thesis is that as learning technology goes beyond somebody using a computer on their own into social settings, into relating to work (…) a lot of what has been learned in information systems can be applied to learning technology. So I taught in a secondary school, I've taught in a further education college, and in the secondary school I taught mathematics and computing. I've taught in a further education college where I taught mathematics and computing, and when I've taught computing it's been A level computing, computing for retired people, computing for people with special needs – I've taught a very, very wide range of things. So then I went to do a masters in IT, and I really enjoyed, and immediately after that I took a job as a lecturer, so then I got on to teach an HND degree, then taught masters and PhD, so I have got a very broad range of subjects, but also a very broad range of levels of education. I think that's probably quite important actually. It gives me quite a lot of insight into something that you probably think about – is of learning as a journey throughout your life, so you know I'm very interested in people who have second chances.	Has worked in different areas of Education
	Approach to practice (epistemology)	My teaching had moved, and I've taught all sorts of things, but I try to make it - I'm willing to do any teaching that I can do, that's ok – but I also like to move in directions that are things that interest me. So I think be passionate about what you're doing. If it's not worth doing then don't do it. (…) Epistemology and ontology are very important, and what's happened to me in my life is that my epistemology and ontology have continued to develop as I've gone through my life. I've always had quite an ambiguous view of learning, of what learning means, and I'm really, really interested in the process of how you learn about how you do things, and how that transfers into the next project of	Move directions as interests evolve – Shows passion about her work and about knowledge

		your life. Well I think that when you're an academic, you know, it's not just your research, it's also your teaching, you sort of want to step outside yourself and think what it is that you are interested in, because if you just let yourself be given jobs to do – you know, you shouldn't be defined by what other people want you to do, you should be always thinking about where you can make a contribution.	
	Awareness of the changing environment	I'm involved in research projects, although that's been quite difficult recently, to get funding. I have been involved in them in the past, related to learning technology. I am a supervisor, as you know, so I supervise the research done by other people.	Recognises difficulties in changing environment → scarcity of research funding

Themes		Illustrative excerpts from RP1 (John)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	Well I think it's an eco-system which allows one to interact with a lot of people who have similar interests, and interact in many different ways. So one had virtual friends – friends who are very far away, or sometimes not very far away, but you interact only online, People whom I trust. There is a totally different form of sociability. I'm also fascinated by the world of ideas and it's clear that the internet has given me access to a lot of resources, a lot of idea which I never would have come across ever in two or three lifetimes without the internet technology. That has had a very bad effect, I have to say, on my academic productivity. I probably would have been publishing more if I had just stayed in the old model of publication, reading books in the library, going to the archives and only doing that, but there is a lot of intellectual stimulation which does not result in publications. It is sometimes difficult to be disciplined, or you're exposed to so many exciting ideas, and you have so many fascinating conversations with so many fascinating people that ideas may be maturing but that might not result in publications for the next RAE, or the REF.	The richness of connections. Social Participation is not synonym of more productivity, when placed in the context of academic conventional ways of working.
	Communication/ dissemination of knowledge	It's not always possible to put all your publications online, and certainly not your books because of contractual issues, but it's very frustrating for example to see that your book is not that much quoted because only, I received recently my publisher's statement for how many books – how many copies of my book which is based on my doctoral dissertation were sold, and last year two copies of my book were sold. So since 1997, 207 copies of my book were sold. Publishing my book was good for my career, it helped me secure my position, it was useful for the research assessment exercise, but it's a shame that I'm not able to just make it available online. I find it very frustrating that one's published some research and basically no-one's reading it, and the general public is not able to consult it fully online, so I think in my future	Conventional ways of publication → publish for prestige. Hinders wider dissemination. Standard publications meets institutional criteria → grants a position and places the individual in the a good position to the research assessment but does not get individual's satisfaction nor does it contribute to the knowledge of the general public (accessibility issues).

		projects I will very much want the stuff I write to be very broadly available.	
	(Sense of) Identity	I'm not a networked researcher, not at this point. I'm a networked individual. I'm a micro-connected individual.	Does not see the participatory web paying such a great role in his research practice because he still abides by the conventions of his discipline.
	Role of the Participatory Web	I think it has exposed me to totally new ways of thinking, to a culture which is very, very different from the dominant culture in academia. (…) a cultural eco-system which really is totally different, and have ways of thinking which is totally different from mainstream historians. But it's true that the internet and social media really are very, very - they have revolutionised the way in which people are exposed to ideas and have access to resources. Sometimes they may not have access to the books themselves but they are exposed to – they become aware of books, they become aware of ideas and then they can go and trace books which are relevant to that – to their interests. Or they can discover interests they didn't know they had before.	Exposure to different approaches → informs epistemology of practice. Access to different ways of thinking. The web as a living resource.
Emergent	**Isolation**	I would probably position myself as an outcast.	
	Turning point / change	My research interest evolved. I started working on the history of international relations with special reference to Franco-British relations, because I was now living in the UK and I had access to archival sources of relevance, also I had always been interested in the issue of international relations. More recently I started working on the history of geopolitics and how I could apply geopolitics to the study of international relations. I progressively discovered that there was very much in common between my interest in complexity sciences and historical research and complexity sciences networks, and social networks and social media.	Moving with the circumstances of where he is now → new research interests (flexible in approach)
	Position/ role	It's [using participatory media] not playing safe (…), but at this stage of my career I think there is a lot more to win from that than to lose.	PW involves taking risks which might compromise career, but not in the case of

		One has used to a certain way of thinking that is delimiting and one is obviously from a career point of view – has been for a very long time – very self conscious about whether one should take risks or not, but I've gotten to the point where I think well there's a lot more to benefit from taking risks than not taking risks.	this research Participant (by the end of this study John had left Academia)
	(Awareness of) Barriers to one's approach to practice	There has been a tension between the institutional expectation of what I should be doing and what I should be producing - that is a research monograph on one particular topic – and where my intellectual journey is taking me, which is somewhere that is a lot more fascinating, something which is a lot more fascinating intellectually, something that is a lot more timely. So there has been a tension which has paralysed my work in a sense, because increasingly I felt that I had to complete this monograph but at the same time I discovered that there was something which was really fascinating and probably a lot more important, which was to explore more fully the implications of complexity sciences in historical research, rather than just completing yet another monograph on a topic which is interesting, but which is extremely traditional, and which is not going to bring much to the historiography as such.	Tensions between what is expected and what one wants to do.
	(Awareness of the) Implications of adopting 'unconventional practices'	It's [using participatory media] not playing safe (…), but at this stage of my career I think there is a lot more to win from that than to lose. I actually didn't blog at all about historical research or geopolitics, because I felt it would not be well accepted.	PW still not accepted (by peers and institution)
	Perception of peers	I know the experts in my field and they are not interested in these sorts of thing.	Setting himself apart from the majority of colleagues

Themes		Illustrative excerpts from RP2 (Lucy)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	I go to my personal learning network I think it's really interesting to have conversations with people about your work. It just gets you thinking about things I get a lot of, I get most if not all my support for what I do these days online	Relies heavily on the connections made online.
	Communication/ dissemination of knowledge	I think my blog, and twitter are the two most effective ways. My blog allows me to do the deeper reflection, hold deeper conversations, record and store – that's not the word I'm looking for – but anyway, it's there for posterity – the thoughts and conversations and what have you. Whereas twitter is for quick questions, quick answers, quick passing on of links and information, and quick throw away lines.	PW as tools for shared reflection and conversation
	(Sense of) Identity	I see myself as a bit of a lone cowboy on the frontier of the wild west. I probably see myself as multi-faceted, I mean I still see myself as a student, a learner. I see myself as a follower, but I'm also mindful of the fact that I think now I'm starting to become someone that people follow, and I see myself as a mentor, and that is becoming increasingly obvious Having a blog has certainly made me a lot more reflective I think. And the important part of that process is the feedback I get from other people.	Feels like an outcast – not following a conventional approach puts people in a different category.
	Role of technology	Blogging for the deeper reflective learning and conversations and synthesis. Twitter for dissemination and the networking and the serendipitous news	The use of technology in RP2 practice is a theme that runs across the entire interview – it shows how important and influential it is as part of RP2s approach to practice.
Emergent	**Isolation**	(…) first lived in a little place, which is very isolated (…) I have always felt – I have for the last 2 or 3 years – and I'm very alone in this in the profession	Feeling of isolation for not practicing in a conventional way → links to the sense of identity.
	Turning point / change	I left that job and took a bit of a punt and took a 6 month contract and moved to [another country] (…) And then I did a couple of odd jobs around	Changing point sin career seem to play a role in changing epistemology of practice → need

		the place, and then exactly a year ago I came back to my own town, went back to the institution where I used to work, (…) but instead of going back into midwifery I moved into the education development centre.	to adapt and explore new areas of practice.
	Polymathic approach	(…) though I'm moving away from being a midwife as such I still support the profession, so helping particularly midwifery educators to think about how they can do their programmes and move more into an e-learning, blended delivery format. But also my great passion is professional development, and how midwives can grow their own personal learning networks, and I want them to have the same wonderful experiences that I have.	Seems to move from area to area – does not take a static approach to practice.
	Approach to practice (epistemology)	I would rather write a simple blog post, that I know is going to get read by people than a academic article that yes, is going to get me brownie points in terms of my promotion, but is only going to be read by a few people.	Very practical approach to practice → clearer purpose and goals of what it means to RP2 to be in academia and the value of research.
	Position/ role	I'm in a position where I can pick and choose what I want to do. One project might be a research project with a university, another project might be off gallivanting, doing something completely different, so I've got the freedom to make a choice about what I do, about what I don't want to do. I'm not a young researcher, I'm not a young academic who's having to fulfill academic and university expectations to get a job and get promotion.	Aware where RP2 stands and how she can "maneuver" within that space.
	(awareness of) Barriers to one's approach to practice	I can pick and choose what I do. I can play the university game if I want to, but if I don't want to I don't have to, because things like financially, and career-wise, I can make that choice. But people who maybe are just setting out in their career and their trying to build a career path as a researcher in a university, you are very constrained by what the university expects of you, you know, in terms of you can't get promotion unless you've got 5 articles in a peer reviewed journal and what have you.	Aware of the restrictions and rules that may make others take a more traditional approach to research/practice.
	(awareness of the) Implications of adopting 'unconventional practices'	I was going to make a creative commons license on all my work (…) So I've made that decision. And I made a decision a couple of months ago that whatever publications I do, when I do get around to it, that I follow Terry Anderson's lead and only publish in open access journals, and that has huge implications for me, because there aren't many credible midwifery or nursing journals in the open access environment.	Implication vs practicing what she preaches.

		(…) not believing in the traditional way of doing things the reality is you still need a PhD – a 'Dr' in front of your name. Someone (…)they were saying that they haven't got promotion, or haven't got tenure because what they submitted as their research outputs were blog posts and things like that. I don't know I might have the story wrong. But this person is someone that I highly regard, as a leader in this field that we're in, but they haven't been able to get promotion, or a pay rise or something because the university research expectations whatever, whatever. But that just illustrates the power of the university. To be fair, it's not just universities, it's governments saying we'll fund you if you've got x amount of journal articles blah blah. So while you don't want to play that game, and you want to push the boundaries, and you want the universities to think about alternative ways of doing things, at the same time you've got to pay the mortgage haven't you. So it's very tricky. But I think things are changing. But there's still a lot of the old boys network that keeping that stuff.	Aware of the implications of not following conventions. Aware of the politics and rules that condition innovative practices.

Themes		Illustrative excerpts from RP3 (Alex)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	Being online - it's all about information isn't it, it's all about exchanging information.	The value of an information rich network!
	Communication/ dissemination of knowledge	As I've learned more about research, and I've watched my colleagues as they're bidding for research, and they always have to put in how they will disseminate, and it's always we'll do this conference presentation and we'll do these journal articles, and then it just goes on every single bid, and then you're just like is that all there ever is?	Traditional practices prevail in the workplace.
	(Sense of) Identity	When you start using social media is you sort of redefine yourself from somebody who doesn't know anything about it. I suppose sometimes very young and inexperienced. Sometimes I see it as potentially temporary – a temporary identity, because I don't know what's going to happen in the future and where things are going to take me. In terms of doing – using social media – you do see yourself as a bit, a bit more radical. Maybe radical is not the word to use, but someone who's got a bit more forward thinking in some respects than a lot of other academics that you meet, but then also conversely there's lots of people who are a lot further ahead as well, so using that social media you can feel a bit green and a bit naive.	Sense of identity changes → progressive
	Role of the Participatory Web	When I initially started it was about being able to share the information which I had, or which I was getting, with this idea of this audience – whoever they are, wherever they are and whatever they're doing. So I suppose the tools and the communities that exist help me to put that out there, but then	PW creates space to acquire and provide information (mutual support) PW provides an audience

		as I got more into it I started to utilise all the things that could feed me. So there's lots of information that comes my way now as well.	
	Turning point / change	I always hoped that I would be able to do clinical psychology, which is a very competitive course to get into. (…)I dabbled in trying to get into that, and I wasn't successful. I started to think that I might not be able to do what I wanted to do, I needed to look at some other options, so I thought I might as well try and get a professional qualification in something. (…)t was a masters degree. I started to think differently about what I was doing.	From practice to HE
	Approach to practice (epistemology)	Contributing to that recycling of information that you do when you use things like twitter, and that you can spread, but also that you can contribute to - the little projects and the little things that people are doing – if they're keeping a blog or whatever –that you've got something worthwhile to say that's going to add to what they're already thinking, or that's going to help them, or make them think about something that they've not done before. I guess in a way that is an output of your own research, to be able to contribute to what other people are doing, so those are the ways in which it helps me do research. So the people who read articles and go to conferences are just other academics, but there's a different agenda now to engage the public, so that's when you start using your social media stuff and making that publicly available as well.	Wanted to acquire info, but also wanting to contribute PW enables the materialisation of new forms of public engagement and wider accessibility to knowledge produced in Academia
	Position/ role	Because of the level that I'm at and the length of time I've been there, there's not been so much of this kind of stuff [pressure to publish], and because of the nature of the work that we do – the consultancy stuff – so that's a lot of reports, which go back to whoever is funding it, and that's that done.	As a researcher working in a self sponsored academic unit the pressure is to follow the research techniques and trends the 'clients' subscribe to. Not a lot of lee way to make things different
	(awareness of)	Usually it's the tried and tested methods, because it's things that the	

	Barriers to one's approach to practice	funders know, and that's what they'd expect really, so you kind of bound in by what they would expect. That's basically what they do [write papers and present at conferences]. And I didn't know about all this at first but I kind of understand it now, and I think that that's still what's valued, and it's that sort of thing that's recognised and viewed as important, no matter how much one might want other things to be, it's still like the REF, that's what's dead important to universities still. It's student numbers and fees, all very financial. It's [use of social media] not really established and there isn't the same recognition for it, and it's not clear and easy what you're supposed to do. It's different to conferences and journal articles, because there's a set route there and there's an expectation that's established, and I think that although there's things that I've tried to do, and that I'm trying to do, that are a bit different, they're not clear.	Playing safe → conservative practice is more likely to be accepted and valued by the institution.
	(awareness of the) Implications of adopting 'unconventional practices'	I think what I've realised is the academic community, in terms of career progression in my own way – the things that are going to get recognised are those old traditional things, like going to a conference, writing a journal article that no one's going to read. It's those sort of things that the academic community still values the most. I could write the most amazing blog, I could get 5000 followers on twitter, hanging on my every word, but basically if I don't do the traditional things I'm not going to perceived as being successful in my field. So I think, would I do it again? Yes I think I'd do it again, but I'd know that it has to be balanced really. It has to be put into perspective to all the other demands upon your time.	Establish the game – quite similar 'to play a double game'

	Awareness of the changing environment	I work in a unit that's self-funding, so basically if the money doesn't come in then we don't get paid and our jobs. So the main priority is time and money (…) depending on where the money is, the boundaries change for us, so that's how it has been for the last couple of years. I think with a change of government there's going to be less in terms of social exclusion, so if I'm there in a year's time I wouldn't expect to be doing the same kind of research then as we're doing now, but like I say it's going to be more dictated by finance than anything else.	Money is a priority of research driven units → more important than developing innovative methods Financial climate dictates type of research → research dependent of funding streams

Themes		Illustrative excerpts from RP4 (Heidi)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	(…) locally and internationally, because I've got links with somebody in Australia, and also somebody in America, and we're all working together on a research bid on this to try and put this together and move that forward. We've got a global network of people that are interested in working broader. I had a student that's been looking at pelvic pain in women – to do with pregnancy – and she was going to go down the research route, or the questionnaire route, and what we did was we created a website and she put it up, she put the link up with a charity, and just invited people to email her stories to them, and she got 41 different stories, from people in Australia, America, not just in the UK, so it really expanded her research. I find facebook really, really helpful when I'm collaborating with overseas partners, and it was quite interesting because when I was at the Australia conference, more people asked if I was on facebook than asked if I had a business card. We've got research collaborations going on, we've got publication collaborations going on, that just wouldn't be possible without things like facebook and Skype	PW enables networking beyond the local space PW provides tools for new forms of research collection PW = collaboration made easy and gone global
	Communication/ dissemination of knowledge	I think when people think about dissemination, their first thought is still high impact journals, and I think that's probably because we're still driven by the REF in universities, and it's quite disappointing that there is this focus on just that.	REF is the main thing that matters / that counts when it comes to the dissemination of research → hence focus of high impact journals
	(Sense of) Identity	I know how others see me, they think I'm insane. I was talking to a friend of mine earlier and she went oh do you know Heidi, and she said oh yes, she's mad. And they do look at me as some sort of eccentric, techie geek groupie type thing.	Disconnection between her practice and the practice of her colleagues

		I feel a bit like trailblazer really. It's [identity using PW] more developed. More people in my field know who I am and I feel I have a higher profile than, say 10 years ago.	
	Role of the Participatory Web	It's changed for me in terms of collaboration, because it's – technology just makes things so easy now. For example, I was out in Australia at a conference in April this year, met loads and loads of interesting people, and we were all sitting round, and some people were more junior researchers than others, and we said well there's nowhere for us to continue these conversations, so I was able to set up a website so that we could all join it, so we've got 14 or 15 people on the website now. I think it's [the participatory web] so immediate and it speaks to a massive group of people. At the moment it's quite a niche research activity, so for my personal role development and reputation, to be involved in that now is quite good for me. Although that was never a deliberate choice, but thinking about it, reflecting on it while we're talking, that was quite a good thing for me, because it makes me stand out from the rest of the no hope nurse researchers.	PW has enabled forms of collaboration to which Heidi had no access before PW – it's potential in connecting people PW informs and enhances new areas of research in which she is interested
Emergent	**Isolation**	In terms of people in my field that are actually using technology for research, can't think of any off the top of my head apart from me.	Isolation in being one of the few who embraces the PW as part of her academic activity, and especially, research
	Turning point / change	I've been in research for about 9 years now [having come from practice] and started out almost like a jobbing researcher. My research field seems to be evolving quite a lot (…), so I'm looking at developing research for that. I seem to be reinventing myself all the time	From practice to HE Always looking to keep up with the pace of her research field and looking for new areas to explore

	Polymathic approach	Some researchers research the same thing for the whole of their career and others are more research whores like me, who think ‘this looks more interesting, let’s do this’! So I’ve looked at pain management, I’ve looked at student nurses’ attitudes, and now I seem to be heading towards end of life care and vulnerable groups, including learning disabilities. I seem to be reinventing myself all the time	Flexible and diverse in her research interests. Curious spirit leads her to explore new areas of knowledge
	Approach to practice (epistemology)	I think we need more open access, particularly when we’re looking at trying to develop collaborative links with novice, or researchers in developing countries, where they just don’t have the money, nevermind the IT infrastructure to get hold of this stuff.	Advocators of Open Access and collaboration Open to more innovative methods
	(awareness of) Barriers to one’s approach to practice	I write until my fingers are numb. Because it’s all about publications because of the REF. The difficulty is the journals themselves. The other day because I got a PDF of a paper that I’ve had published in the Journal of Advanced Nursing sent to me, and I noticed that it states very clearly that you cannot put that PDF on things like academic social networking sites – things like academia.edu, all you can do is put the link up. And I thought oh here we go, they’re actually cottoning onto this, that this is another copyright issue. What I don’t agree with, and again, I‘ve had this offered to me twice by journals, is if you want a paper of yours to be open access you can pay them, and it’s something ridiculous like £1200.	REF it’s on of her main priorities (as a research professor) Points out the barriers journals create in terms of copyright and access to research
	Awareness of the changing environment	The lone researcher is increasingly a dying beast. Journals are more interested in papers that have got joint authorship with other disciplines or other universities, or other environments. (…) When you start looking at where the research funding is coming from, from people like the research councils, they’re very interested in, and very open in, multi-centre collaborative research.	Awareness of the need to create collaborative links and work in multi-disciplinary research teams

	Perception of peers	People who just go ‘all I care about is palliative care’, they tend to be the ones who are still using the same old research techniques – you know they’re interviewing people, they’re doing questionnaires, they’re not thinking about using social networking sites or other interesting exciting things, because that doesn’t fit within how they see their discipline. Using technology, it seems like magic to them. I think it’s a fear, they just don’t get it, and they’re not inventive enough, or they’re not enthusiastic enough just to play with it and work it out. My experience with my colleagues is that they’re still thinking the same old same old.	Peers approach → social construction of her identity as someone who develops a very different approach to main stream

Themes		Illustrative excerpts from RP5 (Neil)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	But that just tends to be data sharing than really collaborating. I feel I've got more of a relationship with the people that I half knew before knowing them on twitter, if that makes sense. So if I bumped into them at a conference I would talk to them now, whereas before it would have just been saying 'hi' and walking on. In that it doesn't affect my research very much. I think that my core research would be exactly the same whether or not I blogged. That could change in the future.	 Eases networking
	Communication/ dissemination of knowledge	There's – it's [dissemination of knowledge] not a very well developed system I don't think. It's just that you publish a paper that you'll talk about twice at conferences. Once when you're doing the work and maybe once when you finish it. That 's pretty much it.	Standard practice re: communication of research
	Role of the Participatory Web	I've written a few blog posts based on my own research, so if I have a new paper coming out or something I'll try and summarise and put it in context with a big picture. So it's partly to help increase awareness with publications I have. I use it to talk about my own work. I suppose 1 or 2 posts I've written have potentially started maybe new directions for research, so the last post I wrote was probably about a meeting I went to last week that was in collaboration with, well it was a joint meeting between climate scientists and insurance companies, so how to access risk from climate projections. And that's not really something I've done in the past, but yes, someone commented on my post saying they're at LSE doing something like that, and I'll probably email them at some point in the future to see if there's a seminar coming up, to find out more about that, so that's a potential field for writing a research proposal on something that is a little bit outside my area of expertise, but that wouldn't have happened without the blog I don't think.	 PW as a platform to share and test ideas PW → enables new collaboration PW → value in the network

		It's opening it up to more people, and widening the network of people that I know in the field. I think I'm more findable and open about what I do, or not, I talk about what I do more than most people I work with I think.	PW creates presence
	Approach to practice (epistemology)	Generally that's been positive [use of Participatory Media] and I think with the move towards putting impact assessments in research proposals, it certainly gives me a little bit more to talk about in that respect. You know, you can talk about blogstats and podcast stats and things like that, and I don't know if that helps you stand out from the crowd, but I don't think it does much harm.	Positive outlook on the PW → believes it can create positive outcomes
	(awareness of) Barriers to one's approach to practice	I don't know if it's changing the way people do research. I think it's more the way that you find people to do research with and then let people know about it. For example, just before I left [previous University] we set up a podcast, and the way that we plan episodes on that is using a wiki, which worked really well. And I've tried using that with research projects as well, using a wiki to plan how were going to do small research projects with 3 or 4 people involved, and it hasn't quite worked because the more senior members of that research team aren't that keen on adopting it.	Forward thinking vs established practices/habits

Themes		Illustrative excerpts from RP6 (Hector)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	[I've got] an attitude that's quite different from many of my immediate colleagues – let's put it that way – so having this on my network with maybe people who don't feel that different from me, is an extremely important means of external validation. So yes, there are days when it keeps you going, in addition obviously to the intellectual input that you get in terms of tools and ideas, and reading peoples' blog posts, and conversations that go on, on twitter, and problem solving over twitter. All these sorts of other activities go on as well. Collaboration to become much more embedded, because the technology makes it possible.	PW – enables the creation of meaningful networks where like minded people can congregate and influence each other with their practices PW – enabler of new forms of collaboration
	Communication/ dissemination of knowledge	I'm doing about 6 [blogs] at the moment. Only one of them really is a personal blog associated with research that I might be doing. But one thing that I'm working on, in connection with a number of projects now, is facebook pages So if we're involved in a new project now, we routinely throw up a facebook page as a dissemination channel. I know that under some circumstances at least, it can be effective as a dissemination channel.	Blogs used to create a record of research
	(Sense of) Identity	If you were to take an average across the university I would be at one extreme end of that in terms of social media use, most people are basically non-users.	Personal perception of the disconnection between him and his colleagues due to his approaches regarding the use of the PW
	Role of the Participatory Web	We're involved in a new project now we routinely throw up a facebook page as a dissemination channel. They [technologies] play an enormous role [in collaboration]. These technologies are extremely important for keeping in touch with colleagues both in other places around the university, but also in other institutions as well.	PW – major role in collaborative activity PW – importance in creating and maintaining distributed networks PW eases the process of collaboration

		It's become much easier to collaborate with people and things like kype – this is a good example now – where practice has changed. (…) It's definitely changed my practice.	
Emergent	**Isolation**	I'm working fairly much in isolation as far as that's concerned, although I do have colleagues that I collaborate with quite closely and quite frequently, both within the college of medicine but other places within the university as well. So sometimes I do feel quite isolated.	Disconnection between where the PW has taken his practice to and where his colleagues are
	Turning point / change	I was still primarily a lab researcher, but I wanted to teach. I wanted to combine that with lab research, and over the intervening 20 years the teaching has grown and grown, and the lab research has now gone completely. And the research that I do now is educational research.	Move from research in the hard sciences into teaching (and educational research)
	Polymathic approach	(…) involved in some sort of laboratory science and have now moved into a different area, be that either education, computer science, bioinformatics or something like that, and think we're struggling to find slots for ourselves after having had a bit of a career change.	Moved to different areas to follow his interest → finding hard to create an identity in the new field
	Approach to practice (epistemology)	I think it's shaped a lot by the technology, certainly the things I'm most interested in at the moment – that I actually do – are using social tools in education – that's actually become the subject of my research. Being immersed in the technologies on a daily basis has certainly influenced the research that I do, because that's now what I'm currently engaged in. I'm actually trying to subvert that process, and I'm trying to set up a situation where the institutional repository becomes a channel for post-publication peer review. I don't know if you're familiar with archive, the physics repository? (…) the peer review process is conducted in an open and public way, after the manuscript is online. I'm trying to see if we can use the institutional repository for the same thing.	PW – shapes and influence their approach to practice and his own research PW → influences his attitudes and beliefs towards practice
	(awareness of) Barriers to one's	All of this is being conducted with a view towards the Research Excellence Framework as well, which is obviously the university's main consideration.	REF being the main consideration and priority of the institution → conflict with

	approach to practice	The way in which, or the places, firstly the places, but also the way in which we publish information, is also a problem because our colleagues are trying to publish information in journals with impact factors between 20 and 30, and I'm afraid the University is completely hung up on impact factor as a means of measuring the research, because it has such great importance in the REF. The university's policy is to return 100% of its academic staff in the REF. Things like conferences and publishing in open access, but not impact factor journals – has no institutional recognition. Really the only thing that counts at the present time here is grant income and impact factor. My concern is that it's not seen by most institutions, certainly most universities, as in their benefit to have people collaborating with even other departments within the same institution, let alone other universities, because it seems to dilute the scores in the REF. I think what the barrier here is, is this obsession with measuring things, which feeds back directly into league tables and all the rest of it. I think the tools for collaboration are becoming more widely used because there's no formal attempt to measure them, because if they work for people, people are free to use them. Whereas in terms of outputs, certainly this university, and I think many others, the REF has such as corrosive impact on practice, because certainly here we're just completely obsessed with impact factors and grant income as well, as the only way of measuring research output effectively.	epistemologies of practice developed on the PW Publication on high impact journals does nt match his ambitions as a researcher advocating for Open Access REF hinders collaboration and new attitudes towards research REF does not support innovative practices → corrosive effect
	(awareness of the) Implications of adopting 'unconventional practices'	Many of the places that I'd actually like to publish my research – many of the open access journals – no impact factor. So anything that I publish in [an open access journal] from the University's point of view doesn't count as research activity.	Open Access not valued at institutional level (because of REF)

		I am viewed – and this phrase has been used – I am viewed as a problem, because I'm not included. I'm a member of academic staff, but I'm not included in the REF. Every four years, or less than that now, more frequently, there's a lot of pressure, because you know, blogging isn't counted as any kind of output. So, they're not interested in how many people read it, or however many people, however many pieces of evidence that you collect that your practice has been replicated by other institutions or in other departments within the university. It doesn't count for anything. Just as with the research budgets that we're able to attract, the impact factors that we're able to get for publications, the technologies that we use are really out of line with most of the people around us.	
	Awareness of the changing environment	The culture in educational research is moving very rapidly towards open access publication and informal sharing through blogging and conference presentations and so on and so forth, and that's not something that's recognised in other disciplines, such as in medicine or in life sciences, so that causes problems. The reality is we're in this massive funding crisis, which is really going to dominate everything for the next 5 years or so, and my concern is that the technology will play second fiddle to just the financial aspects of institutional budgets, for the next few years, which is a great shame.	Awareness of the changes in society that affect practice
	Perception of peers	Working alongside cancer researchers who pull in programme grants from the Welcome Trust or the Medical Research Council for £3 or 4 million (…). Now clearly the budgets that we pull in, the sums of money that we pull in for educational research are much smaller than that, even when we've got what we would consider to be a rather large grant, we're talking up to say £50,000, we're not talking about millions of pounds. That's an issue, because we do, of course, get compared, and that creates a problem.	identity influenced by the perceptions of peers who do not value his approaches

		Many people are highly skeptical and suspicious of these services. They're worried about all sorts of things, they're worried they're going to get scooped, they're going to – if they publicise their research findings other people will get there first and do it before they can do it, but they're also primarily driven by the fact that there's no institutional reward for this, and they don't see the advantages of these technologies.	

Themes		**Illustrative excerpts from RP7 (Richard)**	**Comments**
Inspired by the literature review	**Online participation (and its forms of association)**	Social network filter has been a big change in how I find my information and how I interact with my peers. I think that's quite a significant change, how you can maintain and develop these networks. And I think you're beginning to see that, it's not just linking to each other. The blog itself has changed the context of what you perceive of as research. So that's been important for me	Technology changes practice
	Communication/ dissemination of knowledge		
	(Sense of) Identity	It's [the blog] at the heart of my academic identity of which research is part I think in my field the use of social media, blogs etc has allowed me to forge an identity. The area of digital scholarship has emerged and I've become a recognised voice in that field (I like to think). And this grew out of using my blog and other tools to explore the impact on academic practice. So it's been essential in establishing my current academic identity	Technology enables forms of representation.
	Role of the Participatory Web	I think that extended network and being able to share has been the big change in research for me. In many ways my own blog becomes my own research archive.	PW – the power of the networks in influence approach to practice

		Having an output like a blog has almost a feedback effect into your practice.	
	Turning point / change	The web was fairly new then and there was a big opportunity for [my institution] to get into that. And I shared the OUs first e-learning course in1999, and I had something like 15,000 student on it. And that was a bit outside the normal routine really, so I did that.	
	Prolific	Then from there – I was in the technology faculty there. Then I moved to the Institute of Educational Technology where I am now. I worked on the UK E-university, we delivered a course for them. Through that I got into the area of learning objects and reusability, on the back of that I was the VLE project director for a couple of years, then after the VLE I decided I didn't like VLE's very much, then about 4 or 5 years ago I got into blogging and kind of used these other technologies, and that's been my interest since.	
	Approach to practice (epistemology)	In some ways it's very profound and quite mundane at the same time, and I'm caught within that dilemma. Now my sources are mainly all online journals – I haven't visited the library once while writing the book (…) what's really changed is how I'm getting the information, whereas before it was mainly through following up references, and google of course. I have a policy of I'll only publish in open access journals.	Active advocator of Open Access
	Position/ role	But I'm also lucky in that I was already a professor when I got into blogging, so in some ways I've reached that part and I've got room to play and explore with my career. I'm in the reasonably privileged position of not having to seek the promotion – I'm not on the promotion ladder. It's quite a dangerous position I think, for academia and scholarship to be in, because in almost any other industry, your new blood that comes in are the people that bring all the innovation and change, whereas when we bring our new blood in we deliberately say to them, don't engage with any of this new	Position in the institution gives him more lee way to follow his epistemologies of practice

		stuff, don't try and change practice, because you won't get recognised, you won't get promoted, so we make them very conservative, so then the only pool of innovation left are the people who've got tenure and who've got promoted, and often they've got promoted by following a very traditional path, so they're the people who are least likely to engage in stuff. So the pool of people who will be innovative and take these kinds of things on is kind of unnaturally reduced in academia because of the context and the environment that we've set up.	
	(awareness of) Barriers to one's approach to practice	I do feel that pressure and I'm trying to play both games, so I've not completely stopped publishing, so I'll try and do enough publications to meet the REF requirements. People that sit on research panels are often quite conservative, and they know what a good journal article and a good publication record looks like, but they don't know what a good blogging persona looks like. Research funders don't really get blogging. (…) Research councils aren't being very innovative or forward thinking about this – they're just carrying on with the same old monolithic approach. I know these things don't count for the REF.	Playing both games to keep relevant within the institution Aware of how people are still clinging on conservative practices
	(awareness of the) Implications of adopting 'unconventional practices'	What you get rewarded for are journal articles and traditional metrics, so the message often to young researchers is not to bother with all this sort of stuff, that it's a waste of time. It's very hard to get this kind of stuff into the system. So I'm trying to play both games. I haven't completely abandoned the traditional format, and I hope to do enough of that to satisfy the demands but it's certainly not where my heart is anymore.	HE rewards tradition forms of scholarship (research) Need to play both games in order to keep relevant and make changes
	Awareness of the	When we bring our new blood in we deliberately say to them, don't engage	Current academic environment context is not

	changing environment	with any of this new stuff, don't try and change practice, because you won't get recognised, you won't get promoted, so we make them very conservative, so then the only pool of innovation left are the people who've got tenure and who've got promoted, and often they've got promoted by following a very traditional path, so they're the people who are least likely to engage in stuff. So the pool of people who will be innovative and take these kinds of things on is kind of unnaturally reduced in academia because of the context and the environment that we've set up.	predisposed to innovation People with a stronger position in the field get away with more innovative practices than staff who is dependent on getting tenure

Themes		Illustrative excerpts from RP9 (Luke)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	In terms of research communication I talk about everything that I do either as a reflection on my blog, or, entire PhD process is on a public wiki. I'm trying to document that process as often as possible on the wiki. Then I'm also, if I for example do a conference presentation, I upload that to slideshare, abstracts for those presentations or for articles, I put on scrib. When people comment, that's fantastic, because then you've done something that has been thought provoking for someone else. That's really valuable for me, to kind of be able to have that conversation.	Power of intercommunication.
	Communication/ dissemination of knowledge	I have to publish 3 articles every two years. In addition to going through the formal route of the print journal, I also put at least one version, whether it's pre-review or final version, I also put it into an open repository. So that's the formal things.	Imposition by institutional regulations. Still gives a bit of his true approach to practice. He cares about his work values.
	(Sense of) Identity	I'm definitely someone who's breaking new ground (…) in terms of doing research in a different way. I see myself as carving out a little niche in the physiotherapy education space, for me. I'm definitely doing things differently compared to my colleagues, and that's really exciting. The way that I use technology is very much a defining difference between colleagues and I	Use of technology defines professional identity and approach to practice.
	Role of the Participatory Web	Putting me in touch with people like yourself, just seeing what's happening our there. Having access to the people, not so much the content – content you can get in many ways – but being able to talk to people and see what other people are doing and engage with other people. That is probably the biggest impact	The value of the distributed network. Emphasis on the participation in online environments as a catalytic for change in thinking and approach.

		this way has had on me. Not just on my research, but on my thinking in general. The technology and using the technology in a certain way, and using certain types of technology have really made me think about the world in a very different way	
Emergent	**Isolation**	There are very few people who get what I do. I do feel that there are very few people in the country that I can talk to. Technology has very much had an impact on setting me apart from any of my colleagues, but I think even more than that is how I think about research and how I think about teaching as a result of using the technology	Works in a different sphere → different approach
	Turning point / change	Towards the end of that clinical work I kind of thought that I might like to get into teaching, in South Africa one of the requirements to teach is to have a Masters degree. I knew that I'd be coming back to South Africa at some point, so I thought let me start my masters so that if I ever do want to teach I'll already be going through that process if not finished. I started my masters in the UK with the university that I did my undergraduate degree at, and kind of starting getting into it, realised I quite liked it. For my masters I wanted to look at how we could potentially use the internet to support physiotherapy students… how the internet could be used to provide professional and social support to new graduates.	From practice to HE Wanting to teach and do research
	Approach to practice (epistemology)	I've always computers and the internet has on the way that you think, the way that you work, that sort of thing been interested in computers and the internet, and the implications that using.	Fascination for computers leads him to connect it to his area of practice Advocator of Open Access

		I think open access – that's the way it should be to me – we do all this research and then put it into a journal that 200 people read, and I'm not interested in that, if I'm going to do something I want as many people as possible to read it.	
	Position/ role		
	(awareness of) Barriers to one's approach to practice	The change is happening where academics are going to have incentives to try new things, to innovate and to provide research on that, but at the moment there's no incentive. The university obviously gets money from the Department of Education for every publication that I produce, but if I publish that article in an open access journal there are very few accredited open access journals, so the university won't get reimbursed by the Department of Education, so the University won't recognise my publication. So there's absolutely no incentive for me, in terms of something coming from the institution, there's no incentive for me to publish in an open access journal.	Lack of incentives → no valorisation of new practices. Regulations hinder innovative initiatives (South African research exercise → looks at individual production of journals)
	(awareness of the) Implications of adopting 'unconventional practices'	I can say I wrote 15 blogposts and my wiki has grown exponentially and I'm having all this great conversation with people and I'm learning a lot, and they're like 'ermmmmm', so. Unless I'm producing output in a format that the university values they don't look at what I'm doing as research. I split it [my activity]into formal and informal. In the formal track I make sure I am keeping up with the expectations of the university and what they expect from me, and then my informal track is everything else. I have to publish 3 articles every two years – it's not a lot. And what I'm hoping to try and do is put one in an accredited journal, one in a peer reviewed journal and one in an open access journal. You know that way I	Blogs don't count in the perspective of colleagues/ institution Need to play the game to survive the institutional pressure/ structure.

		can say to them OK, I’m playing your game, I’m jumping through your hoops, but I can also do the things that are important to me. If I publish in an accredited journal then a percentage – 10% of what the University gets from the Department of Education goes to me, which I can use for conference and that. Unless I’m publishing in an accredited journal the University doesn’t give me any – well they don’t get paid, so I don’t get anything for conferences. So it’s a terrible system.	Accrediated journals =journals with impact factors
	Perception of peers	I put early drafts of papers on public google docs and invite a whole bunch of people to comment, and I tell that to colleagues and they’re in shock. They think I’m some radical.	Peers create an image of him regarding his less conventional practice → see him as radical
	Personal dispositions	We should always be looking to improve what we do. As an academic you want your work to be disseminated as widely as possible and you want people to know that this is a domain that you are interested in, because you want to be able to communicate with people, and if people don’t know what you’re doing then you’re not going to be able to meet other people who are interested in some of the things. When you expose yourself to the wider community you learn a lot about yourself and what other people are doing.	Clear idea of what his “mission” as an academic researcher is. Need to self exploration.

Themes		Illustrative excerpts from RP10 (Maria)	Comments
Inspired by the literature review	**Online participation (and its forms of association)**	My research, my network, my web network is definitely is completely linked to my research. I get a lot of feedback from my networks. You have almost an immediate answer from every part of the world, and this is amazing. It's like I have a lot of helpers all the time – 365 days a year – because also Sundays they are there. My support team [during her PhD] was twitter.	Online networks support her practice.
	Communication/ dissemination of knowledge	I don't do that properly. I got my webpage and I put the majority of my papers on that, but that's all.	Awareness that she is not exploiting Participatory Media to its maximum when it comes to the dissemination of knowledge.
	(Sense of) Identity	I think we are in a lovely generation of researchers. I think we're in a different kind of researcher's generation, imagine hippies in the 70s, they were only a group of people. But now we're a group of people who think about these kind of things seriously, so we can make the difference.	Different generation with different tools and resources
	Role of the Participatory Web	Twitter has been crucial in my story of research. I use it to meet people, to know what people are reading about. I think it's quite powerful in this way. And also when I use this, because of twitter and because of my links in twitter I have found opportunities to collaborate with other people. We have made some proposals of projects together, we have written an article together.	The opportunities and benefits of a distributed network of peers
	Turning point / change	I start to make my first blog, because I wanted to share the experience of my first visiting research [fellowship].	Experience in foreigner institution influenced her approach to practice when she came back to her home institution
	Polymathic approach	I try to research everything related to my topic [education]. I got a good relationship with technology, but I'm an educationalist. As researcher I'm very well networked I think, because I am related to a lot	Interested in several topics → her research moves with her interests

		of interesting people on the web.	
	Approach to practice (epistemology)	(…) because of these kind of emerging technologies. Without them I wouldn't have this possibility. I would be a completely different researcher. Definitely we have to get all these kind of papers in these kinds of journals to get these positions. But once we get these positions I think we can make some different things. I want to do them, I want to write collaborative books, for example, and don't want to differentiate the quality of someone because of their editors or so on. It's definitely this kind of contact to people who can enrich your job, your research and your life. I want to share with other people.	Participation online changes approach to practice. → exposure to different people and practices.
	Position/ role	To get a full position in the university, a full fixed position, *need to get credibility, and to get credibility* you have to have papers in journals with impact in the citation index.	Her position at the institution implies that she needs to take a moderate approach to her less conventional forms of scholarship (research)
	(awareness of) Barriers to one's approach to practice	For our professors, for the classical professors the valuable things are face-to-face. In Spain that is a very big problem, and right now at this moment, I am completely inside of this process, because to get a full position in the university, a full fixed position, you *need to get credibility, and to get credibility* you have to have papers in journals with impact in the citation index. Institutions are conservative, so they don't want to listen to anything too different. In Spain, we need to produce at least four papers a year, four papers! [it's all	Recognition comes from publishing papers with in impact factor journals. Institution = conservative approach

		about] accreditations and CVs and so on, and they pulled all this in a scale… like "how much have you got?". It's not about what you have got, it's about how much you have.	
	(awareness of the) Implications of adopting 'unconventional practices'	For them [institution] if you have some very nice interesting webpages and so on and you're on twitter, it's ok, but it's the same for them if you're a nobody in the website, but you have 5 or 6 or 10 or whatever papers in this kind of journals, you are the lecturer. So I have to make a kind of double game. Quality has lost a lot of meaning in the last years, with all this stuff about prestige and impact and so on, if you see the papers there's not many quality on them. And the concept of quality research is a bit lost.	
	Awareness of the changing environment	There is a new way to collaborate, to introduce and to defend your research and definitely this is online. I was there [in another institution as a visiting researcher], because this group was more modern than my original one, definitely. They are more technological. In case of papers I think they are not changing at all. In my case I have to make this kind of double game to survive here, because if I don't stay in academia I cannot make different things. So I want to get my position, my permanent position, and then start deciding what I want to do, and for what I want to write. The open journals and the open form, the [closed] paper is indeed condemned to die. Because when you write a paper it is good today, probably tomorrow or in two weeks, or in two months, but not in a year. In a year is old. In a year is primitive, so when you're reading a journal is not one year, is three year's old, so these data are rubbish, so you don't need it. So definitely the knowledge is moving in blogosphere, the knowledge is moving in twitter, is moving in blogs, is moving in very collaborative, and sharing,	Aware of both the emergent practices and the strategies that she needs to adopt to keep relevant in the current system so she can change practice.

		and dynamic formats. Is not moving in papers. Probably in media people don't want to read anything, people prefer to see a video, so but I think there is not, at the moment I think there is no solution for it.	
	Perception of peers	This kind of make a blog or twitter or being, reading your RSS continuously, being connected, it's too much geek for them [colleagues]. I'm the geek of my group and it's ok	Perception by peers -> inform her perception of identity
	Personal dispositions	I was very aware about the need of continuing in touch with them [people from the institution in which she was a visiting researcher], and also to continue in touch with the people I met through them.	The need to network → to keep connected
	Empowered	she's [line manager] happy, if you're flying and if it's good for you then she's happy. So I can make basically whatever I want here.	Support by line manager but not form institution