AN INVESTIGATION INTO THE BLOGGING PRACTICES OF ACADEMICS AND RESEARCHERS

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

BECTA	British Educational Communications and Technology Agency
HE	Higher Education
HEI	Higher Education Institution
HTML	Hyper-Text Markup Language
IM	Instant Messaging
JISC	Joint Information Systems Committee
KM	Knowledge Management
OER	Open Educational Resources
PDF	Portable Document Format
RAE	Research Assessment Exercise
REF	Research Excellence Framework
RQ	Research Question
URL	Uniform Resource Locator
VLE	Virtual Learning Environment
VoIP	Voice over Internet Protocol

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ABSTRACT

This research project investigated the experiences of academics and researchers using blogs to support their practice. The three research questions were: to identify the academics' and researchers' motivations for beginning and maintaining a blog, the contribution of blogging to their learning in the profession, and the challenges experienced.

The research questions were investigated using several methods. Five datasets were collected from 26 participants. A questionnaire was first administered to collect background information about the bloggers, and was analysed quantitatively. Then, an initial unstructured interview of one open-ended question was conducted by email. The unstructured interview was analysed using descriptive phenomenology. A follow-on semi-structured interview was conducted and analysed by applying thematic analysis. Blog content was collected in parallel: textual extracts were analysed using discourse analysis and visual extracts by applying thematic/saliency analysis.

Results revealed varied reasons for beginning a blog. For example, the blog can be used as a repository of 'half-baked' ideas. Blogging contributed to the academics' and researchers' learning in the profession in multiple ways. Academic bloggers, for example, can quickly reach a wider audience compared to other forms of academic publishing. Among the challenges, there were concerns over managing confidential information in public, and intellectual property issues.

Regarding the methodological contribution of the research, suggestions on strategies for mixing and matching different research methods for data collection and analysis have been provided.

An empirically-grounded framework of blog use in academia and research has been

derived based on research findings and scholarship models in the literature. The framework describes how characteristics of digital scholarship such as openness and sharing, are manifested through blogging. The framework can be used to guide academics and researchers who are interested in taking up blogging as a scholarly practice.

Finally, empirically-grounded guidelines on using blogs in academia and research have been derived. The guidelines were evaluated by four practitioners. Future work includes recruiting more practitioners to evaluate the guidelines.

CHAPTER 1

Introduction

This dissertation presents a research project conducted as part of a Doctorate in Education which I began in May 2008. I sought to investigate the uses of **web logs** or **blogs** among individual academics, that is, educators and researchers working in the higher education domain. I looked at the motivations for beginning and maintaining a blog as part of a scholarly practice. I also examined the possible benefits and problems of using blogs to support the academic and/or research work of the individual.

This project drew from the experiences of bloggers based in different higher education institutions (HEIs), countries and subject backgrounds. Our research built on previous studies on the use of **social software**[1] in education, and on blogging in particular, which have generally been small-scale.

The concept of 'digital scholarship' is increasingly being used to refer to the use of social software tools in academia and research. Examples of social software tools are blogs, wikis, micro-blogging (Twitter), social-networking platforms (e.g. Facebook, LinkedIn, Academia.edu). Digital scholarship is acknowledged as happening, but there are still reservations about recognising it for promotion, tenure and funding (e.g. Cheverie *et al.*, 2009; Weller, 2011a). There is also no agreement yet on effective ways of measuring this phenomenon, with regards to the impact on the user's practice and on other stakeholders and the wider community.

The following Research Questions (RQs) were addressed:

1 Note: the terms in bold in the thesis are defined in the Glossary, p.228

RQ 1: Why do academics and researchers engage in blogging?

The first research question looked at the reasons why academics and researchers keep a blog as part of their work, and what prompts them to start and maintain a blog.

RQ 2: How does blogging contribute to the academics' and researchers' learning in the profession?

The second research question looked at the possible personal and professional benefits of blogging for an academic and/or researcher: whether it helps, for instance, in developing writing and research skills, promoting own work, making an impact.

RQ 3: What challenges do academics and researchers face with blogging?

The third research question looked at the concerns academics and researchers experience as bloggers, or any cautionary measures they need to consider.

The results of this research project aim to inform academics, researchers and educational policy makers in and outside the UK. The outcomes consisted of deriving an empirically-grounded framework to explain blog us in digital scholarship, and empirically-grounded guidelines on using blogs in academia and research. The guidelines included provision of insights into effective ways of using blogs to support higher education (HE) teaching, research and other professional initiatives. Guidelines also include ways of identifying and overcoming any challenges, including precautionary measures to preserve the bloggers' reputation and that of their workplace.

Having outlined the overarching aims, the research questions and the outcomes, the following section, 1.1., focuses first on what sparked my interest in researching the use of blogs in educational contexts. Then, I discuss how this interest and research evolved from a focus on students' blogging to academia and research, and on how this project fits within extant knowledge in the field. Finally, an overview of the major stages of the empirical research is outlined, from the pilot studies to its contribution to existing knowledge. The section 1.2. provides a summary of the dissertation along with a short description of the content and purpose of each of the eight chapters in this dissertation.

1.1. Motivations for investigating blogs in academia and research

1.1.1. Origins of my research interest

I started blogging as an educator in 2007, on a first-year undergraduate module in Italian at The Open University (OU), UK. This module was one of the first at the OU delivering a blended tuition, offering a combination of online and traditional educational resources. Blogging was offered as one of the online activities. Both students and educators had a 'personal blog' page hosted on the University server. Blogging was an optional component in the module, but the module team encouraged students and educators to blog in the target language by suggesting weekly activities.

When I started teaching the module, my tutorial support mostly consisted of posting activities and managing discussion on a dedicated forum, and running synchronous i.e. real time tutorial sessions either by telephone or using an audio-conferencing platform.

In addition to using the forum and remotely delivering synchronous tutorials, I decided to make use of the 'personal blog' space I was given. I started blogging regularly, once a week or every fortnight. Besides following the activities suggested by the module team, I also posted items of possible interest to my students, such as tips on improving the grammar, or links to Italian websites.

Whenever I updated my blog, I used to add a forum message encouraging the students to have a look at my latest blog-post. I was unsure whether blogging would have been useful, but I was surprised to see that students acknowledged reading my blog and commented on it. I also started to receive comments from students in other groups as well as colleagues, and I used to read some of the other students' and tutors' blogs.

One aspect of this experience which struck me was that a small group of students started writing regularly on their blog assuming their pet persona. They would pretend that their blog was updated by their dog or cat in the target language, and would communicate with other 'pet bloggers' through the comments feature or using the forum. Not only did I find their idea amusing, but I was amazed at the students' enthusiasm and the speed at which they were learning the language. They also experimented using more complex grammatical structures which were not covered in the module, despite having little or no previous knowledge of Italian.

I became curious about this phenomenon and started informally researching the literature on the use of blogs in educational contexts. I was eager to find out to what extent blogs can support teaching and learning. When I enrolled on the Doctorate in Education in May 2008 my idea of research project was clear: to investigate the experience of university students using blogs as part of their learning. Since then my research focus shifted from looking at taught students to educators working in higher education, i.e. academics and researchers. This shift is explained in the following section.

1.1.2. A shift in the research focus: from students to academics and researchers

The rationale for changing the research focus, i.e. looking at blogs in academic and research contexts, from my initial intention of looking at taught students, is summarised here, but is discussed in more depth in Chapter 2.

Previous research and knowledge about blogging in education

There is already extensive empirical research on the uses of blogs as teaching and learning tools in a range of educational contexts: secondary and tertiary education, classroom-based and online learning. Blogs have been around since the mid Nineties, but were initially more popular in journalism and business contexts (see Bruns, 2007; Walker-Rettberg, 2008). Since the early 2000s blogs have been embraced in education, and several studies have been carried out to investigate the blogging phenomenon.

Studies on blogging among several categories of learners, such as secondary, undergraduate, postgraduate, distance-learning students, professional trainees, showed evidence of blogs as facilitating a range of skills and activities, such as:

- personal reflection (e.g. Zeng & Harris, 2005; Windham, 2007; Xie *et al.*, 2008; Rourke & Coleman, 2009)
- collaborative working (e.g. McLoughlin & Lee, 2008; Kerawalla *et al.*, 2008)
- developing writing skills (e.g. Thorne & Payne, 2005; Drexler *et al.*, 2007; Warschauer, 2010)
- the importance of a flexible use, suiting the individual's needs (e.g. Williams & Jacobs, 2004; Kerawalla *et al.*, 2008; 2009).

Among the challenges encountered there were concerns over privacy, environmental safety, and accountability and ownership of ideas (e.g. Crook *et al.*, 2008; Ellison & Wu, 2008). For example, if a blog is public and accessible to millions of internet users, it is not impossible for readers to steal ideas and pass them as their own, particularly if blogging is anonymous. There are privacy issues if bloggers write under their true identity and are not careful about disclosing personal information, such as where they live and when they are away on holiday. Blogging under a pseudonym, or being cautious about revealing personal information, can help minimise these challenges.

The turn to academic and research blogging

Turning now to blog uses in the academic and research domain, the 'digital scholarship' phenomenon, i.e. research/academic pursuits involving engagement with social software, such as blogs, wiki, micro-blogging and social networking tools, emerged in the mid to late 2000s (Burdick & Willis, 2010). There are, however, some limitations in the existing research on blogging in scholarly contexts.

Most social software initiatives in education are generally small-scale, led by an individual educator, and situated within a single course or module (Minocha, 2009a). A number of case studies of social software use have been reported in the literature, but these have involved small samples, often conducted by the researcher within their institution (e.g. Mortensen & Walker, 2002; Ward & West, 2008; Kirkup, 2010). Most of these studies have been conducted in English-speaking countries, with few exceptions (see reports by Armstrong & Franklin, 2008; Sim & Hew, 2010).

Studies that have investigated the role of blogging in research have focussed on early-career researchers, that is, doctoral and post-doctoral researchers (e.g. Ward & West, 2008; Ferguson *et al.*, 2010; Minocha & Kerawalla, 2011). There is still some conservatism in recognising the phenomenon of 'digital scholarship', of which blogging is a part, towards tenure, promotion, and funding (e.g. Cheverie *et al.*, 2009; Kirkup, 2010; Weller, 2011a). There is also no agreement as yet on effective ways of measuring the impact of digital scholarship on the user's own practice and the wider community (Priem & Hemminger, 2010).

The rationale for my research project

In the literature, the extent to which blogs fit within traditional forms of publishing and dissemination, and whether an impact can be achieved and measured through blogging, have not been fully explored. This is an aspect which would be be of interest to academics and researchers but also to non-academics. Many peer-reviewed journal publications, often documenting findings of relevance to people outside academia, have restricted access. The journals are either available for a fee or to people affiliated to an educational institution. They also tend to employ a language only understandable to a specialist audience. Wolff (2008), for example, reports that the modal average number of readers of academic papers is zero, which may not be surprising.

On the other hand, open-access articles are cited three times as much as articles from restricted-access journal papers (MacCallum & Parthasarathy, 2006). Also, the role of social software tools is to promote public engagement (Wilks & Pearce, 2011). Social software enables collaboration and sharing of information and facilitates a wide participation with little or zero cost for the users (e.g. Minocha, 2009a).

Journalists often communicate research findings to a non-specialist audience. They tend to use a non-technical language but being secondary or tertiary sources, it is possible that some of the valuable information is filtered out, even unintentionally, because of the journalist's interpretation of what matters and what can be discarded (e.g. DiSalvo, 2011). I, therefore, became curious about the extent to which blogs, written and maintained by the academics and researchers, could or could not become the new 'primary sources' for a non-specialist audience. I was then able to draw out the research questions, outlined earlier on p.14, and to identify a framework which would help me to investigate the blogging practices of academics and researchers. Theoretically, this research is grounded on constructivist and critical realist epistemological approaches. Methodologically, the framework that I used to collect interview data combines two existing frameworks in the literature, i.e. Kerawalla *et al.*'s (2008) model of blog use among students and educators and Boyer's (1990) four criteria for defining 'scholarship'. These frameworks are examined in Chapter 3, Section 3.6.2.

1.2. Methods and findings of this research project

1.2.1. The contribution of two pilot studies

Two pilot studies were conducted on a small sample of educators and taught students in HE using blogs (n=5 for Pilot Study 1; n=2 for Pilot Study 2). In terms of methodology, Pilot Study 1, which ran between January and March 2009, consisted of analysing textual blog content and conducting individual semi-structured interviews. The results from Pilot Study 1 revealed that blogging was used by the educator as an extra teaching resource, to complement books and other online and offline resources. Other uses of blog, particularly among the students, were: as a reflective journal; a space for learning through story-telling; virtual 'soap-boxes' to air moments of frustration; and a medium to seek mutual support.

After Pilot Study 1, the methodology was refined to overcome the limitations encountered. Modifications included: exclusion of taught students from the sample; a broader context than foreign language learning; addition of further methodological techniques within the research design to gain an understanding of the blogging experiences and practices from different perspectives, e.g. from psychological to linguistic. A methodological framework was also added, to help formulate the semi-structured interview questions (see section 1.1.2.). The revised methodology was evaluated in Pilot Study 2 which was carried out in November-December 2009.

1.2.2. Empirical and methodological contributions of the main study

The Main Study, conducted between February 2010 and May 2011, had a sample of 26 academics and researcher bloggers. The majority of participants were affiliated with UK institutions, but over a third came from other countries which were mostly non-English speaking. The results revealed that motivations for beginning a blog are varied: necessity to use an online repository for ideas and personal reflections; to construct an online professional persona; and the need for a tool which is easy to use and accessible to others. Blogging can also be a form of experimentation such as to think through ideas and to find a voice in the public arena. Academic blogging is perceived as being less rigorous than traditional forms of academic publication, and the blog enables to reach a wide audience and to mediate relationships between the blogger, the readers, and other people connected to the blog.

The bloggers noted the limitations and reservations regarding the validity of blogging as an academic tool for professional recognition, and the associated risks of sharing confidential information in public. However, a blog can work in parallel to existing forms of publishing and dissemination: a blog documenting research in progress, while a peer-reviewed paper reporting the 'formal' output. This writing strategy seems to complement the strengths of traditional forms of publication, but it also helps in combining the strengths of other social software tools. For example, **microblogging** (e.g. Twitter) ensures immediacy in exchanging brief and salient excerpts of information.

Rather than a form of literacy combining established literary practices in new contexts, it appears that academic/blogging is a new or different form of literacy in itself [along the idea proposed by Davies & Merchant (2006)]. It has different characteristics to other better-known forms of writing such as personal paper diaries, newspaper articles and peer-reviewed academic publications.

One of the outcomes of my research has been to propose recommendations on the use of research methods that I applied in my research, and these recommendations are accompanied by practical examples on how to mix and match different research methods in similar fields of study.

I have developed an empirically-grounded framework of blog use in academia and research. This framework has been derived based on the research findings and scholarship models in the literature. The framework describes how characteristics of digital scholarship, e.g. openness and sharing, are manifested through blogging. It can guide academics and researchers who are interested in taking up blogging as a scholarly practice.

Finally, I have derived empirically-grounded guidelines. These guidelines are for blogging in academia and research and also cover how blogging can be combined with other social software. The guidelines include precautionary measures that bloggers should consider to preserve their professional reputation and that of their institutions.

The next and final section of this chapter provides an overview of the content and structure of the dissertation.

1.3. The dissertation outline

Figure 1 below illustrates the structure of the dissertation and how each chapter connects to one another.

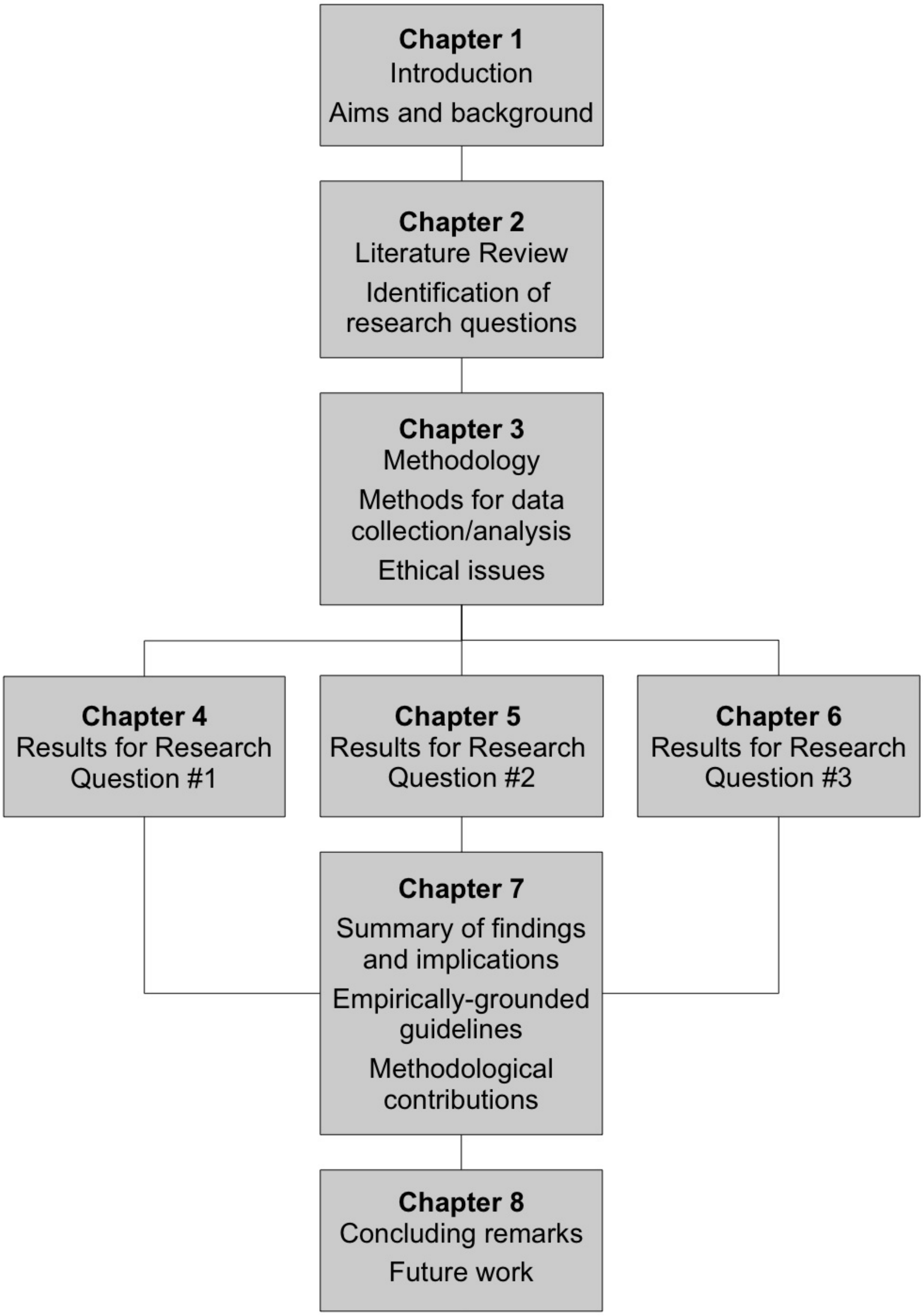

Figure 1: Dissertation structure

This dissertation consists of eight chapters which are organised as follows:

In **Chapter 1**, I have presented a background to the research project: my motivation for this research, the aims and the research questions, and an outline of the dissertation.

Chapter 2 is the literature review. I defined the blog and gave an overview of the theoretical frameworks underpinning blogging in education and research. I look at previous studies on blogging and social software use in learning, teaching and research. Gaps in the literature are identified and related to the research objectives of this dissertation.

In **Chapter 3**, I focused on the methodology. I placed the research within an existing epistemological paradigm. Then I outlined the procedure of the pilot studies and the main empirical research. I described and justified my choice of methods for collecting and analysing data.

Chapter 4 is the first results chapter. I presented the results obtained from analysing the data and corresponding to the first research question, i.e. the motivations for academics and researchers to engage in blogging.

Chapter 5 is the second results chapter. I focused on findings related to the second research question, i.e. how blogging contributes to the academics' and researchers' learning in the profession.

Chapter 6 is the third and final results chapter, containing the findings that informed the third research question, i.e. challenges academic and research bloggers experience.

In **Chapter 7**, I summarised the findings and discussed the implications and the issues addressed by each research question. Then I presented empirically-grounded guidelines on using blogs in academia and research. Finally, I provided an account of the methodological contributions of this research.

In **Chapter 8**, I reflected on what I have achieved as a researcher and as a practitioner and on the contribution of this research in my practice. I also described what I plan to do in the future and possible further work in similar research domains.

CHAPTER 2

A review of blogging and blogging practices in HE

2.1. Introduction

The present chapter reviews the literature concerning previous knowledge and research on blogging in education. In Section 2.2, I provide an overview of what a **blog is**, its definition, the origins and a summary of its uses in a range of non-educational contexts. In Section 2.3, I contextualise the blog within the concept of **Web 2.0** and **social software**. In Section 2.4, I provide an overview of use of social software tools in education and the associated benefits and challenges. In Section 2.5, I discuss the main theoretical and pedagogical frameworks underpinning the use of social software in education. In Section 2.6, I provide a review of the previous research in the literature and the findings on the role of blogs their usefulness, and the concerns of blogging in educational and research contexts. In Section 2.7, I focus on the use of social software in scholarly contexts, and the potential benefits and barriers for a digital scholar; I contextualise the phenomenon of academic and research blogging and I identify gaps in the literature which my research has sought to address.

2.2. Blogs: an overview

2.2.1. Definition

A **web log**, shortened to **blog**, is a noun but also a verb: ‘to blog’. The etymology of the word 'web log' appears to derive from 'computer log file' coined by Jorn Barger (1997). Walker-Rettberg (2008) claims that Barger was the first to adopt the term weblog in its current meaning. Before then, the term ‘web log’ referred to the number of visitors on a website. It was later shortened to 'blog' as a result of a syntax change, from 'web log' to 'we blog' (see Herring *et al.*, 2004). Authors of blogs are called bloggers, although Tan (2009) draws a distinction between bloggers and blog users: the former refers to people who regularly write on a blog, whereas the latter includes those who engage in blogging in different ways such as reading other people's blogs, and maintaining their own blog either regularly or occasionally.

A technical definition describes blogs as web pages, sometimes defined as online journals or diaries, in which users publish textual entries, but also images, **podcasts** (i.e. digital audio files) or video recordings, uploaded from their computer, dated in reverse chronological order (Blood, 2002). Each blog post or entry can be commented on by other users, usually registered on the website where the blog is hosted. Sometimes comments require a review by the author of the blog before they can become public (Armstrong & Franklin, 2008). Bloggers often add a **blogroll**, i.e. links to other blogs shown on the sidebar. Figure 2 shows how a blog may look like:

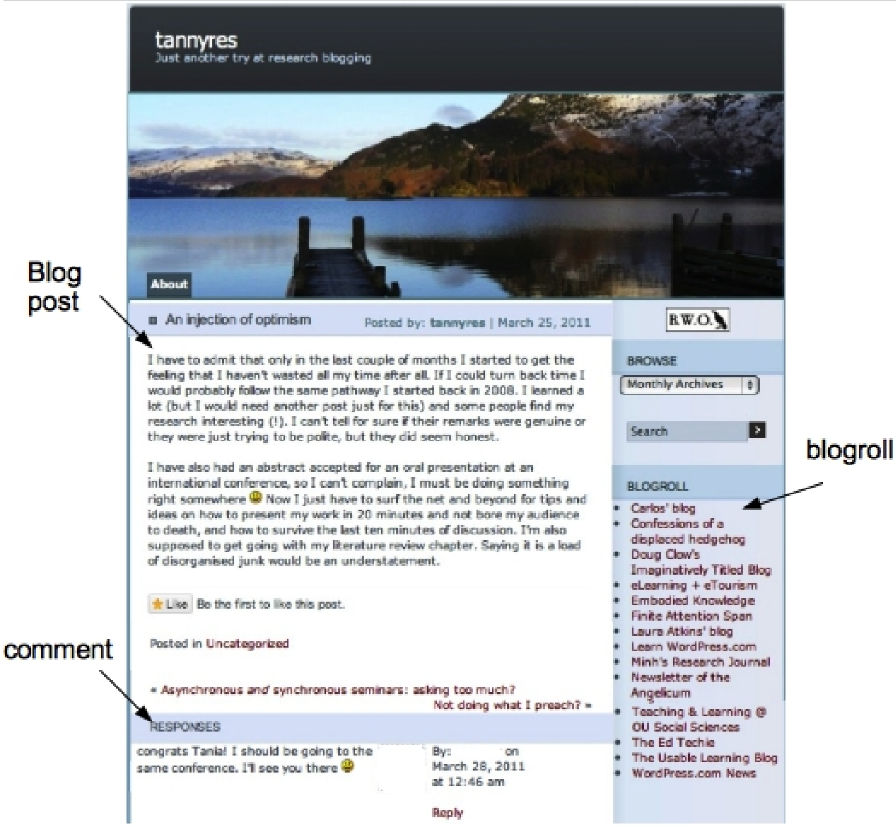

Figure 2: Example of a blog

This technical definition of blog is not exhaustive, because it largely depends on the way the blog is used. Applications of blogs can differ considerably amongst bloggers. This aspect is examined in section 2.2.3.

2.2.2. Origins

Tracing the very first blog is a difficult enterprise to undertake, but it is possible to estimate the earliest blogs and bloggers and the period of time during in which blogs started to emerge. The earliest examples of blogging trace back to the mid-Nineties, even though Williams & Jacobs (2004) claim that the first website for weblogs was launched in 1992. Justin Hall, a journalist and university student, started his own blog in

1994 and is considered “a pioneer among on line diarists and Web loggers” (Harmanci, 2005; also Walker-Rettberg, 2008).

After a slow start, the use of personal blogs experienced a boost in popularity, due to them being free and easy to set up and use in most cases. A number of free **blog hosting websites** were launched from 1999 onwards such as Blogger, Wordpress, Moveable Type, to name a few, as well as a the blog **search engine**, Technorati. In 2004, 'blog' was chosen as term of the year by the Merriam-Webster online US dictionary (BBC News, 2004).

In 2006, 100,000 new blogs and 1.3 million blog entries were created everyday (see Murugesan, 2007). In 2008, Technorati listed 113 million blogs (Technorati: About Us, 2008). It should be noted, however, that Technorati mostly indexes English-language blogs, so it may not have taken into account the over 70 million Chinese blogs estimated in 2007 (CNNIC, 2007).

In the next section, I discuss the various ways in which the blogs are used in a variety of contexts, from media and journalism where blogging started expanding, and on to health, travel and marketing.

2.2.3. Applications of blogs in different contexts

Since the launch of blog hosting websites, blogs became progressively popular among individual Internet users as well as institutions, for varied purposes: personal, social, political, educational, blog-fiction, and literature blogs (Walker-Rettberg, 2008).

The pioneer bloggers were journalists, such as Justin Hall, and blogs have since then been popularly used in the media as a communication tool (Bruns, 2007). For example, the CNN hosts a number of active blogs (http://bit.ly/mGR7Oq) each discussing different topics, from the latest news in American politics to global environmental issues.

Blogs are also used in medical contexts and in medical and nursing education (Wise, 2005; Maag, 2005; Boulos *et al.*, 2006; McLean *et al.*, 2007). For instance, they may be set up by medical faculties as an online resource for medical students and for the public, fostering debate and knowledge sharing on medical issues (e.g. the DIG(AT)UTM Blog, http://digutmb.blogspot.com).

The key words 'travel blogs' typed on the Google search engine give the well-known blog hosting website Travel Blog (http://www.travelblog.org) as the first hit. Indirectly, travel-bloggers can influence the marketing strategies and policies of the tourism sector (Pan *et al.*, 2007). Travel-blogs are windows into the customers' decision-making. Being readily accessible, they provide first-hand information and reviews on travellers' choice of destinations, based on weather, local amenities, and cultural attractions (e.g. http://www.TripAdvisor.com).

Business firms show awareness of the importance of maintaining their own official blog(s), in a time when being to open to the new means of communication in the social media age may have a positive impact on the status and reputation (Flynn, 2006). Blogs may act as a bridge between the business and customers' demands (Bulik, 2008). For instance, the UK branch of PriceWaterhouseCoopers (PwC), a large international accounting firm, has blogs grouped under six categories of topics, from “Corporate Reporting” to “Islamic Finance” Blogs, encouraging readers to comment on the entries or respond by email (PwC UK Blogs: http://pwc.blogs.com).

These examples suggest that the blog is used as a communication tool which fosters discussion and knowledge sharing. This type of communication can be a form of broadcast (micro-channel) or an interactive dialogic e.g. through comments. Indeed empirical studies (Nardi *et al.*, 2004; Efimova & De Moor, 2005) have shown that blogs can be an effective means of two-way interaction between the blogger(s) and their readers.

The social aspect of blogging is discussed in further detail in the next section. Blogs belong to a category known as 'social software' or Web 2.0. This conceptual category is explained and discussed below.

2.3. Contextualising the blog: social software and Web 2.0

2.3.1. From Web 1.0 to Web 2.0

Blogs are social software tools. 'Social software' is defined as software which supports social interaction, communication and sharing of information among its users (Boyd, 2007). Boyd (ibid.) frames social software within the concept of 'Web 2.0', also referred to as read/write web, or participative web (Murugesan, 2007).

Since the beginning of this century, there has been an increasing use of the Web to interact, collaborate and share (ibid.). The number of users increased rapidly and Web usage shifted from personal publishing or Web 1.0 era to social participation or the Web 2.0 era (O'Reilly, 2005; Crook *et al.*, 2008). Figure 3 below outlines a few examples of differences between the two generations of the Web:

Web 1.0		Web 2.0
Publishing	-->	Participation
Personal websites	-->	Blogging
Britannica Online	-->	Wikipedia

Figure 3: Differences between Web 1.0 and Web 2.0 (adapted from O'Reilly, 2005)

Personal websites are considered the Web 1.0 equivalent of blogs (O'Reilly, 2005; Rick, 2007). Both are author-led webpages, but what makes blogs social software tools is their chronological structure and it is this temporal nature that is not so apparent in personal webpages. Also, blogs make explicit connections to a 'blogging audience' and to the world outside the blog through use of **hyperlinks** and **blogrolls**. Further, in a blog, the topics are not organised according to webpages linked to the front page (as in a traditional website), but there are **tags**, i.e. labels attached to each blog entry according to the entry’s content (Alexander, 2006).

This shift in Web usage, from Web 1.0 to Web 2.0, from publishing to participating, seems to reflect a broader cultural shift: from interacting face-to-face and treating technology as a hobby or for searching and information, to using technology extensively beyond work and studies and to constructing an online identity (Chandler, 1998; Larsen, 2008; Zhao *et al.*, 2008), and to form relationships (Valkenburg *et al.*, 2006; Dwyer, 2007).

2.3.2. Overview of Web 2.0 tools

The Web 2.0 includes a range of social software tools, besides blogs. Other examples are **wikis**, photo-sharing websites such as Flickr, micro-blogging tools such as Twitter, **social bookmarking** tools such as Diigo, as well as **social networking** platforms such as Facebook, LinkedIn, Academia.edu.

A wiki, Hawaiian word meaning 'quick', is a webpage collaboratively edited and linked to other webpages by a community of users. There is no need to know the programming language HTML to create a wiki (Hughes & Narayan, 2009). Wiki use is found in a range of contexts such as health care and education (e.g. Forte & Bruckman, 2007; Thomas *et al.*, 2009). The most famous example of wiki is Wikipedia (http://en.wikipedia.org), the free online encyclopaedia which can be edited by anyone with a registered account.

Users of social networking platforms, such as Facebook or LinkedIn, have a personal account in which they edit their profile, upload photos,, educational and work information and/or videos to share with other users. There are also social software tools that allow users to maintain a blog within their virtual space alongside other applications, for example, in Cloudworks (http://cloudworks.ac.uk/) which is a social networking platform for those involved in learning, teaching and conducting educational research..

The new trend of generating content to share with other people has been flourishing in popularity worldwide as evident in the increasing number of users of social networking websites (e.g. comScore, 2008). Among the reasons for their growing popularity is their characteristics: they are easy to use; they allow users to form friendships, and to reunite with former classmates; or to network for career opportunities; or to play online games regardless of geographical constraints (e.g. Tan, 2008; Whitelock, 2010).

Given the lack of agreement over the definition and conception of Web 2.0 and the fact that its usage may vary across users, it would be difficult to provide an exhaustive list of Web 2.0 tools (Armstrong & Franklin, 2008). The tools described in this section are only few examples of the most prominent and commonly used Web 2.0 tools.

Social software tools have therefore the following characteristics, also documented by evidence (e.g. Alexander, 2006; Maag, 2006; Bruns, 2007; Minocha 2009a):

- **collaborative:** they enable collaboration and the sharing of information
- **open:** they enable a wide participation among Web users at little or zero cost for the user
- **user-generated:** information provided in a Web 2.0 platform is created and shared by the users, which in turn makes them producers.

The boundaries between consumers and creators of content is becoming blurred. Bruns (2007) coined the term 'produser' to indicate this blend in the two identities: “a hybrid of producer and user” (ibid.: 20). One reason for this change in the perception of the user seems due to the ethos of **free and/or open source** technologies i.e. 'release early and release often', which turns users into perpetual beta-testers or co-developers of the tools (Weller, 2006).

The next section provides an overview of the emergence of social software as a medium to support education and I look at the advantages and disadvantages.

2.4. Using social software in education: an overview

Since the mid-2000s, Web 2.0 has had an impact in education and educational research. In the UK, a number of JISC and BECTA reports described the potential of using Web 2.0, such as social networking, wikis and blogs, in these contexts (e.g. Phipps, 2007; Crook *et al.*, 2008; Minocha, 2009b).

The contemporary thinking about teaching and learning is one that endorses proactive participation of the learner in the learning process, in contrast to traditional views of the learner as a passive recipient of information and the teacher-learner relationship as being asymmetric (see Das Gupta, 1994). Therefore, it could be argued that social software fits well within the current schools of thought about educational practice. Social software tools, including blogs, help learners to express themselves, to create and control their learning spaces, their online presence, and their activities (e.g. Carter, 2005; Farmer, 2007), but at the same time to collaborate with others (e.g. Bryant, 2006; Phipps, 2007). These tools, therefore, support both individual and social learning activities (see Minocha & Kerawalla, 2010). Armstrong & Franklin (2008) also discuss the importance of considering social software in education, particularly HE, on the fact that students use Web 2.0 technologies in everyday situations, at workplace and at home. Therefore, their expectations would be to interact with technology-enhanced learning environments.

Empirical research investigating the use of social software in educational contexts highlighted the benefits felt by students engaging with the tools: developing communication skills, problem solving, collaborative working to name a few. These are all skills which will be important in the workplace, particularly in settings where experience in online communication and team-working is essential (e.g. McLoughlin & Lee, 2008; Minocha, 2009a; 2009b; Thomas *et al.*, 2009).

Given the nature and characteristics of social software, there are a few aspects which need careful consideration, before embarking on an educational or professional initiative involving the use of social software. Issues needing careful pondering are: preserving intellectual property and data, concerns about breaching environmental safety and confidentiality, system stability, and frivolity and unreliability of information are some examples of concerns which have been raised by researchers (e.g. Greenwood *et al.*, 2006; Phipps, 2007; Armstrong & Franklin, 2008; Cain & Jones, 2009).

Some of the key issues the need to be considered and a summary of the major benefits perceived by learners and educators are illustrated in Table 1 below. The list of benefits and challenges in Table 1 is by no means exhaustive. Indeed, it would be difficult to provide a comprehensive list of advantages and disadvantages of using Web 2.0 in education and other professional contexts given the flexibility with which social software tools are and can be used. The purpose of Table 1 is to provide the reader with an idea of how the characteristics of social software may or may not help to support learning, teaching and other professional initiatives.

Table 1: A sample of benefits and challenges of Web 2.0 in education

Benefits of using Web 2.0	Challenges of using Web 2.0
Development of communication skills	Intellectual property rights and ownership
Collaborative and team-working	Environmental safety (e.g. ensuring confidentiality within online boundaries)
Problem-solving	System stability (e.g. server down)
Peer mentoring and support	Frivolity of content (unreliable information)

A review of previous empirical research on blogging in education is provided in section 2.6. In the next section I will discuss the key theoretical and pedagogical frameworks which can inform empirical research on blogging and social software in education.

2.5. Pedagogical frameworks on the use of Web 2.0 and blogging

There are a range of theoretical and pedagogical frameworks and learning theories within psychological and educational studies (Crook *et al.*, 2008), ranging from behaviourism to constructivism. The ones discussed in this section are well-known frameworks, which several empirical studies have relied on to investigate the phenomenon of social software and blog use in education.

2.5.1. Social Constructivism

The pedagogical framework underlying the use of social software in education appears to fit within a social constructivist approach to knowledge (e.g. Barrett, 1995; Ferdig & Trammell, 2004; Comas-Quinn *et al.*, 2009; Whitelock, 2010). The social constructivist approach views the student as an active participant in the learning process, rather than a passive recipient of knowledge, and the knowledge is constructed together with other students and educators (Vygotsky, 1978; Das Gupta, 1994; Wood, 1998). Barrett (1995) wrote in a time when personal computers had just started to appear in the homes and the communication technologies were just emerging. Students in the 1990s were beginning to engage with tools in a virtual online environment (e.g. the FirstClass conferencing system, www.firstclass.com) which allowed them to network and to communicate information quickly and conveniently. But social software use is about communication, collaboration and creating content for a wide and perhaps unknown audience.

2.5.2. Cognitive Constructivism

More recently, there has been a shift towards a cognitive constructivist approach to explain the experience of learning through social software use (Felix, 2005; Hauck & Stickler, 2006; Du & Wagner, 2007; Comas-Quinn *et al.*, 2009). Vygotsky adopted a radically social constructivist approach on children's and young people's development and learning and for constructing knowledge, he placed emphasis on the importance of cooperative learning and the instructions of the more experienced 'other' and the role of the social and cultural contexts. On the other hand, Jean Piaget's constructivism is less radical with more emphasis on the learner's individual characteristics (Das Gupta, 1994; Wood, 1998).

Through the use of Web 2.0 tools, knowledge is individually generated but socially mediated (see Minocha, 2009a; Comas-Quinn *et al.*, 2009; Whitelock, 2010); therefore ,the two approaches can be synthesised into one learning framework: the user tries to make sense of new knowledge individually (cognitive construction); this is then communicated, shared and produced with other users such as in a wiki (social construction).

It could be argued that amongst the variety of social software tools, blogs allow for cognitive *and* social knowledge construction and learning: a “monologue and dialogue” (see Farmer *et al.*, 2008). Through the blog, students can reflect, develop a personal voice and make sense of meaning on their own (cognitive presence); at the same time, they use a tool which allows sharing and collaboration with other learners as well as educators (social presence), with the educator having the role of facilitating a cognitive and social presence (teacher presence) (Garrison & Anderson, 2003).

2.5.3. Knowledge Management

The use of social software and, in particular, the role of blogging in education can be explained by looking at other constructivist models in the literature for knowledge construction and management. For example, Ferdig & Trammell (2004) argue that the rationale behind using blogs for pedagogical purposes lies in Lev Vygotsky's theory of knowledge construction in education (Vygotsky, 1978): educational blogs help in the scaffolding of ideas. By means of this form of communication, users interact, reflect on thoughts, mutually support, develop ideas and make sense of what they are learning.

The concept of Knowledge Management (KM) emerged in the mid-Nineties (Burton-Jones, 1999) to indicate a shift from data and information management. There is no agreement on the definition of KM but this concept refers to strategies adopted by organisations to create, collect, organise, share, and disseminate knowledge (which includes data and information, but also people skills, explicit and implicit knowledge), and applying it to achieve the organisation's objectives. This also applies to education, including HE and research, as scholarly research involves generating, applying and preserving new knowledge, and disseminating it (e.g. Boyer, 1990; Garrison & Anderson, 2003). Indeed, in educational contexts, particularly in **e-learning** and technology-enhanced learning environments, 'knowledge management' and 'learning management' are used almost interchangeably. The use of social software is being perceived as one of the strategies by organisations to support knowledge management (e.g. Garrison & Anderson, 2003; Tan, 2009).

According to Garrison & Anderson (2003) educational practices can be categorised into three core activities: content management, course or module management and pedagogical management. It is important for both educators and students to be able to create, manage and share information and knowledge within a community or learning environment. Knowledge or learning management enables the three core activities of content, module and pedagogical management, and for the users to work together synergistically for enhancing the teaching and learning experience in Web 2.0-enhanced educational environments (Garrison & Anderson, 2003; Farmer, 2007).

Garrison & Anderson (2003) examined the use of discussions forums in education and explained their pedagogical effectiveness as the synthesis of cognitive, social and teacher presence. This pedagogical model has being reconsidered by Farmer (2007) who applied it to blogging. As a result, the blog can be seen as a useful tool for individual or cognitive purposes such as reflection, and for social learning or collaborative processes of learning. Once again, a socio-cognitive constructivist approach to knowledge creation seem to provide an appropriate theoretical framework to explain and investigate the use of blogs in educational contexts.

2.5.4. Related concepts and theories: Dialogicality, Being-With, Connectivism

Koschmann (1999) and Jones *et al.* (2008) see a connection between Bakhtin's theory of dialogicality and online communication within **virtual learning environments**. For Bakhtin, no piece of writing is a monologue. Each entry is situated within a bigger discursive frame involving the writers, their readers as well as broader social factors or people related to the writer's environment. What the author writes has a link to real or to imagined interlocutors:

> “[according to Bakhtin] there is always at least one other respondent voice implicit in any utterance, and an implied dialogue which shapes the form and meaning of the utterance...even the most apparently stand-alone writing...is a response to what has already been said...[it] will be evident...in content...and structure” (Maybin, 2001: 69-70).

Existential phenomenology proposes a similar theory to explain the experience of the individual. According to Martin Heidegger (see Langdridge, 2007) people interact with other people and material things in their surrounding world. Even when a person appears to engage in solitary activity, interaction with things, animated or otherwise, is inevitable. This experience of being-in-the-world-with-others (i.e. *Mitwelt*) appears to be particularly evident in social software initiatives, characterised by collaboration and sharing. Furthermore, drawing a similarity with Bakhtin's dialogicality, Heidegger claims that the experience of being-with takes place through language and discourse: “language is the house of being” (ibid.: 33).

These views appear to reflect those of researchers in social software who see blogging as a form of conversational practice (Efimova & De Moor, 2005), in which “readers create blogs as much as writers” (Nardi *et al.*, 2004: 4). The reader and the relationship with the blogger appear to be influential in shaping this web-based form of communication, be it blogging to a real audience or to an imaginary one. Internet-based writing has implications in the social construction of the online writer's identity, a joint construction between the way the authors portray their image to the public, and the readers' own perception (Larsen, 2008; Zhao *et al.*, 2008; Vasalou & Joinson, 2009).

According to the connectivist theory (Siemens, 2005), traditional learning theories have not considered the fact that learning through technology is a form of connecting, of creating a network of people who share resources and knowledge, that is more explicit compared to the networking before the social media age. Networks are not new but they are more explicit now in the social media age. Today we send an online request to connect to someone; whereas 30 years ago we could meet someone at a conference, but we would not have intentionally externalised the fact that we had made that connection or would have had the facility to keep up with the connection. Now information about others and the nature of connections is explicit, and is also more traceable and discoverable by others. To Siemens, the knowledge is within the connections, rather than as a separate entity, and learning is the process through which we create connections and navigate through them.

One of the dilemmas which may be faced by educational researchers (e.g. Jackson, 2006) is whether one theoretical framework is sufficient to provide an exhaustive account of the phenomenon researched, or whether more can be achieved by bringing two or more theories together in one project. Summarising this section, it could be argued that no single theoretical or pedagogical framework can help to explain alone the phenomenon of social software use in education. Each model provides an explanation of a different aspect of this complex and fast-changing area. As argued by Crook *et al.* (2008), no pedagogical model dominates the others. They appear to complement and overlap each other towards gaining a more in-depth understanding of the phenomenon.
However, one explanation seem to recur in each of the theoretical frameworks that I have examined is that knowledge is the product of *construction* which involves a range

of players, from educators to students and institutions, rather than an independent, pre-existing entity; this is a stance which has been advocated by positivist philosophers (Smith, 1998).

Having situated the broad area of social software use in education within well-known theoretical and pedagogical frameworks, the following section provides a review of the previous empirical research and findings on the use of blogging in educational contexts, and how this review has helped me to identify gaps in the literature which my research seeks to investigate.

2.6. Previous research on blogging in education

This section will focus on reviewing previous research and findings on the use of blogs in education in a range of contexts, from secondary to tertiary education, and from classroom-based environments to blended and online learning environments.

2.6.1. Where and how are blogs used: an overview

The Roberts' Review (2002), commissioned by the UK government, pointed out the difficulties employers face in recruiting skilled researchers, and a need to develop research and communication skills in higher education. Can Web 2.0 and blogging, given their characteristics, in particular address these issues? The use of blogs alongside other social software tools in education emerged in early to mid-2000s as compared to the use of blogging in journalism and business contexts (Tan, 2009). Several studies demonstrated the value of blogging in facilitating reflection, writing skills and collaborative learning in education, but also highlighted the challenges encountered and the gaps in the literature which need to be investigated. These aspects will be examined throughout this section.

Many educational institutions and in particular higher education institutions (HEIs) delivering face-to-face or distance education or blended learning offer tuition and support through **Virtual Learning Environments (VLEs)**, a virtual classroom in which students and educators can communicate, submit assignments, create and upload documents. Moodle and Blackboard (Whalley *et al.*, 2006) are examples of VLEs. The VLEs may contain a number of **synchronous** (i.e. real time) and **asynchronous** applications: **online discussion forums**, **instant messaging**, **wikis**, **podcasts**, module books reproduced in **Portable Document Format (PDF)**, online quizzes and, of course, blogs.

Among these applications, blogs are becoming more and more popular in educational institutions and at different levels: in primary and secondary schools (Crook *et al.*, 2008), in post-16 Further Education and Sixth Form colleges (Whalley *et al.*, 2006), in higher education (Williams & Jacobs, 2004; Hookway, 2008), and in 'blended' education settings (Oravec, 2003).

There are blogs set up by the educators hosted on the university or school website (e.g. The Open University UK offering blogging tools in their VLE), module or programme-related blogs used to perform learning activities (e.g. Johnson, 2004), or to encourage reflection through peer feedback (e.g. Xie *et al.*, 2008), or as students' or teachers' independent blogs hosted outside the institutions' domains which are set up by the user to discuss and reflect on his/her educational experience.

However, students and educators may also be reluctant to use blogs, if blogs were just added to a portfolio of other tools, because other tools may be successfully fulfilling the same purposes e.g. peer support and exchange, performing assessments (Wise, 2005), or the students will only engage with blogs it if a compulsory requirement (Homik & Melis, 2006; Tramullas & Garrido, 2011). On the other hand, Wise (2005) claims that blogs are more appropriate than discussion forums for certain tasks, e.g. as notice-boards or places to post links to module-related resources and websites. Students can comment on blog posts and add their own links and suggestions for further entries, whilst forums are mainly used for mutual support and discussing technical problems.

The following sub-sections highlight some of the benefits of blogging but also other issues that emerged in the literature in terms of how blogging could be effectively used as a tool to facilitate teaching and learning.

2.6.2. Blogging and collaboration

A range of empirical studies support the claim that blogging being a social software tool facilitates collaborative working. There is evidence of blogging promoting team-working, peer-to-peer support and social interaction among a range of learner categories: undergraduate students (Nardi *et al.*, 2004; Armstrong & Franklin, 2008), trainee teachers (McLoughlin & Lee, 2008), postgraduate taught students (Kerawalla *et al.*, 2008; Rourke & Coleman, 2009), and collaborative working between taught university students and educators, using shared-learning spaces such as group blogs (Minocha, 2009a). The experience of collaboration and social interaction among bloggers, and within an educational environment, also appears to help reduce the sense of isolation otherwise experienced due to lack of or scarce face-to-face contact (ibid.; Oravec, 2003).

However, other research (Krause, 2004; Wise, 2005) criticised the assumption that blogs foster social interaction as much as other social software does. Blogs are the authors' personal spaces, and they have control on how and who can access the blogs and comment on them (Krause, 2004). As with Web tools of the first generation, the primary purpose of blogging is publishing (Glance *et al*., 2004); social exchange can only happen after the author publishes his/her entry for others to access and read.

2.6.3. Developing skills through blogging

Writing a blog, even more so than using other collaborative social software tools such as wikis or discussion forums, forces the blogger to express their ideas in a way that can be understood by readers, to reflect upon own ideas, and to compare their views with those of their readers or with dominant opinions in the area. Because bloggers usually write in the public arena, it could be argued that blogging may help to develop their writing skills as bloggers need to carefully think about what they write and which can be easily understood by others (Oravec, 2002; Minocha & Kerawalla, 2010; Warschauer, 2010).
Indeed there is evidence on the use of blogs in helping classroom students in secondary schools to develop writing skills (Drexler *et al.*, 2007). This is also evident in other contexts such as at the undergraduate level (Zeng & Harris, 2005), among foreign language learners (Thorne & Payne, 2005), and at postgraduate level among PhD students (Minocha & Kerawalla, 2010).

2.6.4. Facilitating reflection

Reflection is viewed as an integral part of the learning process (see Xie *et al.*, 2008). Reflecting means making sense of and transforming the knowledge and skills acquired, and social and intellectual exchange with peers, as well as among people of different level of hierarchies (e.g. between educators and students) (Moon, 1999). A range of empirical evidence suggests that blogging, even more than other social software tools, can be an effective way of facilitating the development of reflective skills at different levels in education. For instance, Xie *et al.* (2008) found that blogging helped improve reflective skills among undergraduate students. Likewise, Zeng & Harris (2005) found that undergraduate students perceived blogging to having helped in enhancing both their reflective thinking and writing. Xie & Sharma (2005), Windham (2007) and Rourke & Coleman (2009) found similar results among postgraduate students. However, Sim & Hew (2010) note that:

> "[it] may require a longer period of time for [improvement in reflective skills] to be appreciated by the individual or to be observed. Such limitations may affect the quantity and quality of the blog postings thereby introducing a certain degree of bias with regards to the obtained results" (ibid.: 156).

This might explain why other studies did not find significant improvement in reflective skills by blogging (e.g. Hall & Davison, 2007). Xie *et al.* (2008), despite using a controlled experiment, warned against the potential presence of confounding variables such as positive experience of peer feedback which may have biased the results. However, this brief review suggests that blogs appear to play a role in reflection when accompanied with social interaction.

2.6.5. The importance of a flexible use of the blog

Students may use blogs for a variety of purposes: as spaces to practise and improve their writing skills (e.g. Thorne & Payne, 2005; Kerawalla & Minocha, 2009), as **e-portfolios**, as part of a module-related activity (e.g. Williams & Jacobs, 2004; Weller *et al.*, 2005), for note-taking, group-work, discussion and social exchange with fellow students, as a personal journal, or as a repository of resources and to record notes and important events (e.g. Brennan, 2007, Farmer, 2007; Kerawalla *et al.*, 2008), to either reflect on their learning, and to share their experience with a wide audience (e.g. Xie *et al.*, 2008). As explained below, a single blog may include all these uses and it should not be a forced learning activity. The blogger decides which use to make, if any, of his/her online blogging space.

Kerawalla *et al.* (2008) investigated students' behaviour towards blogs by interviewing the participants and analysing their blogs. Participants were students enrolled on a Master's module in Online and Distance Education in a UK university and most of them were mature students and educational professionals. There were students who deliberately avoided using blogs because they juggled many commitments such as job, family, and other (compulsory) module-related activities and which they felt had higher priority. Other students used blogs for a variety of purposes: as a personal notepad, or to seek peer support, and a blog that could contain several characteristics, each entry serving specific purpose(s). It is suggested that blogs work effectively if used flexibly and if students are given the chance to make the use they wish, which suits their individual needs.

Letting students decide what to make of the blog was also suggested by Williams &

Jacobs (2004). To them, blogs are more enjoyable activities if blogs were a part of an online activity in a module, or as personal spaces for the student and the educator. The blogger may be given suggestions by the module team, but it is him/her who decides what to do with the space.

Likewise, Downes (2004) claimed that keeping a blog can become a 'forced' activity if the criteria to use blogs are clearly set out by individual educators or module teams. A 'forced' activity prevents students from using blogging as a means of natural and spontaneous way of communication. They cannot decide for themselves what use to make of their blogs, may end up writing for the teacher's sake only, not enjoying the activity and may quit blogging as soon as the module finishes.

2.6.5. Concerns with blogging

A number of concerns raised about blogging in education and other professional contexts are common to other social software initiatives: frivolity and unreliability of content, intellectual property rights, environmental safety, privacy, and system stability.

Blogs may be perceived less as a shared space as compared to other Web 2.0 technologies such as virtual worlds, social networking tools and wikis (e.g. Krause, 2004; Wise, 2005). Blogs are often defined as users' "online diaries" where the word "diary" implies the author's personal, "protected" (Gumbrecht, 2004) virtual space. Indeed, the author (blogger) has full administrating rights on his/her space. The high level of manipulation of information by the blog author (i.e. deleting, editing entries and comments, dates and times of publication, managing access) threatens the reliability of the content (Boulos *et al.*, 2006).

The legal implications of writing in a public online space is well documented in the literature such as people losing their jobs as a result of sensitive information posted on their blogs which were accessible to the public including their employers (e.g. Fitzgerald & O'Brien, 2007, Cain & Jones, 2009; Lee *et al*., 2009). Managing an online identity and reputation are issues which were understated in the early days of blogging because of lack of company policies addressing them (Cain & Jones, 2009). However, it now appears to be gaining importance: for example, news about trials that have addressed the legal implications of irresponsible blogging behaviours (Lee *et al.*, 2009), publishing tips on how to build a good reputation on the Web (Adee, 2011), and reporting the ease of blogging under a fictional identity (BBC News, 2011).

Bloggers must be responsible in the way they manage their online spaces and they should be aware of any ethical or legal implications arising, especially with blogs employed in education and academic research that are available to students, other educators and worldwide (Benton, 2006). The issues of maintaining a reputation and acting as a responsible blogger has been considered in the literature particularly in corporate blogging contexts but not so extensively within academia (e.g. Benton, 2006; McCullagh, 2008). As yet there are no empirically-grounded guidelines on using blogs in research and academic contexts or a list of precautionary measures that the bloggers should consider to preserve the integrity of their professional reputation and that of their institution.

Reputation issues also raise the issue of privacy and environmental safety as documented in a range of studies and international reports (Crook *et al.*, 2008; Ellison & Wu, 2008; Franklin & Armstrong, 2008; McCullagh, 2008). Jones *et al.* (2008. One way of maintaining reliability of blog content and the users' comfort and freedom to post could be to provided students and educators with a blog space in a closed online learning environment which is accessible to members of the institution and with educators monitoring the content of the students' spaces (Boulos *et al.*, 2006).

As noted when discussing blogging in business contexts in section 2.2.3, there are also concerns over intellectual property rights in Web 2.0 (e.g. Oravec, 2003; Grodzinsky & Tavani, 2010) i.e. recognising authorship in an ‘open’ system, in particular where there is shared authorship or co-authorship as in wikis and community blogs (Greenwood *et al.*, 2006). Copyright is an important issue for educators and researchers using blogs to divulge their knowledge, and for contributing to or being moderators of educational debates.

To summarise: the use, popularity and concerns regarding blogging in education from secondary to tertiary education and particularly from the learner's perspective is well documented in a range of empirical studies in US, UK, Australia, and some non-English speaking countries (e.g. Williams & Jacobs, 2004; Hall & Davidson, 2007; Kuzu, 2007; Kerawalla *et al*., 2008, to name but a few).

There is also a growing literature on blogging practices amongst postgraduate and postdoctoral researchers (e.g. Xie & Sharma, 2005; Ward & West, 2008; Ferguson *et al.*, 2007, 2010; Minocha, 2009a). However, most of the empirical work reports case studies with few participants (n<10). Research on scholarly blogging is still at the developing stage, and uses of blogs and other social software tools have been less enthusiastically perceived in academia (Borgman, 2007; Kirkup, 2010).

The following section expands on this latter aspect of examining blogging and uses of other social software tools in higher education teaching and research. The next section has an overview of the literature on the use of Web 2.0 tools and blogging in scholarly contexts. Then I discuss how academic blogging fits within the concept of 'digital' scholarship. The potential benefits but also the possible barriers for academics and researchers 'going digital' and embracing blogging as part of their practice are also examined.

2.7. Blogs and other social software in academia and research

The literature review so far indicated that blogging is a useful tool to support learning in different and multi-faceted ways. There is some emerging literature on the use of blogging by educators and researchers in the higher education domain but it is not extensive.

2.7.1. An overview of the blog as a teaching tool

There have been a few empirical studies investigating the role of educators using blogs. Educators use blogs on their own or alongside other social software tools for various purposes: to interact, exchange ideas, share knowledge with colleagues as well as students, to provide instructional tips to their students, to post news or links, to review, and to post learning activities (Downes, 2004). According to Downes (2004), the success of blogs among educators is because blogging “makes this previously odious chore much simpler” (ibid.). Educators in higher education engaged in blogging may talk about their teaching experiences in their blogs and share it with a wide audience (Corbyn, 2008), or they may use blogs to primarily support their own students (Downes, 2004; Meng, 2005), or they may be blogging for both the purposes, i.e. to share their experiences and to support their own students and other learners.

The Times Higher Education (Corbyn, 2008) published an article on university lecturers engaged in blogging, with a list of their blogs. Lecturers keep a blog to talk about their activities and experiences in the institution they work in. An entry may be about a typical week in the life of a university lecturer, talking about their work, discussing it with the readership, posting news about projects the educator is involved in. For example, the target audience for one educator (a Professor of Classics at a UK university) is the “wider community”. She blogs to let people outside HE know about life as a university lecturer.

Blogs have features which detach them from the cellulose notebooks used by traditional instructors. Besides the 'comments' feature under each entry and encouraging social exchange between bloggers and readers, other applications can also be embedded in blogs such as podcasts, vodcasts (videos), as well as hyperlinks providing a direct gateway to other educational resources. Foreign language students, for instance, can hear a native speaker talking by downloading a podcast from the teacher’s blog. They can access multimedia materials in one blog entry (Meng, 2005; Maag, 2006).

However, an educator approaching blogging to support their practice may face challenges. From more recent studies it emerges that it can be difficult for educators to design and deliver learning activities through which match the learning outcomes (Minocha, 2009a). Also, the role of the educator in a learning activity that involves students’ blogging may appear to be closer to a facilitator of learning, rather than the traditional teacher delivering classes or lectures; this perception “might be in conflict with that of the educator’s who may still see his (or her) role as ‘‘delivering’’ education and instruction." (Minocha, 2009a: 263).

O'Donnell (2005) claims that students and educators are more concerned with knowing *how* they can use blogs and in ways blogs add to or complement more traditional forms of teaching and learning rather than their understanding of *what* blogs are..

The following section examines the uses of blogs as research tools.

2.7.2. An overview of the blog as a research tool

Researchers, from research students to researchers by profession, can blog about their research projects and their experiences and reflections in a spontaneous way (e.g. Xie & Sharma, 2005; Ward & West, 2008; Chong, 2010), or in a more formal way and as an integral part of the research process (e.g. Wakeford & Cohen, 2008; Hookway, 2008). There are bloggers involved in research to disseminate their research findings (e.g. http://www.ResearchBlogging.org|) .

Studies documented that research students use blogs in a variety of ways (e.g. Ward & West, 2008; Ferguson *et al*., 2010): to record thoughts, experiences and plans throughout their doctorate, and to link with online papers, other related resources and conferences relevant to their research. Others (Suzuki, 2004; Wakeford & Cohen, 2008; Hookway, 2008) report of researchers in social sciences and humanities using blogs as a qualitative method of data collection. They may use blog extracts of their participants as datasets to carry out analyses. The research involving blogs could be ethnographic fieldwork: e.g. researchers keeping a blog during their fieldwork to record their thoughts and to develop an insider's viewpoint. One advantage of blogs, like diary methods, is that it reduces retrospective bias (Suzuki, 2004) because the research process is documented there and then.

Established researchers may keep a blog with the intention of engaging with the public (Kirkup, 2010). For early-career researchers, their blogging practices may change as they move from being postgraduate bloggers to post-doctoral bloggers, and when their blogging activities come within the remit of their employer or institution (Ferguson *et al.*, 2007; 2010).

However, all the studies mentioned in this subsection were small-scale studies, involving three to five participants and at similar levels in their career, and within the researchers' institutions. Further investigation looking at larger samples across institutions and countries would be helpful to extend our understanding of the blogging practices in academia and research in different socio-cultural contexts, and at different career stages.

Despite the scarce empirical evidence on uses of social software in scholarly contexts to this date, it is evident that academics and researchers are increasingly embracing social media to support their work in a range of ways. This phenomenon will be further examined in the next section.

2.7.3. The emergence of a 'digital' scholarship

Scholarship, i.e. the act of pursuing learning and knowledge extensively, scrupulously and critically (see Chambers Dictionary, 2003) was once limited to printed text, in terms of both research process and outcome. However, since the second part of the 2000s decade there has been an increasing pressure to embrace new technologies and media to support academic work and research. Furlough & Wessel (2005) define digital scholarship as elaborating "new interpretive methods for research, teaching and learning through the use of digital resources and tools” (ibid.: 3). There is evidence of the use of computing in humanities research dating back to 1949, but publications exploring the phenomenon of a 'digital' scholarship increased since 2007 (Burdick & Willis, 2010). Academic journals became available online, some of them embracing the 'open' approach to the public of the Web 2.0 concept. Johnson (2004) claims that non-print academic work and research projects involving digital media necessitate a new form of reviewing and new qualified reviewers, which do not just take into account the intellectual content of the work, but also the effective use of new technologies such as usability and innovation.Scholarship, that is,. the act of pursuing learning and knowledge extensively, scrupulously and critically (see Chambers Dictionary, 2003) was once limited to printed text in terms of both research process and outcome. However, since the second part of the 2000s decade there has been an increasing pressure on academics and researchers to embrace emerging technologies and social media to support academic activities and research. Furlough & Wessel (2005) define digital scholarship as elaborating “new interpretive methods for research, teaching and learning through the use of digital resources and tools” (ibid.: 3). There is evidence of the use of computing in humanities research dating back to 1949, but publications exploring the phenomenon of a 'digital' scholarship increased since 2007 (e.g. Burdick & Willis, 2010). Academic journals became available online and some of them embraced the open access approach of the Web 2.0 phenomenon. Johnson (2004) claims that non-print academic work and research projects involving digital media necessitate a new form of reviewing and new qualified reviewers, which do not just take into account the intellectual content of the work but also the effective use of new technologies such as the concepts of usability and innovation.

In his report, Boyer (1990) claimed that US academia at the time placed too much emphasis on the research aspect of scholarship and underestimated the value and quality of teaching. In order to bridge the gap between research and teaching, Boyer (1990) developed a conceptual framework which defines 'scholarship' as a combination of teaching and research activities. In particular, he suggests four dimensions to define scholarship: discovery, integration, application and teaching. The first two dimensions indicate the development of new knowledge from one discipline (discovery) and from an interdisciplinary area (integration). Application refers to engagement within and outside academia, in relation to the scholar's works. Teaching refers to all the activities associated with preparing, assessing and supporting students' learning. This framework is further explained in Chapter 3 on methodology, as it forms part of the methodological framework which I used for my empirical study.

However, Boyer’s (1990) framework focuses on the practice of individual scholars. It can explain the practice of a scholar working in the humanities. It is less useful to understand the practice of scholars working in teams, such as in natural science, and those engaging with social media (Pearce *et al.*, 2010). Also, Boyer considers research and teaching as two separate entities, suggesting that the creation of new knowledge (discovery) becomes a part of teaching. This implies that the teacher has a more directional role (Garnett & Ecclesfield, 2011) rather than being seen as a facilitator, which is how educators are engaging with social software (Minocha, 2009a).

Pearce (2010) elaborated from Boyer's (1990) report on scholarship to derive a definition of a 'digital scholarship' and to ground his own empirical investigation. Whilst Boyer's (1990) dimensions constitute an appropriate starting point for researching digital scholarship, Pearce (2010) claims that Boyer’s model on its own cannot explain the ethos of this new form of scholarship, particularly its 'open' approach (see Table 2).

Table 2: Scholarship and new technology (Pearce, 2010).

Boyer's dimension of scholarship	Trend towards openness
Discovery	Open data
Integration	Open publishing
Application	Open boundary between academia and the public
Teaching	Open education

Indeed, for Pearce *et al.* (2010), digital scholarship is:

> "more than just using information and communication technologies to research, teach and collaborate, but it is embracing the open values, ideology and potential of technologies born of peer-to-peer networking and wiki ways of working in order to benefit both the academy and society"

Looking at Table 2, in relation to the first two dimensions, 'discovery' and 'integration', the advent of social software tools renders research data available to a wider public. As regards 'application', new knowledge and findings are increasingly disseminated in online open access journals (Antelman, 2004; Willinsky, 2006). Considering the last of Boyer's dimensions, i.e. 'teaching', social software tools allow for teaching material to be more easily shared within the online public arena. However, there is a lack of empirical evidence for how the 'openness' manifested in blogging can influence academia, research, and scholarship.

2.7.4. Potential benefits for the digital scholar

The literature discusses a range of potential benefits for the academic or researcher embracing the use of social software including blogs in their work. I use the term 'potential' because, whilst there is empirical research supporting the claims, which will be now examined, the literature is still at a developing stage.

Cost and time efficiency

One benefit appears to be the inexpensive and effective way in which social software allow for some publishing formats. Pearce (2010) claims that digital publications allow formats which traditional forms of publishing would either do ineffectively or expensively, such as reproducing three-dimensional material or colour visualisations in paper journals. It should also be noted that peer-reviewing, a component of traditional academic publishing, is a lengthy process which sometimes takes over a year, from submission of a paper to a journal editor to publication (Coleman, 2011). Using social software tools may help accelerate the dissemination of new knowledge.

Impact

Publications on open access journals appear to have greater impact (Antelman, 2004; MacCallum & Parthasarathy, 2006). Social software tools encourage an 'open' approach to communication (e.g. O'Reilly, 2005; Alexander, 2006). However, can they provide a greater impact in the academic's or researcher's field, and in their learning in the profession, compared to traditional forms of scholarly dissemination and publication? There is no extensive empirical research on this aspect. Weller (2006) refers to the impact of Web 2.0 in education and academia as a 'known unknown' (ibid.: 36). It appears to be the same five years on. This aspect is discussed in further depth in section 2.7.5.

Public engagement

Poliakoff & Webb (2007) claim that scientists ought to undertake public engagement activities so as to minimise discrepancies between scientific findings and the portrayal of the findings in the media. Also, many science issues are relevant to the public and a positive perception among the public may increase support towards funding and the research itself.

Researchers tend to have a positive attitude towards public engagement and the public understanding of science (Wellcome Trust, 2000). However, it should be noted that unlike with teaching and research activities, the quality and extent of public engagement is not defined or measured with a set of standards or parameters despite this activity being widely embraced in HEIs across Europe. It also appears to be not considered as essential for the scholar's learning and development (Neresini & Bucchi, 2011).

Weller (2010) notes that public engagement appears to be still deeply rooted in traditional media and calls for usage of new media which can be more cost-effective. There is some evidence that use of social media increases public and civic engagement, among young people (Rheingold, 2008) and in a UK distance-learning university (Wilks & Pearce, 2011). However, there does not appear to be empirical evidence from large samples and across institutions investigating the extent to which blogs and other social software tools promote, or not, public engagement between academics and non-academics, in the same way as traditional mainstream media have been doing for decades (Weller, 2010).

2.7.5. Barriers for the digital scholar

Conservatism

Kirkup (2010) highlights a reticence among scholars in embracing new technologies. There is still a “fundamental conservatism in and around higher education” (Pearce *et al.*, 2010). Using social software and blogging does not seem to be considered in the same league as publishing in peer-reviewed journals and presenting at international conferences. Some academics and researchers regard frequent and extensive use of social software, including blogging, as “other stuff” (Borgman, 2007) as a waste of time if not counterproductive (Procter *et al.*, 2010).

Whilst it is well known that publishing and disseminating research findings through online 'open' vehicles is cost-effective and time-effective, traditional publishing is a profitable business involving several parties (Weller, 2011b). Perhaps this might explain, to some extent, the reluctance of some of the stakeholders in promoting the use of Web 2.0 in academia.

Measuring and recognising impact

Another barrier to digital scholarship, despite now widely acknowledged in the literature, is its lack of official recognition for the purposes of promotion and recruitment in higher education (e.g. Andersen & Trinkle, 2001; Cheverie *et al.*, 2009). Cheverie *et al.* (2009) claim that the academic community discourages scholars at early stages in their career to embrace digital scholarship for tenure and promotion purposes. The extent to which social software in academia and research can have an impact on the researcher's or academic's field is still unclear, even more so the direction of the impact

(Weller, 2009a). The same applies to measuring public engagement, as explained in the previous section (Neresini & Bucchi, 2011). Does an academic or researcher engaging in social software and blogging have more or less impact, compared to an academic or researcher who has not embraced new technologies in their research? Measuring impact through blogging or the use of other social software tools appears to be a very difficult if not an impossible task. Studies have started to look at possible ways of measuring impact through the use of Web 2.0 (Priem & Hemminger, 2010), but there is no agreement yet on how this measure could be implemented, given the already demanding task of achieving a consistent measure of the contribution in traditional peer-reviewed publications (Weller, 2009a).

The New Media Department at the University of Maine, US, has started to consider alternative routes, which include effective engagement with social software tools, as criteria for tenure and promotion (Blais *et al.*, 2007). However, Weller (2009b) warns to avoid simplistic translations of measures to identify an equivalent measure of impact in online spaces: the important aspect to consider is not the number of invitations as a keynote speaker to a renowned conference due to blogging, but the significance of that keynote to the academic and wider community.

Ferguson *et al.* (2010) claim it is still unclear whether academic blogging fosters the creation of new communities of practice, and the extent to which the tensions between blogging and the academic world limit the possibilities for a digital scholarship. It is also unclear to date whether academic blogging is indeed promoting a new form of digital literacy, or whether blogging involves applying existing literacies into new contexts.

Ferguson and colleagues helped to shed further light on the experience of academic/research blogging. However, their study was on a small-scale based on the blogging experiences of three PhD students who had become post-doctoral researchers and were working at the same UK university. A more robust explanation of how blogging can contribute to digital scholarship and the academic/research blogger's learning in the profession is needed, and the investigations should draw from the experiences of a wider range of academics and researchers.

2.8. Gaps in literature and the focus of this research project

A Joint Information Systems Committee (JISC)-funded study (2008–2009) on the effective use of social software or Web 2.0 tools in UK further and higher education has reported that educational institutions are increasingly making use of social software (Minocha, 2009). However, this study found that most social software initiatives are small-scale, led by an individual educator, and situated within a single module. Evidence (e.g. Andersen & Trinkle, 2001; Cheverie *et al.*, 2009; Pearce, 2010) also highlighted the problems with recognising digital scholarship towards promotion and funding, and the conservatism of academia, despite that fact that this emerging form of conducting, communicating and publishing research is being widely acknowledged.

The literature on the blogging practices among academics and researchers is rather limited. Most case studies were conducted in English-speaking countries, US and UK in particular (e.g. Thorne & Payne, 2005; Kerawalla *et al.*, 2008;), also Australia (e.g. Williams & Jacobs 2004; McLoughlin *et al.*, 2007). Few other studies come from South Africa and the Netherlands (Armstrong & Franklin, 2008). There is very scarce literature to this date on uses of blogs in education, academia and research in Southern Europe and many Asian countries, for example (see also Sim & Hew, 2010).

Also, as discussed in this chapter, since the end of the 2000s decade, blogging in academia has started to emerge as a subject of investigation. Mortensen & Walker (2002) had reported on blogs as having potential as a research tool. Empirical evidence among established academics and researchers who blog comes from small samples, mostly of educational technologists (e.g. Kirkup, 2010). Other studies are based on research students only or early-career researchers (Ferguson *et al*. 2007 & 2010; Ward & West, 2008; Minocha & Kerawalla, 2010; Chong, 2010).

My research project aims to expand on those studies by carrying out an investigation into the application of blogs among a larger and heterogeneous sample of academics and researchers at different stages in their careers with different subject specialisms and based in different countries, both English speaking and non-English speaking nations. My aim has been to come up with findings that are applicable to a wider context than reported in the literature so far.

My research will investigate the drivers, personal and professional for blogging in academia and research. The outcomes of this research have been a framework for blog use in digital scholarship, and empirically-grounded guidelines for academics, researchers and other professionals who are considering taking up blogging as part of their practice.

The research questions were:

RQ 1: Why do academics and researchers engage in blogging?

The first research question looks at the reasons why academics and researchers keep a blog as part of their work, what motivates them to start blogging, and what makes them maintain a blog.

RQ 2: How does blogging contribute to the academics' and researchers' learning in the profession?

The second research question looks at the possible benefits of blogging for an individual academic and/or researcher. The investigation will aim to uncover the extent to which blogging aids the academics' and researchers' learning in the profession, for instance, developing writing and research skills, fostering engagement within the academic community and the wider public, promoting own work, or making an impact.

RQ 3: What challenges do academics and researchers face with blogging?

The third and last research question looks at the problems and concerns academics and researchers experience as bloggers, or any cautionary measures they need to consider if they use a blog as part of their work.

In the next chapter I will describe the methodology of this research project.

CHAPTER 3

The methodology of this research project

In this chapter, I present an overview of the major philosophical paradigms, and the epistemological foundations of this project, which influenced the methodology for my empirical research. Then I discuss the different phases of the empirical research in a chronological order: the formulation of research questions and the methodology, conducting the pilot studies and the main study, data analysis and interpretation. Although the discussion is sequential, the research design process and the empirical investigations developed iteratively, as a cycle of reflection and evaluation was built in the research process.

3.1. The philosophical paradigms

When deciding which research methods should be employed, it is necessary to identify the ontology and epistemology underlying the research aims and objectives (Smith, 1998). In philosophy, ontology is the study of existence, i.e. it aims to answer what entities exist or can exist and what is real. Epistemology is the study of human knowledge i.e. what and how we know that entities exist. The study of knowledge is also related to belief (e.g. what we believe exists) and truth (e.g. whether what we believe is true) (ibid.). We need epistemology to investigate and make sense of the ontology.

There are two main ontological perspectives to viewing reality, one is objective i.e. reality is there and human beings conform to it and its norms, or try to uncover it using a nomothetic epistemological approach (Stevens, 1996), e.g. through observation and identification of causal relationships between entities. The other ontological perspective is subjective. It claims that there is no fixed reality, no absolute, value-free truth. Human beings are not passive inhabitants of the world, they actively shape it and make sense of it through their subjective experience, making reality a socially constructed entity. Here the epistemological approach to knowledge is constructivist, and it can either be hermeneutic, i.e. reality is a social construction but the approach assumes determinism of actions, or transformational, i.e. assuming autonomy of action and reflexive awareness (Stevens, 1996).

There is a third epistemological approach, realism, located in between positivism and constructivism (Smith, 1998). It recognises, like positivism, that social phenomena hold a form of existence outside our inner thoughts, but they are still the product of social interactions and relationships. Realism, like constructivism, recognises the importance of what we believe to be real. For instance, if I believe myself to be a popular blogger, despite several factors indicating otherwise (e.g. low number of comments and hits/visitors), this belief may have an important influence in the way I blog.

However, there is one approach to realism which argues that 'real' social phenomena can only be known through using a conceptual framework. This means that our knowledge of these 'real' phenomena is never permanent or fixed, but may change when new concepts emerge in our field of research. This approach calls for maintaining a 'critical' stance to 'real' knowledge, hence the name 'critical realism' (Mingers, 2004). More so than realism, critical realism attempts to bring together the similarities of more extreme epistemological approaches, bridging the gap between extreme positivist and constructivist approaches (ibid.). This is where my research project stands. It attempt to explain real social phenomena using a conceptual framework, by maintaining a critical stance and acknowledging the social constructivist nature of the blogging experience.

3.2. The epistemological foundations of this project

This research project adopts an open approach to data collection and analysis. The three research questions are open-ended. As a researcher, I am not looking for definitive answers on what constitutes a universal 'right' approach to blogging. As can be seen from the literature in Chapter 2, and this applies to most social science research (Smith, 1998), there are no right or wrong or definitive answers to social phenomena. No blogger or blogging experience is the same as another. Blogging is controlled by the individual and studies in educational settings documented the value of encouraging a flexible approach to blogging, tailored to the needs of the individual. Investigating bloggers' opinions and experiences makes this project of subjective nature. Data is expected to be dynamic and constructed by personal and social situations, but it also exists out there. People's viewpoints and life experiences cannot be understood and explained by cause-effect laws of positivist epistemology. My methodology is therefore grounded on a subjective ontology, in relation to what exists, and on a critical realist epistemology. In other words, the phenomenon of blogging in academic contexts is something that exists, but our knowledge of it is constructed and can change over time (Moon, 1999; Stevens, 1996).

Qualitative research methods were mostly chosen for the studies. Qualitative methods allow the researcher to study a phenomenon in open and natural settings, to develop the study in terms of themes and perspectives, to focus on the process rather than the outcome, or a quantifiable end product (Smith, 1998). Most of the artefacts collected are qualitative (feelings, words, behaviour), in contrast to the quantitative data (codes, numbers, statistics) of nomothetic-oriented research projects. However, for richness of data and for clarity of presentation, some of the emerging patterns, collected with a questionnaire, are also represented in quantitative and diagrammatic fashion (e.g. pie charts with percentages, Figures 4-6 in Chapter 4, Section 4.1.).

Before conducting the main empirical research, I felt necessary to conduct two pilot studies, to test the feasibility of my chosen methods and to identify any challenges, whether practical, ethical or methodological, to be addressed at the start of the main empirical study. This phase of the research is documented in the following section.

3.3. Pilot studies: An overview

Two pilot studies were carried out before conducting the main empirical study. The first pilot study was carried out between January and March 2009. The second pilot study was conducted in November and December 2009. The timeline of the two pilots, as well as the aims, participants and methods used, is illustrated in Table 3 below, adapted from an idea of Clough (2009):

Table 3: Timeline of pilot studies

Pilot Study 1 (January – March 2009)		
Aims	**Participants**	**Methods (artefacts collected + analytical techniques)**
To test the feasibility of the techniques of data collection chosen To familiarise with the ethical procedures involved in doctoral-level research To evaluate the appropriateness of the techniques used for data analysis To shed light on the following questions: reasons for blogging as a teacher and/or learner, benefits of blogging to learning and teaching, challenges	Five bloggers: Two taught undergraduate students Two postgraduate research students One educator working in HE	Artefacts collected: Individual semi-structured interviews, recorded and transcribed Extracts of blog texts Techniques for data analysis: Thematic analysis (for interviews) Bakhtinian discourse analysis (for blog texts)
Pilot Study 2 (November – December 2009)		
Aims	**Participants**	**Methods**
To test the revised techniques for collecting data	Two participants from Pilot Study 1: One postgraduate research student One taught undergraduate student	Artefacts collected: Unstructured interview (one open-ended question by email) Individual semi-structured interviews, recorded and transcribed (interview questions revised) Extracts of blog texts Techniques for data analysis: Descriptive phenomenological analysis (for unstructured interview) Grounded Theory (for semi-structured interviews) Bakhtinian discourse analysis (for blog texts)

The rationale, aims and objectives are similar to those of the main empirical study, albeit with a small sample (n=5) which also included taught undergraduate students. The pilots were conducted to test the methodology and identify its strengths and weaknesses, which informed the main empirical study. The participants were:

- two undergraduate students, enrolled as distance-learners at a UK university, who used blogs to support their studies;
- one educator, at the same institution who blogged as part of her role;
- two research students and bloggers, from a UK and an Italian university.

3.4. Pilot Study 1

3.4.1. Data collection methods

The methods used for Pilot Study 1 to collect the data were individual semi-structured online interviews and blog content (textual). Next, I will discuss the rationale for the choice of methods.

Semi-structured interviews:

One of the most important factors to look at is a practical one. Since the research was carried out at a distance and on the Internet, with limited financial resources and opportunities for face-to-face encounters with participants, I felt that using the telephone or other online media were appropriate and time-efficient ways to collect written or audio data remotely.

Focus groups or electronic surveys or questionnaires were not considered for the following reasons. Since the research focused on the individual experience of blogging, and considering the privacy issues associated with blogging, as emerged from the literature (e.g. McCullagh, 2008), I felt that focus groups were not the most appropriate medium to investigate the individual blogger's experience in reasonable depth. I was also aware of the potential reluctance of the participant in sharing relevant but potentially sensitive information in the presence of other people. The focus group setup might have been ethically challenging, and could have also prevented the acquisition of important data.

With regard to using surveys and questionnaires, I felt that these would only provide a very limited data set, considering the breadth of my research questions and my epistemological approach on looking at the individual's experience of blogging. This can be different from one to the other and may not be answered from a standard framework of structured questions. A survey or questionnaire alone does not provide the opportunity to expand on a specific aspect of the blogger's experience. These methods allow participants to answer a question by choosing from a pre-determined set of possible answers, established by the researcher (Yates, 2004). This introduces the researcher's pre-conceptions on the data generated, which may constitute another threat to its validity.

Instant messaging (IM) had also been considered as a possible method for collecting interview data. IM has its benefits: usually a written copy of the ongoing conversation is recorded and this allows the researcher to save time in transcribing interviews. It also enables scrolling back to check whether there are any aspects not yet discussed. However, IM conversations take longer than interviews carried out face-to-face or by telephone/**VoIP** (**voice over internet protocol** e.g. Skype). Also, the lack of voice cues or other non-verbal gestures may lead to misunderstandings (Voida *et al.*, 2004).

Despite current digital technologies offering a wider selection of means through which data can be collected (e.g. instant messaging, but also discussion forums), social science and educational research still recognise the value of audio or face-to-face interviewing as a means of collecting data. It is documented that interviews were well known methods even in ancient times, but they gained popularity during the second half of the 20th century (Kvale, 1996). This reflected a philosophical shift, from a decline in the scientific-orientated positivist approach to research, to a rise in the philosophical schools of thought closer to the arts and humanities. These include the epistemological approaches my own research project is based on:

> “a postmodern social construction of reality, hermeneutical interpretations of meanings in text, phenomenological descriptions of consciousness, and the dialectical situating of human activity in social and historical contexts” (ibid.: 11).

These epistemologies, including critical realism, emphasise the constructive knowledge of social phenomena, a knowledge created and continuously shaped by social relationships, of which the interaction in an interview conversation is one form (ibid.).

The decision of using 'semi-structured' interviews for my pilot study is grounded on my need for some direction in the conversation, geared towards answering the research questions. The method chosen for delivering them was telephone or VoIP. It enabled to speak in real time and make use of other verbal or non-verbal gestures such as the tone of voice and, when webcams were used, even facial expressions. Face-to-face was not feasible due to the geographical spread of the sample.

Previous projects carried out in similar areas (e.g. Weller *et al.*, 2005; Kerawalla *et al.*, 2008) made use of interviews as means of generating data. Weller *et al.* (2005) investigated experiences of adult distance-learners using four technologies to support their learning, including blogs, and conducted one-to-one telephone interviews. Kerawalla *et al.* (2008) investigated university students' blogging behaviours, using semi-structured telephone interviews. They also analysed blog extracts, which is the second artefact collected in Pilot Study 1 and discussed in the following paragraph.

Textual blog content:

Given that the research focuses on the blogging practices, I felt necessary to include blog content in the corpus of the data. Reading the blog before the interview helped me in tailoring the semi-structured interview questions according to the individual's blogging practices. For instance, a blog might have contained an extensive number of widgets, and the reason for this could have been asked at the interview. Blog content was also revisited later, on completion of the interview, to collect examples which helped illustrate aspects covered at the interview.

3.4.2. Data analysis methods

The semi-structured interviews were analysed using thematic analysis, whilst the blog content was analysed using an approach in discourse analysis. Each method is discussed in more detail below.

Analysis of the semi-structured interviews:

Data collected from interview sessions was analysed using inductive thematic analysis (Braun & Clarke, 2006). Recurring thoughts and feelings, identified when transcribing the interviews, are grouped into themes. Recurring themes are substantiated by evidence from the interview transcriptions which should then inform the research questions. One characteristic of inductive thematic analysis is that it is not bound to one theoretical or methodological framework (Thomas, 2006), unlike other approaches such as Grounded Theory (Strauss & Corbin, 1998). At this stage in my research I felt important to choose a data-driven approach, to minimise bias derived from preconception or knowledge of the literature.

Analysis of textual blog content:

Blog content was analysed using discourse analysis, to look at both content as well as linguistic styles amongst students, educators or researchers, which grounded my analysis on Bakhtin's sociolinguistics. Bakhtin introduced the concept of 'dialogicality', i.e. all speech, even monologues as in a blog entry, is embedded in a social context and always addressing an interlocutor, whether real or imaginary. This will be evident in the linguistic structures used (Maybin, 2001). I chose this approach for two reasons:

1. it was grounded in one of the pedagogical theories employed to explain the experience of using blogs and social software in education (see Section 2.5.4. in Chapter 2).
2. other discourse analytical approaches were not suitable for my project and research questions. For example, Conversation Analysis (CA) (e.g. Wetherell *et al.*, 2001) looks at talk in interaction, and analyses all elements of speech, verbal and non-verbal, such as pauses and hesitations. CA is suitable for analysing oral speech, but perhaps not so appropriate for written blog content.

Before starting Pilot Study 1, I had to obtain ethical approval. I followed the British Psychological Society ethical guidelines (BPS, 2006). The same ethical steps were also followed for the main empirical study and are explained in detail in section 3.7.2. The procedure undertaken, from obtaining the ethical clearance to collecting data, is outlined in the following section.

3.4.3. Procedure of Pilot Study 1

The undergraduate students were recruited by posting an invitation message on the module forum, calling for volunteers. I chose to recruit taught students enrolled on a first-year undergraduate language module because it was easy to gain access to them, and also due to time constraints. I decided, therefore, to research within the context where I work as a tutor. The initial study was carried out between February and March 2009. I was able to see to what extent had blogging been changed and how far the bloggers engaged with it. Educators and researchers were recruited by sending an invitation email to acquaintances who were either HE educators or researchers/research students.

Three participants, the two students and the educator from the same UK university, were interviewed in real time using an online audio-conferencing tool called Lyceum (now discontinued, see the following Wikipedia article for a clear and comprehensive description: http://bit.ly/gauPhK), after I had analysed their blog entries. The two postgraduate research students were interviewed using Skype (http://www.skype.com). Each interview session lasted approximately 30 minutes and was audio-recorded. The one-to-one interview session aimed to investigate participants' opinions and experiences about blogging, and to relate their accounts with the researcher's interpretation, from having analysed their blogs.

3.4.4. Results of Pilot Study 1

The main findings from Pilot Study 1 can be summarised as follows:

- Blogging was used by the educator as extra teaching material, to complement books and other resources.
- Other uses of blog emerged (e.g. more evident among the students):
- the reflection journal;
- a space for learning through story-telling;
- virtual 'soap-boxes' to air moments of frustration;
- a medium to seek social and mutual support from readers and other bloggers.

Before conducting the main empirical study, it was necessary to reflect on the lessons learned from the Pilot Study 1, what worked well and what could have been revised. The next section discusses these issues in detail.

3.5. Reflections from the first pilot study

3.5.1. Ethical considerations

The process of obtaining ethical approval for this pilot study lasted approximately one month, from initial contact with ethical committees to ethical approval. The pressure and time constraints to meet the deadlines, in order to pass the probationary year of the doctorate, was one of the major challenges of conducting Pilot Study 1.

This study involved little psychological risk for participants. There was one issue that I was concerned about, although not encountered in the pilot, was the risk that participants may feel unhappy or may disagree with my interpretations of the data. The researcher's interpretation of the data may be different from the blog author, but this is part of the research process. Even the bloggers themselves may change their mind about what they mean in their writings from one day to the other. However, to make sure this risk was minimised in the main study, upon completion of the semi-structured interview, a post-interview validation form was sent to the participant (see Appendix 8). This was first completed by myself as the researcher, providing my interpretation of the data. The participant was then asked to confirm whether they felt the interpretation was accurate or not.

Recruiting participants and obtaining written consent was also time-consuming. I expected to be able to recruit at least two or three participants per category (students; educators; researchers) but I was only able to recruit five participants, of which only one was an educator. Other methodological issues are discussed in the next section.

3.5.2. Methodological considerations

For the Pilot Study 1, my method of recruitment was posting an invitation message on the relevant module forums and social networking groups. This method of recruitment was slower than expected. In most cases my invitation did not attract any volunteers. Time constraints and tight deadlines were also contributing factors.

The pilot may only provide a partial picture of the experiences students, educators, researchers have in relation to using blogs, due to its small sample size. Previous evidence shows that many start blogging and abandon the activity due to it being time-consuming (e.g. Windham, 2007), or bloggers are concerned about disclosing personal information, or blogs do not appear to add anything to existing learning technologies such as forums (e.g. Wise, 2005). All participants in this sample were, however, dedicated bloggers; none of them had abandoned the activity except for pauses not longer than one or two months. The data from the pilot provided a limited understanding of the challenges of blogging to support education and research projects.

Another issue identified is the linguistic barrier. Of the five participants recruited, two were Italians and mainly blogged in Italian and two student-participants were English native-speakers blogging in Italian, the language that they were learning. The interview with the educator and one of the research students was conducted in Italian. This helped the participants to convey their thoughts in a more spontaneous way, being their mother tongue, but left the researcher with the challenging task of ensuring the meaning of the English translation accurately reflected the original data.

The other issue identified in the pilot study was the lack of inter-rater reliability. Being one researcher (me) analysing the data qualitatively, the themes identified reflect the researcher's own interpretation and had not been double-checked by other researchers. For the main study, I addressed this issue by making the participants more proactive in the interpretation of the findings. This is also another reason why the post-interview validation form was added. Another way in which I addressed the challenge of deriving the themes, from Pilot Study 2 onwards, was to leave the data aside for a few days or a couple of weeks and then return to the raw data and revisit the analysis. As I work on my own, I found that this 'cooling off' period helped me to re-interpret the data.

Despite the challenges encountered, Pilot Study 1 informed my further plans of action and helped me to refine the research methodology for the main study. However, before undertaking the main study, another pilot was carried out, to test the methodological changes made. This second pilot will be referred to as Pilot Study 2. This is discussed in the next section.

3.6. Methods revisited and Pilot Study 2

3.6.1. Changes from Pilot Study 1 to 2

Pilot Study 2 was carried out between November and December 2009 with two participants employed in Pilot Study 1 (see Section 3.3.). I informed the Chair of the Ethics Committee of my intention of and reasons for conducting Pilot Study 2 and obtained ethical approval. In addition to testing a revised version of the semi-structured interview, another stage prior to the interview was added which was an unstructured interview consisting of an open-ended question.

After completion of Pilot Study 2, the procedure for collecting data was further revisited. From the two data sets collected in Pilot Study 1 to the three in Pilot Study 2, data collection was increased to five data sets for the main study. The artefacts collected and analytical methods employed in the main empirical study are described in Section 3.7.

Table 4 below illustrates how the three studies (pilot study 1, pilot study 2, and main study) fit together and feed into each other, indicating the changes that were made.

Table 4: From the pilot studies to the main study

	Pilot Study 1		**Pilot Study 2**			**Main Study**				
Data collection	Semi-structured interview, no conceptual framework	Blog content (text)	Unstructured interview (one open-ended question by email)	Blog content (text)	Semi-structured interview with conceptual framework	Pre-interview / background information questionnaire	Unstructured interview	Semi-structured interview	Blog content (textual)	Blog content (visual)
Data analysis	Thematic analysis	Discourse analysis (Bakhtinian)	Descriptive phenomenology	Discourse analysis (Bakhtinian)	Grounded theory	Quantitative (using basic descriptive statistics)	Descriptive phenomenology	Thematic analysis	Discourse analysis (framework adapted from Bakhtinian DA and the ethnography of communication)	Thematic + saliency analysis

Added to previous study

Modified from previous study

In addition to an extended methodological framework consisting of five data collection methods and five analytical methods, the main study also included a sixth final component: a post-interview validation questionnaire (Appendix 8), added to check for agreement between the interpretations of the researcher and those of the participant.

The decision of relying on a larger number of artefacts (i.e. datasets) for the analysis was grounded on my assumption that choosing two datasets only, blog content and semi-structured interviews, may provide a narrow picture of blog use in these contexts.

The semi-structured interview questions were also revisited, based on the research questions and on a framework developed using two existing frameworks identified in the literature on blogging in education and on traditional and digital scholarship, respectively. The rationale, the development and the description of the framework are explained in detail in the following section.

3.6.2. A conceptual framework for the semi-structured interview

Kvale (1996) stresses the importance of providing a theoretical context for conceptualising methodological and theoretical issues emerging from an interview conversation. Pilot Study 1 lacked a methodological framework to base the interviews upon. The semi-structured interview questions were then improved for Pilot Study 2.

A framework was derived from two existing models in the literature: Kerawalla *et al.*'s (2008) model of blog use among educators and students, and Boyer's (1990) dimensions of scholarship. My own framework and the three research questions form the basis of the formulation of interview questions and the interpretation of the data.

Kerawalla *et al.* (2008) developed a framework based on the findings of an empirical study that they had carried out on taught postgraduate students enrolled in a distance-learning university. During the interviews conducted by Kerawalla et al., four factors were identified as being important by the students:

- Perceptions of and need for an *audience*
- Perceptions of and need for *community*
- The utility of and need for *comments*
- *Presentational* style of the blog content

Based on their empirical research, Kerawalla *et al.* (2008) developed a framework for student bloggers and educators which outlines questions for students to answer, from the perspective of their own technological and pedagogical context about how they can start and maintain a blog as part of their work. Each factor (audience, comments, community and presentation) is accompanied by a set of questions. Figure 4 shows the framework developed by Kerawalla *et al.*:

Over-arching technological and pedagogical context of my course	
The relationship of my blog with other e-learning tools provided by my course (e.g. forum, wiki, email, podcast).	How do I want to use my blog in relation to other e-learning tools I use? What can blogging offer that other tools cannot? Do I want a blog that is not provided by my institution? Do I want a personal blog that I can use to meet my own needs? Do I need other students to motivate me to post?
The functionality of my blogging software	Can it support an RSS feed? Is it easy to embed URLs? Is it compatible with my browser? Does it have an export function? Is it accessible from anywhere? Can I disable and vet comments? Is it easy to include graphic files? Is it easy to include audio files? Does it have a blog roll? How can I organise and tag my posts? Can I search my tags? How long are my posts stored?
The requirements of my course (i.e. course pedagogy)	What have I been asked to do in my blog? Are my posts assessed? Is blogging compulsory?

Developing my blogging behaviour and skills within the technological and pedagogical context of my course

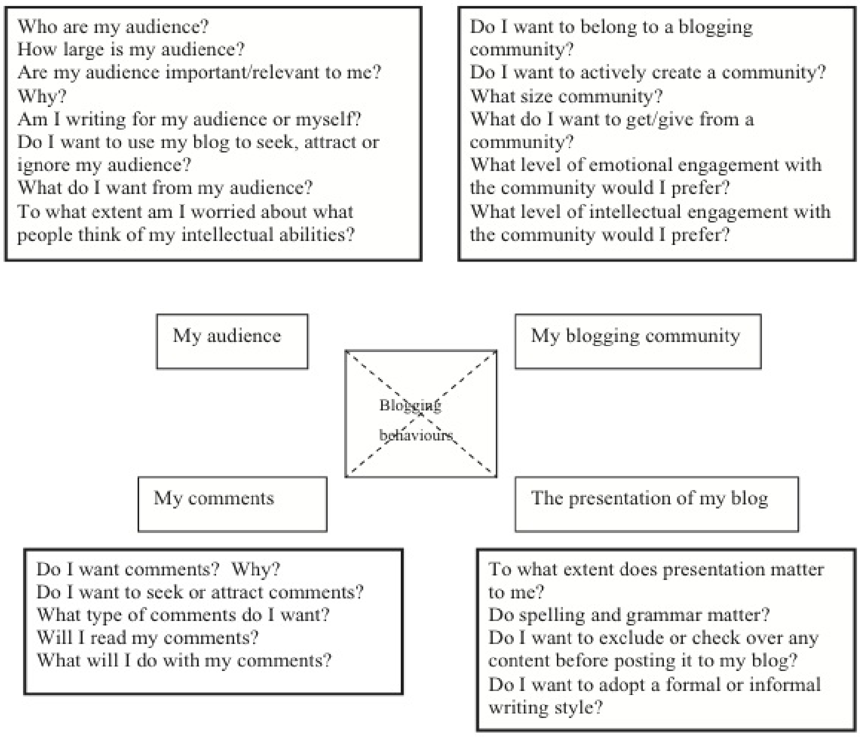

Figure 4: A framework for student bloggers and educators (Kerawalla *et al.*, 2008)

The literature has revealed a range of ways in which students and educators blog. This suggests that guidelines for blogging should not be rigid, and so this framework and the questions posed are flexible and can be adapted according to the contextual factors.

Returning to my research project, I was investigating blogging is academia and research and, in particular, individual educators working in higher education and researchers. Therefore it was necessary to take into account the factors considered important in determining scholarship with the aim of finding out the extent to which blogging may or may not contribute to scholarship.

Boyer (1990) identified four dimensions of scholarship:

- Discovery: creation of new knowledge within a specific discipline.
- Integration: creation of new knowledge across disciplines. This applies to inter-disciplinary studies.
- Application: public engagement, in and outside academia. This can also include peer reviewing journal papers, applying for funding, sitting on committees.
- Teaching: quality and quantity of teaching. This is gaining importance in UK HE since the introduction of tuition fees. However, for the Research Excellence Framework (REF), impact is still judged on the number of research outputs rather than on the teaching.

My research makes use of a framework adapted from two existing frameworks:

1. Kerawalla *et al.*'s (2008) model of blogging in HE learning and teaching and
2. Boyer's (1990) dimensions for defining scholarship.

My framework has been adapted to include factors that are also of relevance to researchers, e.g. development of research-related skills. The four components (consolidated from Kerawalla et al.'s model and Boyer's dimensions) along with the three research questions guided the formulation of the semi-structured interview questions. The four components are:

- Audience

- Impact
- Academic and Public Engagement
- Skills Development

Table 5 shows the conceptual model which guided the formulation of the interview questions.

Table 5: A conceptual model for the semi-structured interview

Research Questions	Components of blogging in academic/research contexts	Sample interview questions derived
#1 Why do academics and researchers blog?	This is the first broad research question which encompasses the issues broken down below, and is tailored according to response from other data sets (blog content, unstructured interview)	What made you start blogging in you current role? Was it your own initiative or was it suggested by someone else?
#2 How does blogging contribute to the academics' and researchers' learning in the profession?	Audience	Whom do you aim your blog at?
	Impact	Do you use the blog to generate data for your research?
	Academic and Public Engagement	Do you disseminate knowledge and findings through your blog?
	Skills Development	What are the activities that work successfully through blogging?
#3 What challenges do academics and researchers experience with blogging?	Audience	Can you think of an example when your relationship with the audience was problematic? Were any of the comments unhelpful?
	Impact	Was it difficult to store data sets on your blog?
	Academic and Public Engagement	Were there any circumstances in which you found difficult to communicate your work?
	Skills Development	Do you find the blog unsuitable to perform certain tasks?

The specific adaptations from the two existing frameworks (see also Figure 5) are explained as follows.

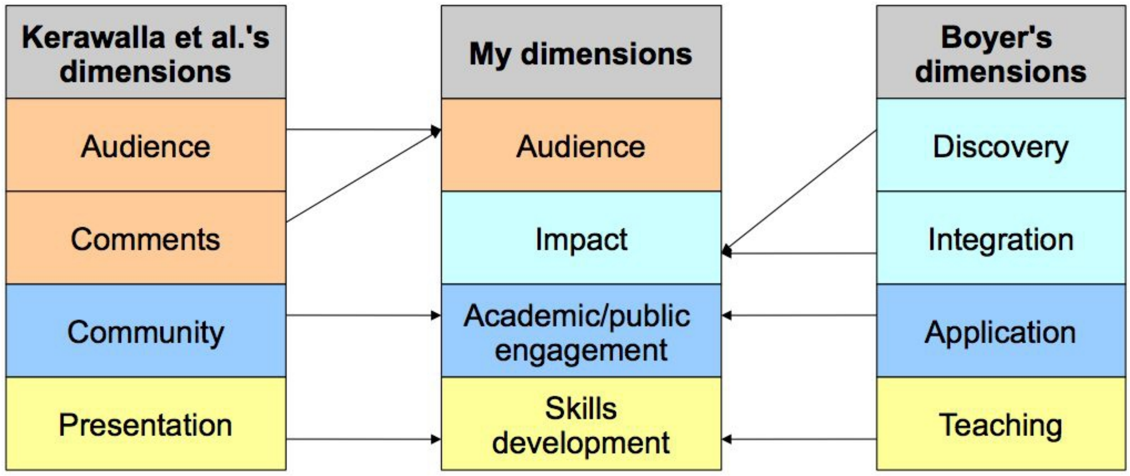

Figure 5: Combining Kerawalla *et al.*'s and Boyer's frameworks

In my conceptual model, Kerawalla *et al.*'s Audience and Comments were grouped together as one dimension, called ***Audience***. I felt they covered similar aspects, the former of a broader scope than the latter, because using the comment facility is one example of interaction between blogger and audience. The Audience in my model, therefore, incorporates both the perception of readers of the blog (audience) as well as the communication between blogger and readers through using the comment facility (comments).

The second dimension, ***Impact***, includes the first two dimensions of Boyer, i.e. Discovery and Integration. It implies looking at blog usage in creating new knowledge: for example, collection and analysis of data in one field of research (discovery) and interpreting the new knowledge across disciplines such as writing a book to illustrate the application of new knowledge in different contexts (integration).

The Community factor of Kerawalla *et al.* was substituted with ***Academic and Public Engagement***, to encompass Boyer's Application dimension. This includes looking at a wider relationship, with a specialist as well as a non-specialist community.

Skills Development encompasses the fourth dimension in Kerawalla *et al.*'s framework, 'Presentation', and Boyer's 'Teaching'. This addresses blog usage in relation to the development of research-related and teaching skills, writing and presentation.

Table 5 above shows the semi-structured interview questions used, as derived from the conceptual model. The full list of semi-structured interview questions is in Appendix 7. It should be noted that the questions were tailored to the individual participant's information and data provided by the other artefacts of the participant. For example, the pre-interview questionnaire was used to collect background information on the participant: role, subject expertise, level of experience with blogging and frequency. The semi-structured interview questions were also tailored according to information that emerged from the unstructured interview by email, and from an analysis of the blog. This is described in more detail in the following section.

3.7. The main study

3.7.1. Participants and recruitment

The main study, from obtaining ethical clearance to completion of data collection, was carried out between February 2010 and May 2011. The timeline of the main study, as well as the aims, participants and methods used, is illustrated in Table 6 below:

Table 6: Main Study research timeline

Main Study (February 2010 – May 2011)		
Participants	**Artefacts collected**	**Aims**
Twenty six academic/research bloggers (profiles in Appendix 4)	Pre-interview questionnaire	To collect background information about the blogger, i.e. subject specialism, use of other social media, length of time blogging, and identify emerging patterns across bloggers e.g. between blogging style and background. To tailor semi-structured interview according to blogger's background information
	Unstructured interview by email, using one open-ended question	To investigate the psychological significance of blogging in academia and research: the lived experience of *Mitwelt* (being-in-the-world-with-others). To tailor the semi-structured interview questions according to the response provided to the open-ended question
	Individual semi-structured interviews, recorded and transcribed	Main dataset. To follow up and expand on issues identified in the other datasets: the pre-interview table, the unstructured interview and the blog (text and images)
	Extracts of blog texts (textual and visual)	To identify linguistic patterns and styles To tailor the semi-structured interview according to characteristics and issues emerging from an analysis of this artefact
	Post-interview validation	To avoid misunderstandings in the interpretation of the data between the researcher and the participant

For the main empirical study, the method of recruitment was also revisited. All participants who had a blog in the public domain were contacted directly by email or private message within a social networking site, enquiring if they would like to contribute to a doctoral project on blogging in HE and research. A copy of the invitation email is in Appendix 1. Directly contacting the blogger proved to be an effective and a less time-consuming method of recruitment.

Another difference in the sample is that for the pilot study most of the participants came from one UK institution, and two of them were taught undergraduate students. For the main study, the participants had to meet the following criteria:

- Be educators and/or researchers. Educators may range from professors to part-time tutors/instructors and researchers include both postgraduate research students and post-doc researchers. They can come from any HE institution worldwide (preferably proficient in English);
- Blog as part of their role (preferably in English).

These criteria were set to ensure richness of data (e.g. different institutions from different countries) to possibly make the findings applicable to other contexts outside the UK. Taught students were not recruited as they were outside the scope of this research.

Some of these participants were identified on social networking groups aimed at academics who use technology (e.g. the 'Technology in Education' group on LinkedIn). I directly contacted the majority of the participants by email. One participant was identified through a Guardian article from the *Times Higher Education* newspaper which contained a list of scholars who actively blog (Corbyn, 2008).

Appendix 4 displays the profiles of the participants recruited such as their gender, affiliation, role, subject specialism and frequency of posting. Twenty-six participants, 13 men and 13 women, were recruited from a range of subject disciplines, countries, and institutions. Further information on the overall profile of the sample is supplied in Chapter 4, Section 4.1. I felt it was important to recruit bloggers with a background in different disciplines to gain an understanding of the blogging styles and experiences across disciplines, and thereby increase the applicability of the findings to different contexts. Nevertheless, as can be inferred from Appendix 4 and the pie charts shown in Chapter 4, it was easier to find and recruit bloggers with a background or interest in educational technology and from UK universities.

The vast majority of the participants completed all the stages of data collection, only a few of them skipped one task (see Appendix 9).

The next section describes the procedure followed to obtain ethical clearance for the main study. The procedure was similar to that for the two pilot studies.

3.7.2. Ethical procedures

The ethical procedures followed for the study and described in this section consist of:

- Ethical guidelines followed
- Individual ethical issues addressed (e.g. consent, confidentiality).

Ethical guidelines and approval:

The ethical guidelines of the British Psychological Society (BPS, 2006) were followed, for all the studies. Before starting the recruitment for Pilot Study 1, 2 and the Main Study, ethical clearance was sought and obtained from the Human Participants and Materials Research Committee (HPMEC) at The Open University, UK. Both the Pilot Study 1 and the Main Study were registered with the Data Protection Office of the university and under the UK Data Protection Act 1998.

The individual ethical issues were:

Informed consent:

I approached potential participants either by email, by posting a comment on their blogs, or by posting an invitation on a relevant online social networking group or virtual environment. I replied to all respondents by sending the Project Information Sheet (see Appendix 2). Once potential volunteers read the Information Sheet and if they agreed to participate, the Consent Form was sent by email (Appendix 3). It was imperative that the participants who volunteered to take part in the study confirmed to have read and understood the Project Information Sheet and signed or typed their name on the Consent Form. The consent form was returned to me by email as an attachment.

Deception and recompense:

Participants were not deceived or misinformed regarding the aims of the study or the ways in which collection and analysis of data was conducted. They were informed that there was no right, wrong or desirable answer to the interview questions or to the way blogs should have been written. The focus was on their opinions of and experience with blogging. There was no material recompense offered, but no expenses such as travel or postage costs were incurred, because the study was carried out on the Internet or by telephone at my expense.

Confidentiality and risks:

It was ensured that no physical or psychological risks were associated with this study. No personal data identifying the participants was used for this study. Data was anonymised. The results chapters 4-6 include no written or visual extracts of blogs which are available in the public domain, listed in search engines, and therefore may easily identify the participants. Audio recordings of interview sessions, transcripts and any other sensitive data or information that may reveal the participants' identity was stored on the computer in an encrypted folder, using the software TrueCrypt (free open source software downloadable at: http://www.truecrypt.org/). No participants under 18 or psychologically vulnerable were recruited.

Debriefing:

Finally, participants were individually thanked by email for participating in the study. They were informed of the importance of their contribution to this project and the objectives it aimed to achieve. I informed them that they can also request a copy of the results once the project is completed.

The next two sections describe the procedure followed to collect and analyse data.

3.7.3. Procedure for collecting data

As mentioned previously, the artefacts used for collecting data were:

- pre-interview questionnaire (see copy in Appendix 5);
- unstructured interview (copy in Appendix 6);
- blog analysis (textual and visual data) in parallel;
- semi-structured interview (template in Appendix 7);
- post-interview validation (see validation questionnaire in Appendix 8).

The protocol for collecting data is summarised as follows:

Before the semi-structured interview:

- Send direct invitation to take part in a research project (or on educational websites)
- Email Project Information Sheet (see Appendix 2) to respondents
- Discuss ethical issues and obtain signed consent from volunteers (Appendix 3)
- Send the pre-interview questionnaire (see Appendix 5) to each participant, to

collect background information; fix date for the interview

- Email unstructured interview question to the participant; blog analysis starts
- Allow up to one week for the volunteer to respond to the question
- The semi-structured interview was conducted at least a few days after the participant's response to the email interview
- Read and study the information provided by the participant in the email response; adapt the semi-structured interview questions accordingly
- Arrange a mutually convenient time and date for the semi-structured interview (on Skype, or telephone, or SecondLife: http://www.secondlife.com, also used for supervisory meetings – see Appendix 11)
- Before the interview, verify that the recording devices (audiotape recorder and/or the online recording tool Audacity: http://audacity.sourceforge.net/) are working

At the time of semi-structured interview:

- Briefly remind the participant of the aims of the study
- Ask again for permission to record the session
- Conduct the interview
- Thank and debrief each participant
- Ask for permission to contact the participant to follow up any issues that may arise

Post-interview:

- Listen to the recording
- Take notes; perform an initial analysis

- Transcribe, save and store recording and transcript in an encrypted folder
- Email the validation form to the participant, with a list of issues identified by the researcher (me), and ask them to confirm or edit accordingly (see Appendix 8)
- Thank the participant and continue data analysis, until completion of the research project.

The procedure of collecting data and carrying out an initial reading and analysis, from initial contact with the potential participant to completion of the semi-structured interview, varied considerably from person to person, depending on commitments. The minimum time to collect data was three days and the maximum just under three months.

3.7.4. Methods of data analysis

Predominantly qualitative methods were used for analysing the data. However, this project also employed quantitative methods, to analyse the data presented in the pre-interview table: for further characteristics of the sample such as geographical affiliation and subject specialism of the bloggers and whether the bloggers used other social software tools alongside blogging (see Section 4.1. and Figures 6-8).

Table 7 below shows the artefacts and the methods employed to analyse each artefact. To summarise, the unstructured interview was analysed using descriptive phenomenological psychology (Giorgi & Giorgi, 2003; Langdridge, 2007); the follow-on semi-structured interview was analysed using inductive thematic analysis (Braun & Clarke, 2006; Thomas, 2006); the textual blog content was analysed using discourse analysis, using Saville-Troike's approach and framework of the ethnography of communication (Saville-Troike, 2003; Wetherell *et al.*, 2001); and the visual blog content was analysed using a combination of thematic and saliency analysis (Braun & Clarke, 2006; Buetow, 2010).

An explanation for the rationale of using these analytical methods is provided in the following section. See also Table 6 in Section 3.7.1.

Table 7: Artefacts and data analysis methods

Artefact	Data analysis technique
Pre-interview questionnaire	Quantitative analysis
Unstructured interview	Descriptive phenomenological psychology
Semi-structured interview	Inductive thematic analysis
Blog content analysis: textual data	Discourse analysis (ethnography of communication)
Blog content analysis: visual data	Thematic analysis (with saliency analysis)

3.7.5. Rationale for the choice of these methods

For the unstructured interview the method chosen to analyse the data is descriptive phenomenology (Stevens & Wetherell, 1996; Giorgi & Giorgi, 2003; Langdridge, 2007). Phenomenology studies people's experiences and perceptions of the world; the participant is free to talk about their experience as much as they wish, and fits well with this artefact in that a broad open-ended question is used.

In particular, descriptive phenomenological analysis identifies aspects of experience that are common across the sample, and aspects that vary across individual. There are four stages in data analysis for this approach: identify the general meaning; break this down to meaning-units (e.g. could be attitudes to different aspects of that experience, in written texts these may be apparent through paragraph breaks); assess the significance of these sub-meanings and finally synthesise them and present one general structural description of the experience, which may be valid across participants (Giorgi & Giorgi, 2003). This method of analysis has already been employed in studies on social software use. For instance, Bielenberg & Zacher (2005) explored the use of tagging and its role in creating social networks and groups with shared interests. A phenomenological approach was used to identify similar ways of thinking and speaking, in relation to tag use.

The rationale for the choice of phenomenology as an analytical method is also due to the fact that blogs and other social software tools facilitate collaborative and team working in educational contexts (e.g. McLoughlin & Lee, 2008; Kerawalla *et al.*, 2008). It could be argued that blogging illustrates Martin Heidegger's concept of *Mitwelt*: the blog enables *Dasein*, the existing person, to be in the world with others, to be social (Langdridge, 2007).

However, given the scarce empirical evidence on blogging as a scholarly practice, my project aimed to gain an understanding of if and how this experience occurs in an academic context: how the lived experience of being-in-the-world-with-others is manifested in the academics' motivation to begin and maintain blogging (RQ1) and in the possible benefits (RQ2) and challenges (RQ3) they perceived.

For the semi-structured interview, after attempting the use of Grounded Theory (see Strauss & Corbin, 1998), I later decided to continue using inductive thematic analysis (e.g. Braun & Clarke, 2006; Thomas, 2006) to interpret the data from the semi-structured interviews, as I did for Pilot Study 1. This method was finally chosen because it was more time-effective and it matched with the requirements of this study, as explained in the following paragraph.

As the name suggests, inductive thematic analysis aims to identify themes or patterns in qualitative pieces of evidence, through using a coding scheme (Stevens & Wetherell, 1996; Braun & Clarke, 2006). It helps to derive the patterns most relevant to the research questions, and the most recurrent in the sample, but unlike other qualitative approaches, it is not bound to one theoretical or methodological framework (my research draws from more than one framework).

This method is similar to grounded theory in that it involves an identification of codes, which are later grouped into categories and these in turn help deriving broader themes, but inductive thematic analysis does not explicitly separate the coding process into axial and open coding (Thomas, 2006). Also, unlike grounded theory, it is not directed at developing a new theory.

However, the expected outcome of this research project was a set of empirically-grounded guidelines on effective use of blogging in academic, research and other professional contexts. Patterns emerging from the visual data on blogs may find correspondence with findings emerging from the analysis of other artefacts, and may indirectly contribute to the development of a theory on blog use in academic and research contexts. Deriving an empirically-grounded theory by focusing on one method only appears to be limiting. Triangulation was indeed employed, as explained after presenting Table 8, p.101.

For analysing textual data in blogs, discourse analysis (e.g. Wetherell *et al.*, 2001) was chosen, in particular the approach and methodological framework of the ethnography of communication. This approach looks at the identification of social and cultural patterns in the written speech (in this case the blog entry) of a community, drawing from social anthropology and psycholinguistics (Saville-Troike, 2003). Its aim is to highlight what forms of communication, rules, functions are important to the community, and this should emerge from their writing style and content i.e. content of blog entries, their purpose, etc.

Inductive methods such as thematic analysis and grounded theory were discarded for this artefact because discourse analysis, in addition to looking at content, also looks at linguistic styles. These may also be help to shed light upon blog use in higher education and research. For instance, a different written speech tone may be used depending on which audience the blogger addresses. Findings from the blog content can help support or illustrate themes emerging from the analysis of other datasets.

A number of studies on social software used discourse analytical approaches to analyse data. Lin *et al*. (2004) investigated the role of online forums in negotiating and constructing an age identity. The researchers used discourse analysis and followed Potter and Wetherell's procedure for coding (Wetherell *et al.*, 2001). Schrire (2006) investigated collaborative learning through discussion forums as part of a post-doctoral module in a US university, using a sociolinguistic approach to discourse analysis.

Finally, an analysis was carried out on the visual data within the blog. Visual data is considered a separate artefact, because it may bring further information that textual data cannot offer on its own e.g. the blog entry may have a picture embedded for a particular purpose, or have a link to a photo-sharing website such as Flickr, suggesting that the blogger also uses other social software tools alongside blogging. Again, thematic analysis was employed for this artefact, with a combination of saliency analysis (Buetow, 2010). Saliency analysis does not just look at recurrent themes but also at salient themes, i.e. those which may not appear often across participants but which are perceived as important in the experience of one participant, and which may still help to shed further light on the research questions.

A comparison of the methods I employed in my study, in terms of the questions they address, the expected outcomes and the way the results are presented for each are shown in Table 8:

Table 8: Comparison of qualitative methods (adapted from Thomas, 2006)

	Inductive approach (i.e. thematic and saliency analysis)	**Discourse analysis**	**Phenomenology**
Analytic strategies and questions	What are the core meanings evident in the text, relevant to evaluation or research objectives?	Concerned with talk and texts as social practices and their rhetorical or argumentative organisation	Seeks to uncover the meaning that lives within experience and to convey felt understanding in words
Outcome of analysis	Themes or categories most relevant to research objectives identified	Multiple meanings of language and text identified and described	A description of lived experiences
Presentation and findings	Description of most important themes (recurrent, salient, or both)	Descriptive account of multiple meanings in text	A coherent story or narrative about the experience

Triangulation was employed, i.e. to find out whether the results from the analysis of one dataset were repeated in the data from another set. Studying a phenomenon using more than one perspective and method of analysis may increase the validity and reliability of the interpretation (Cohen *et al.*, 2007). For instance, some of the themes, emerging from the analysis of the semi-structured interviews, reiterated those encountered in the analysis of the unstructured interviews of the blog extracts. The semi-structured interview provided an opportunity to further explore the issues identified from analysing the other artefacts.

Most studies carried out in similar research areas employed up to two or three artefacts. Drawing from five artefacts, mixing and matching different methods, helped to obtain a more complete picture of the phenomenon investigated, and looked at it from different approaches: the psychological, the linguistic, and the visual perspective.

This chapter described the philosophical paradigms this research stands on, and the procedure and ethical issues addressed to conduct the two pilot studies and the main study. The methods chosen for collecting and analysing data in the three studies were also described and justified. The following chapter is the first of three chapters, from Chapter 4 to 6, presenting the findings of this research project.

CHAPTER 4

Motivations for academics and researchers to engage in blogging

This is the first of three chapters reporting on the findings of this research project. Each chapter (4-6) focuses on one research question. In this chapter, the high level and lower level themes are discussed, as emerging from the analysis of the five artefacts: the pre-interview table, the unstructured and semi-structured interviews, the visual and textual blog content. I have included quotations from the unstructured and semi-structured interviews as well as extracts from blog posts to illustrate the themes derived. Quantitative information on the profile of the participants is discussed in Section 4.1.

4.1. Profile of the academic/research bloggers

The Appendix 4 describes the profile of the participants. The profile-information and information obtained from the pre-interview questionnaire (Appendix 5) is shown in pie charts in this section. The profiling involved:

- geographical origin/affiliation of the participants
- subject specialism
- number of social software tools used

4.1.1. Geographical origin/affiliation of the participants

In terms of geographical origin, the sample has 11 countries (see Figure 6) and 19 institutions of affiliation, but there is a predominance of affiliations to UK institutions (62.5%, 20 compared to 12 outside the UK) and English-speaking countries (72%, 23 compared to 9 non-English speaking countries). Countries refer to where the institution of affiliation is based or, if freelance, place of residence. Some bloggers have more than one affiliation, hence the total (32 affiliations) being larger than the sample size (n=26):

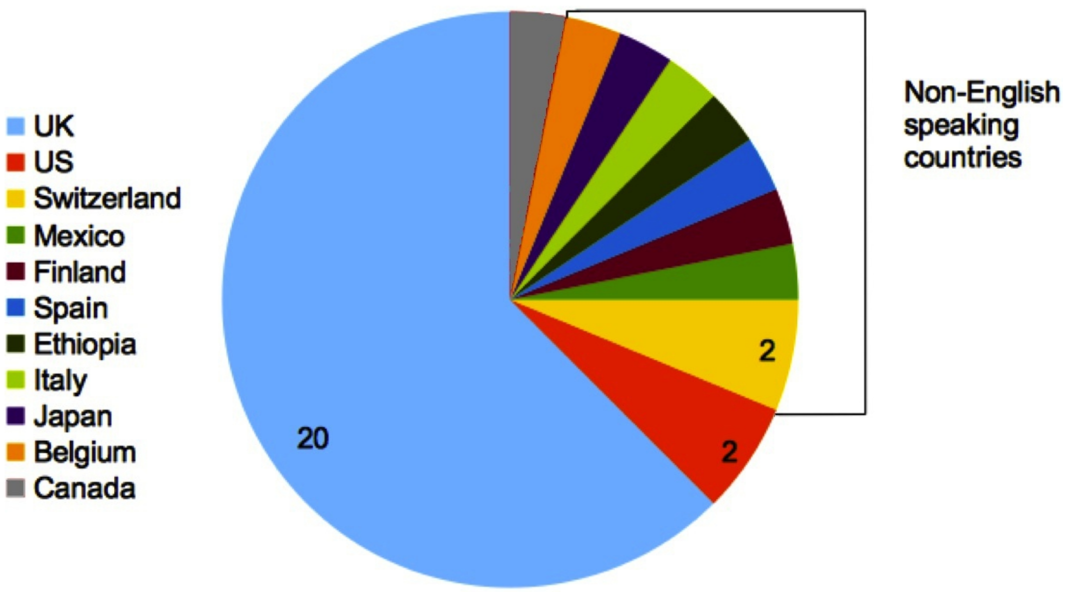

Figure 6: Geographical origin/affiliation of the bloggers

It should also be noted that all bloggers were proficient in English and blogged entirely or partly in English. Twenty two bloggers wrote entirely in English while the remaining four blogged using English alongside another language. The most common reason given for using English, particularly among those bloggers with international and multilingual connections, was to be accessible to a varied audience (see Section 4.5.):

P21: I was doing Italian-English, English-Italian, and I've moved more towards the English because from that counter I can see that most of our readers are actually English speakers

P26: I chose to write in English because most people, most of my readers can understand it

4.1.2. Disciplines

Some bloggers have more than one subject specialism, hence the total (45 subjects) being larger than the sample size (see Figure 7). Also, among some of these academics/researchers, their blogging practices covered only one or two subject specialisms rather than others.

Bloggers come from a diverse range of disciplines and interests, but there is a prevalence of educational technologists (13), academics working in other educational or pedagogical fields (6) and humanities (6):

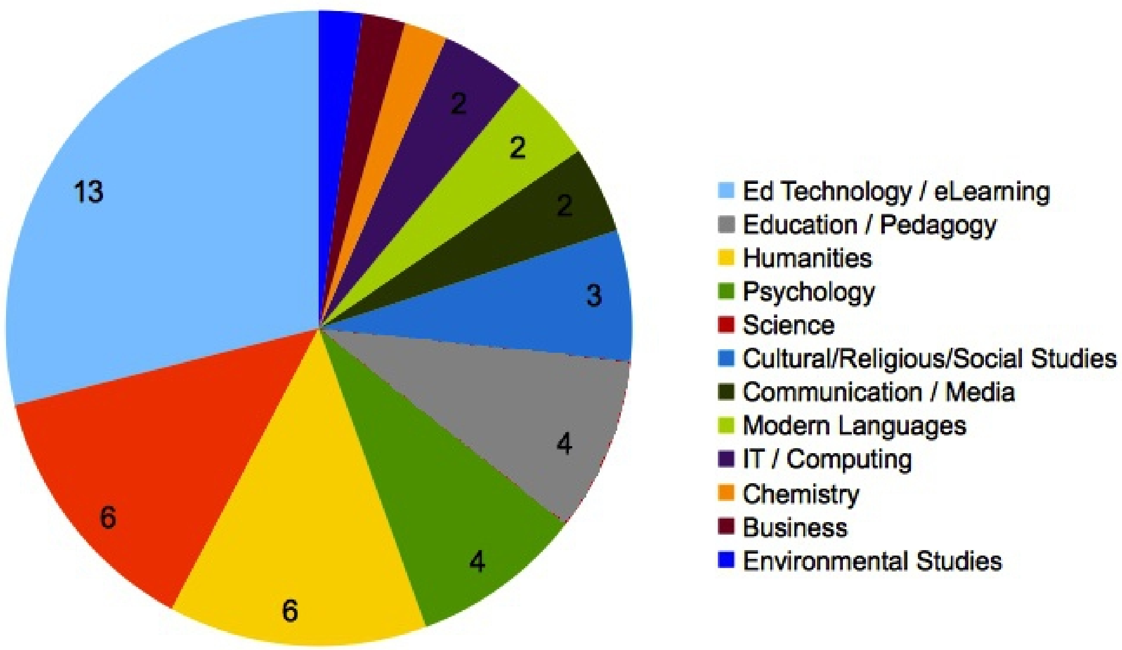

Figure 7: Subject disciplines of the bloggers

'Education / pedagogy' does not include educational technology and elearning, which is in a separate category, but includes the following: special educational needs, childhood studies, instructional design, science education. 'Humanities' include: philosophy, literature, digital history, creative writing and publishing. 'Science' includes: physics, mathematics, chemistry, cognitive neuroscience. 'Religious, cultural, social studies' include theology, Islamic studies, social ethics, political science, and gender studies.

4.1.3. Engagement with social software tools: blogging and others

Most participants engage with several social software tools as part of their practice, over four including the blog (Figure 8). This may be due to the considerable number of educational technologists (Figure 7) or academics with an interest in educational technology and elearning. Those who engage with two tools use **microblogging** (Twitter) and blogs, except for P10 (forum and blog) and P18 (Flickr and blog):

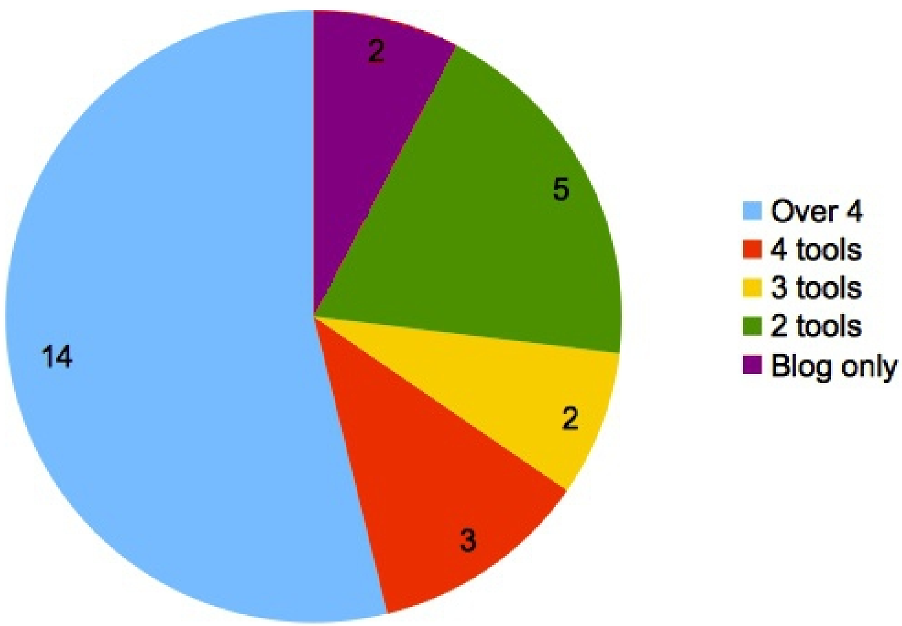

Figure 8: Number of social software tools used (alongside blogs)

It can be said, therefore, there is some heterogeneity in the sample, particularly in terms of professional/academic experience (from research students to mid-career academics and professors/deans – see Appendix 4). However, many of them come from a UK institution or other English-speaking environment, have an interest in educational technology and other aspects of pedagogy, and engage with several social software tools.

Before presenting the results of the first research question, I would like to add a cautionary note. Despite aiming to uncover the motivations for academics and researchers for beginning a blog, the retrospective nature of participants' beliefs about their blogging should be noted here. Whilst I was collecting data, all participants except one had been blogging for some time. When they started blogging, they may have had a different reason for starting a blog. As they kept blogging, their experience may have influenced their beliefs about what made them start blogging. Therefore, what I document here is the participants' *beliefs*, looking retrospectively, about what were their motivations for beginning a blog. Table 9 below maps the participants' beliefs against their duration of blogging.

Table 9: Participants' beliefs about motivations for blogging versus duration

Participant	Reported motivation for blogging	Duration of blogging (in years)
P1	For repository of ideas; to think and reflect on ideas; to be accessible to himself and others; to construct online identity	5
P2	To think and reflect on ideas; to experiment; to be accessible to others; to construct an online identity	1.5
P3	For repository of ideas; to think and reflect on ideas; to experiment; to be accessible to himself	1.5
P4	For repository of ideas; to think and reflect on ideas; to be accessible	5

	to self and/or others	
P5	To monitor ideas; to think and reflect on ideas and practice; to be accessible to others	6
P6	For repository of ideas; to think and reflect on ideas; to be accessible to others	3.5
P7	For repository of ideas; to think and reflect on ideas; to be accessible to himself and others; to experiment; to construct online identity	2
P8	For repository of ideas; to be accessible to himself and others; to construct an online identity	6
P9	For repository of ideas; to think and reflect on ideas; to be accessible to supervisor	Over 2
P10	For repository of teaching material; to be accessible to others	1.5
P11	For repository of ideas; to think and reflect on ideas	3
P12	For repository of ideas; to think and reflect on ideas; to be accessible to supervisor; to experiment	3
P13	For repository of ideas; to think and reflect on ideas; to be accessible to self and/or others; to construct an online identity	Over 3
P14	For repository of ideas; to think and reflect on ideas; to be accessible to self and/or others; to construct an online identity	Over 4
P15	For repository of ideas; to think and reflect on ideas; to be accessible to self and/or others; to construct an online identity	4
P16	For repository of ideas; to think and reflect on ideas; to be accessible to self and/or others; to construct an online identity	1.5
P17	To recruit participants (to be accessible to others)	1 month
P18	For repository of ideas; to be accessible to others	2
P19	For repository of ideas; to think and reflect on ideas; to be accessible to self	6 months
P20	For repository of ideas; to think and reflect on ideas; to be accessible to self and/or others; to construct an online identity	2
P21	For repository of ideas; to be accessible to others; to construct an identity;	Over 3
P22	For repository of ideas; to think and reflect on ideas; to be accessible to self and/or others; to construct an online identity	About 15
P23	For repository of ideas; to think and reflect on ideas; to be accessible to self and/or others	14
P24	For repository of ideas; to think and reflect on ideas; to be accessible to others	1.5
P25	For repository of ideas; to think and reflect on ideas; to be accessible to others; to construct an online identity	4
P26	To think and reflect on ideas; to be accessible to others; to construct an online informal identity	3.5

It is interesting to note those participants reported a wider range of motivations for beginning a blog who had had a longer experience blogging (i.e. at least over a year). P17 had only started a blog the month before she participated in my study. Her sole purpose was to recruiting participants for her research by being easily accessible to a group of people. It is possible that she will later find blogging useful for a range of purposes, or she may quit as soon as the blog fulfils its intended purpose.

It is, therefore, possible that the real motivation for most bloggers to begin the activity was only one, or was different from the *beliefs* reported in the interviews. What is now their belief about their motivations at the beginning could actually be one of the benefits they experienced. The personal and professional benefits are examined in Chapter 5.

The following sections in this chapter focus on the results obtained from analysing the four datasets: unstructured interview, semi-structured interview, textual extracts on blogs, and visual extracts. These are the key themes that were identified as addressing the first research question. These themes are discussed in the following sections:

- Using blogs as repositories of ideas, experiences and events
- Using blogs to thinking and reflect on ideas, experiences and practice
- The experimental nature of blogging
- Using blogs for their accessibility (to self and others)
- Using blogs to construct an online academic/professional identity

4.2. Using blogs as repositories of ideas, experiences and events

An aspect which emerged across the data sets and in particular at the unstructured, semi-structured interviews and in the analysis of textual blog content is the need for using a blog as repository to record information: thoughts, events, experiences, professional as well as personal in some cases.

P4, a post-doctoral researcher who has blogged since being a master's student, comments on the experience of a research-related event, also recorded on her blog, in reminding her of the importance of research journals and prompting her to start one:

> P4: When I attended a seminar on research methodology (...) I remembered how crucial research journals were. I kept one for my master's (...) and I thought why not starting one for my PhD

The importance of blogging to record, to crystallise in writing, a range of aspects associated with the bloggers' professional experience is evident in a number of participants and across data sets. The following are responses given to the unstructured interview. In the longer quotations, the salient elements informing the themes are highlighted in bold:

> P3: I use the blog to **record events and feelings related to my research**. This is a way of keeping a record of incidents, which helps me when I need to refer to them in my thesis.
>
> P5: I started blogging mainly to keep a record for myself of the work I was doing.
>
> P15: [blogging is a] way of recording useful things
>
> P16: when I'm reading a peer-reviewed article, you know, writing anyway is something that I use to **crystallise my thoughts** on things generally speaking and yeah the fact I was blogging on it just means that 1) I'm **getting the information down** 2) that information is then **stored** in a format completely paper free and very **easy for me to access** and then when I'm writing up progress reports for my supervisor

P4 discusses the emergence and storage of ideas through her blog as “important” in her experience as a PhD student, in line with what she and her group of research bloggers consider being one of the most important roles of blogging. This purpose was carried over in her new role as a post-doctoral research blogger:

> P4: noting the emergence of ideas is important. This corresponds with one of the main roles of the blog in that it acted as a repository for emergent ideas and reflections. The use of [my blog] in this manner continued (…) for reflections relating to [my] post-doctoral work

The following lower level themes were identified encompassing the nature of blogs as repositories:

- blogging to keep an informal record of draft ideas, unpolished work
- blogging to monitor progress, events and changes

These are examined in the following sub-sections.

4.2.1. Informal recording of drafts: an 'information dump' for 'half-baked' ideas

Some of the bloggers began to use and still use this tool to write ideas that are unfinished, work in progress, drafts of work, unpolished pieces of research. This use of blogging was explored in particular at the semi-structured interview. P7, a mid-career educator and researcher, and P9, an educator and research student, call their blogs 'dumps' to deposit drafts of information or ideas in progress:

> P7: a blog is kind of an information dump, you know you can write a post and it can be a lot of information and then it just stops...
>
> P9: in general it's more of a mind dump than a polished piece of work

For P15, a senior-level academic and researcher, the blog is a repository for 'half-baked ideas', which are later refined for more traditional ('formal') publication in academic conferences and journals:

> P15: ...**half-baked ideas or initial thoughts** I might put in my blog and then **refine over time** and then ultimately aspects of that might find their way **into some more formal publication**, (…) maybe presenting conferences and again getting feedback from people face to face and then refining the ideas and ultimately leading to a paper

Evidence of using blogs as archives for drafts of work, partial or unpolished work is also evident within the blogs. For instance, when P15 secured a contract to write a book, an event about which she blogged in July 2010, her blog posts have since consisted of extracts, drafts or whole chapters of the book. The tone or key is serious, but continuously switches between the formal structure of a chapter, i.e. subheadings, academic writing, use of references and the informal request for feedback from readers, sometimes with the use of an emoticon or **emotional icon** (;-)).

4.2.2. Monitoring progress, events and changes

For several academics researchers, at different stages in their profession, blogging is useful to monitor ("track" was a recurring code) their thoughts and progresses, to maintain a direction in their work:

> P1: blogging is helpful for me **to keep track of the research process** from day 1, I can always go back to check what I was doing this time last year
>
> P5: I was involved in a project where part of the final report was a description of what we tried, what worked, what didn't etc, so I found the best way **to keep track** was to use a blog
>
> P9: From the start, my blog has been confined to my DPhil journey. I have used it **to track my progress and ideas**
>
> P12: [I] found it to be a useful way **to keep track of some of my thinking** (…) I've also found a useful way **to keep track of events** I've attended and my reactions to them
>
> P21: the blog kind of becomes the real **record** of a lot of those movements [academic and alumni events]

The concept of recording and monitoring/tracking work is also recurrent when some of the researchers address the usage of blogging associated with self-discipline, which is discussed in more depth in Chapters 5 and 6 addressing research questions #2 and #3.

For instance, for P3, an educator and research student, the blog helps him to keep track of his work, by "forcing" him to do it and by "waking up" the voice of his conscience, so it can be said the blog also helps him maintaining his self-discipline:

> P3: Writing in the blog also forces me not to forget that I'm doing a doctorate and that I must keep working on it (it's like waking up the voice of my conscience about it). (...) [blogging] is a way of keeping a record of incidents, which helps me when I need to refer to them in my thesis

The reinforcement aspect of blogging, both for maintaining a written record of a work or project and for maintaining a discipline echoes Alan's experience, a historian of science, in Nardi *et al.*'s research (2004). Like P3, he "explained that once having started a blog, it "forced" him to keep writing, a discipline he deemed important for his work" (ibid.: 227).

The use of blog for archiving purposes is well-recognised in a variety of settings outside research contexts. For instance, Carter (2005) reports that some of the participants in his study, ranging from technology and law students to professionals, described the use of their blog as an archive tool useful for recording ideas about their work.

Besides recording and monitoring ideas, for some educators and researchers blogging is used for reflecting and re-elaborating on their thoughts, ideas and experiences, as discussed in the following section.

4.3. Using blogs to think and reflect on ideas, experiences and practice

Several participants associated the blog with the need to keep a personal research journal or diary to record their thoughts, considerations and reflections. The following sub-themes were identified in the interviews:

- elaborating on personal thoughts and experiences
- critiquing and applying thoughts to practice

4.3.1. Elaborating on recorded thoughts and experiences

P3, an early-career educator and research student, spends time writing his own thoughts but also refining them, making them more comprehensible, for himself but also for his audience:

> P3: [I] write whatever is useful for me, but because I'm conscious that this is public, it makes me reflect on a little harder and that's a very useful exercise for me (...) sometimes I even edit [blog posts] several times, it's for my own benefit because by writing properly, by editing, I reflect on what I write, and if I'm making it available for other people to read, then I try to be considerate and to write something that is understandable

P13, a mid-career educator and researcher, perceives the public online journal as an opportunity to reflect on one's own learning, encouraging her students to do so. It is also a tool to record thoughts as she has been doing, in parallel, with her personal paper diary, which raises the aspect of engaging in a form of writing which is placed somewhere in the middle between the private and the public. This tension between the two dimensions was also noted by Mortensen & Walker (2002) on an anecdotal level:

> P13: I began blogging because I was on a course [other word for 'module'] in which we asked students to blog reflectively about their work (...) I felt that we should not ask students to do things that we did not do ourselves (...) ideally I would like my blog to be a parallel stream of writing and ideas - that works synergetically with my other writing [personal diary]

There was also evidence of the bloggers' reflective styles in their blogs. All bloggers used the first person singular in their postings at least once, and phrases which can be associated with reflection and personal thoughts such as “I think”, or “I must consider”, “I must remember” or “I need to remember” featured in their blogs at least once in the past year. Attempts at interacting are evident in some of the blogs, but the act sequence of most blogs is in monological form. For example, P11 uses his blog to interact and reflect at the same time. He responds to and provides his thoughts on the points made by a colleague on his blog in relation to gaming and learning, using expressions such as “I enjoyed reading XX's blog post”, “here's my opening thoughts”. P12 reflects on her impressions of a talk given by an expert at a festival about gaming, the subject of her doctoral project. Expressions indicating personal reflection on ideas or experiences/events were used, such as “what really struck me...”, “hearing him made me think”.

4.3.2. Critiquing and applying thoughts to practice

P12 says blogging is useful to develop reflective and critical skills to apply in her research.

> P12: [blogging] helps me become more reflective about my own game-play experiences and more critical of games and game-play, which is relevant to my PhD

For P5 and P9 there is a need to blog not only to store thoughts, but to review and elaborate on them later, as a way of critiquing and evaluating aspects of the research process. P5 chose the blog to replace a more traditional final-year report of the project he was involved in:

> P5: I was involved in a project where part of the final report was a description of what we tried, what worked, what didn't etc, so I found the best way to keep track was to use a blog
>
> P9: Many of my blogs have been simple **re-capping of ideas**, providing me with an opportunity to **clarify my thinking,** or at least identify the complexity which I needed to address, for example a posting in June 2010 where I explored ideas of confidentiality and ethics

Blogging as a tool for facilitating reflection is evident in studies carried out on undergraduate taught students, medical students and preservice teachers, as seen in the literature in Chapter 2 (e.g. Kuzu, 2007; Xie *et al.*, 2008; Chretien & Goldman, 2008). The findings of my empirical study confirm the importance of reflection and reflective learning also among HE educators and researchers.

4.4. The experimental nature of blogging

For some educators and researchers, blogging is perceived as an experiment, a test to try a range of activities pertinent to their professional roles. The following sub-themes were identified:

- experimenting a novel form of writing across the private-public dimension
- experimenting a novel way of disseminating knowledge
- blogging as a form of training (to develop writing, research skills) in a safe environment

4.4.1. Experimenting a novel form of writing across the public-private dimension

Blogging as an 'experiment', to try a new or different form of writing, emerged early in some of the academic bloggers from the descriptive phenomenological analysis of the unstructured interview responses, and further explored in the follow-up interviews.

P2, P3 and P13, talk about the experimental nature of their blogging, the way this tool is, for them, a new/different opportunity for writing about their ideas in a public space (P2, P3) or as a work-in-progress writing (P13):

> P2: The blogging was an opportunity for me **to experiment with some ideas**, and explore and develop thoughts that I had (...) I haven't been teaching this year (...), so I haven't really done much **experimenting** with how to tie the blogging back **into classroom participation**, but that'll probably come in future (...)
>
> P3: I make [the blog] public for two reasons: (a) I want to **experiment writing a diary online** (it’s a first for me); and (b) I want to **experiment with it being public**. I try not to let the fact that it's public influence me (although I can't help think of the audience who might read it when it comes to protecting participant data, for instance).
>
> P13: the blog always feels like it's **in the process of being tested**, so I don't even know if the present blog I got will exist in this form in three years' time

For P2, blogging as a form of experimentation seems important for her in her attempt to find a voice and, potentially, in using it in her teaching practice. At the beginning of blogging, P3 experiences some anxiety about writing for an audience. Blogging appears to provide an opportunity for them for a 'public' experimentation and blogs provide a bridge between the private nature of personal diaries and public nature of journalistic articles. P13 also uses experimental terminology ('being tested') to describe her blogging experience.

The experimental nature of blogging, in acting as a bridge between the private and the public, is evident in the bloggers' responses:

> P3: I intentionally made [the blog] public from the very beginning, so it's very different when you write only to yourself as opposed to when you make it the public, I intentionally **made it public to everybody in the world because I wanted to experiment with that**

> P13: **I might have experimented** with blogging at some point anyway because, as I said, **I keep a diary** but it's a very private diary, it's not a public one, **and the whole point of blogging I think is that it is public**

For P12, blogging was a new way of encouraging the public. For her, it was a way of encouraging the university students on the module P12 worked on to take up blogging:

> P12: I also took a part time job last year as a "course blogger". This was an experimental role which was supposed to try and encourage people on the course to blog more

It is evident that blogging is a form of expression situated somewhere between the public and the private sphere (e.g. Gurak & Antonijevic, 2008), some bloggers choose to set up private blogs (P4 for example has a number of private or semi-private blogs) whilst others go public or write postings partly open to the public and partly restricted to a limited audience. However, the experimental nature of writing across this public-private divide, of particular relevance at the beginning of blogging, is an aspect that had not been explored in depth in the literature. Efimova (2003) identified experimentation as one of the motivators for people to start blogging in a variety of contexts such as business, teaching, knowledge management. However, she did not explore in detail the psychological significance of 'experimenting' the blog, in particular among academic bloggers.

4.4.2. Experimenting a way of disseminating knowledge and findings

It emerged in the semi-structured interview that P3's experiment with blogging involves testing blogging and other social software tools such as video-sharing sites for dissemination:

> P3: I've been experimenting with using Youtube to disseminate what I do, and although very few people watched my first video, it was my first attempt at experimenting this. In the future, I intend to start a different kind of blog, something along the lines of what some [more experienced] researchers at the university write

4.4.3. A form of research training in a safe environment

The doctoral students P1, P3, P9 and P12 perceive the blog as a safe environment for early career researchers and research students and as a form of training to develop the skills that would be useful towards becoming established researchers:

> P3: I think this blog is **a kind of training for me**, in blogging, in making my research public, and I expect to make mistakes, but that's ok, because I feel that **this is a safe environmen**t, but in the future I would like a more professional kind of research blog.
>
> P9: [blogging has] that almost academic training element of it, in getting presentation right (…) using some of the theoretical language and concepts and preparing yourself for other things which you are going putting out in the public domain, which are probably more important in the long term than what you write in the blog. So it's a relatively **safe rehearsal ground** for developing your arguments...

Ward & West (2008) report three pedagogical frameworks in the supervisor-research student relationship (originally developed by Lee & Green (2004)): cultural-discursive apprenticeship, project management and co-production, and perceive that blogging supports the latter, i.e. co-production involving the student and supervisor. However, from the experiences of the research students in my sample, it appears that blogging is also used and perceived as a helpful form of apprenticeship, as an autonomous activity and also possibly involving the supervisor:

> P12: I started a blog (…) after one of my supervisors suggested it. I think he saw it as a sort of research journal that they could view as well

Furthermore, obtaining a research doctorate means becoming an autonomous researcher “who is able to develop, communicate and defend ideas that have grown from their research” (Ward & West, 2008: 62). The skills of developing, communicating and defending ideas, and presenting new knowledge and findings need to be learned in the process. Hence there has to be a form of 'training' and a means to carry out this training. In support of the findings in my study there is recent empirical evidence that self-motivated blogging can help in the development of study skills and research skills amongst taught postgraduate and research students (Minocha & Kerawalla, 2010).

In my sample, there are also established researchers who began blogging for developing research skills such as developing or improving their academic English language skills, such as in the case of P23 who was an established educator and researcher in Japan:

> P23: [blogging] also helps me to practise my academic English skill

4.5. Using blogs for their accessibility (to self and others)

Accessibility is mentioned several times among the academic and research bloggers interviewed. A number of bloggers chose this tool as part of their practice because they feel it is more accessible to them and to other people. By accessible I mean a tool which is capable of reaching a wide audience. Unlike the definition of accessibility such as in ISO 9241-210, 2010: 1, accessibility, here, does not refer to the users' capabilities or disabilities. The 'accessibility' theme is further broken down into:

- accessibility of blogs to self (cost-effective, ease of use)
- accessibility of blogs to others (writing informally, sharing)

4.5.1. Accessibility of blog to self: cost-effective, ease of use

For many bloggers (P1, P13, P16, P18, P21), what motivated them to choose blogs to support their work, over other more traditional tools, was its accessibility in terms of ease of use and cost-effectiveness. For them, setting up a blog and start writing it was straightforward. It is also a free or not a very resource-intensive way to store work or communicate:

> P16: information is then stored in a format completely **paper free** and very **easy for me to access**
>
> P18: [blogging] was a **cheap and dirty way** of implementing a web site **without knowing HTML** etc.
>
> P21: the blog seemed to be the best way to communicate to an international audience, which is completely free, so that was **the main thing for us, that all of this technology is completely free**

4.5.2. Accessibility of blog to others: readability, informal writing, sharing

For a number of academic/research bloggers (P3, P7, P11, P20, P21, P25, P26) using the blog allows them to reach, engage with and share knowledge with others more easily than through other means of communication. P3, in particular, tries to adapt his writing style to aid the readers' understanding. P7's approach is less flexible than P3, but she still tries to be accessible to her readers:

> P3: if I'm making it available for other people to read, then I try to be considerate and to **write something that is understandable**
>
> P7: **I try to write to be accessible**, but I try to say what was in my head and not what I think they want to hear

For P21, accessibility, in terms of being easily accessed and understood by a large number of readers, is important and is one of the reasons which prompted him to start blogging. The blog is convenient for the University's financial needs, which has a small budget for public relations, as discussed in the previous section. It can also be effective, compared to traditional paper-based newsletters, in reaching a wider audience, through search engine results, and fulfilling other academic activities. Likewise, P25, a research student, chose blogging as part of his role for his need to have a tool accessible to like-minded people to communicate and share knowledge and common interests.

> P21: through the blog we began communicating and making us accessible to people who were just going to Google or Yahoo and type [University] newsletter blog and they would find us (…) it is through the electronic media that we can **communicate, and in an accessible way and publishing, and do academic networking**
>
> P25: Blogging provides me an outlet for sharing ideas, research, seeking collaborations and otherwise having **an efficient, effective platform for communicating with others** who share similar interests

Even the use of visual media embedded in the blog can be used with a view to improve readability. P6's blog has at least one image embedded in each blog post. The images in many cases appear to be unrelated or loosely related to the subject discussed in the entry. For example, P6 discusses the overestimated importance of referencing formats, and the image portrays smoke. At the semi-structured interview, P6 confirms that the images are often unrelated or loosely related to the matter discussed, but they do serve a purpose, i.e. to create interest and improve readability:

> P6: they [the images] break long pieces of text and pictures (...) make the post look nicer

However, it could also be argued that P6's choice of images is not entirely random. Indeed, in several cases, there is a semantic connection between the picture and the text: in this example it is 'ambiguity'. P6 discusses the importance of easily accessing sources by using unambiguous referencing, regardless of whether the referencing style is perfect. The image of the smoke was taken from Flickr and the author uses it as an example of a psychological test, aimed at creating ambiguous shapes which can be interpreted in different ways.

Therefore, it can be said that using pictures in blogs may improve readability in two ways: 1) by breaking long pieces of text 2) by illustrating some of the issues discussed in the text.

4.6. Using blogs to construct an online professional or academic identity

This theme appears across very few participants and data sets. Nevertheless, I felt it was important to highlight it because it is an aspect of those bloggers' experience which seems influential in the development of their identity as 'educators' or 'researchers'. What emerges from my discussions with academics is that one of the reasons some of them start blogging is to create and maintain an online identity. They regard having and maintaining an 'online presence' in the online and social media age as being important for the academic and as a part of their learning in the profession. I placed this theme of ‘online identity’ in this section to address the motivations for blogging but, to an extent, this theme is also related to the second research question, i.e. on the role of blogging in the academics' and researchers' learning and development in the profession.

One of the reasons why P1, P13 and P16, educators and researchers with different levels of experience, started blogging was as a way to create an online persona like some of their colleagues do:

> P1: [blogging] **develops my identity** and audience in advance of becoming formally recognised as an academic/reputable researcher
>
> P13: ...we've got all, as academics, a number of web presences now, so we have to have an institutional web page (…). One of my colleagues (...) has one of the very well read blogs in education, he argues that **there is no way you can avoid having a presence on the internet**, even if you don't construct one for yourself, they will be constructed because every time you go to a conferences, your name will be on the website, it will come up, other people you know, your publications, other people mention you, so he argues that t**he way you deal with this is to create your own presence**
>
> P16: when I started, one of the reasons I chose the blog and twitter is that I was **interested in how the online identities are constructed** (...) so the first couple of entries are partly about the whole idea of an online identity

Blogging is not the only way in which an academic can create an online presence. Personal and institutional websites are commonly used. However, two aspects (low-level themes) which emerge from choosing the blog as an alternative or parallel medium to create an online presence, as opposed to using the more traditional institutional websites, are:

- the need for blogging to find a voice
- the need for blogging to have better control of one's online presence

- the need for blogging to have an informal online presence

4.6.1. Blogging to create or find a personal voice

Some of the participants mentioned the need to find a personal voice or style, or to create one, and this seems to be effective with blogging even if the process at the beginning may not be so smooth. This aspect will be addressed in more detail in Chapter 6 when I discuss the challenges of blogging.

P13, P14 and P15 regard identifying and creating a voice as an important aspect of blogging, particularly in the early stages. P14's decision to start blogging was influenced by the experience of an established academic blogger and the voice he created through his blogging.

> P13: I think that **blogs do offer different kind of a voice** to people, to talk about their ideas in a public forum
>
> P14: [my decision to start blogging] was influenced by my colleague XX, he has been a blogger for many years so then when I tried to do it before, I saw **he's got a good kind of voice** there, and so [blogging] wasn't suggested but **I was influenced by him**
>
> P15: one of the things is that obviously **you need to kind of find your voice** in your blogging and it takes a while to nudge the style that you want to blog in, how you're going to use it

4.6.2. Blogging to have more control of one's online presence

For P1 and P13, the blog helps them to have more control over the way they construct their online identity:

> P1: besides being free I decide what I put and what I don't put on my blog, it's a way for me to build up an online image of myself

> P13: I felt that my blog is a little bit attempting to take control of my web presence

This is in line with the other social software tools, in that they support collaboration and collaborative learning in educational contexts, but with the blogging, the user also has a degree of control in terms of online presence, content, identity, relationships (see Minocha & Kerawalla, 2010).

This has also been more recently noted in relation to using and editing information on Wikipedia and in search engines, besides other social software tools. The wiki-based encyclopaedia was used in some cases as a way to control one's own information, visibility and reputation, with younger researchers being more concerned about managing an online reputation, and engaging in social media use for this purpose, than researchers over 54 years of age (Reich, 2011).

4.6.3. Blogging to create an informal online presence

For P13 and P16, besides valuing the importance of having an online presence, their choice of using the blog appears to be dictated by a need to portray themselves in a more informal and friendlier way compared to traditional vehicles such as personal or institutional websites or CVs:

> P13: The [university] website, the environment that we have there is quite formal really, a page for your present interests, a page for your research, you know that page of your CV, it's very formal so I feel that I continue a bit with this blog in order for them **to put a different kind of presence on the web** (…) I will always want to have some public aspect of my professional activity in that kind of **less formal, more accessible**, perhaps more amusing kind of presence, so I guess, from starting when it was an experiment till now, I convinced myself that I want to blog

P16 stresses the fact that the informal and amusing tone of his blog is a way of rendering his 'self' less pompous in front of his audience, to break the self-important tone he perceives in some of the blogs he reads:

> P16: definitely with the blog **I put silly things up there** and yeah I mean maybe that's (...) **the whole thing about identity and self** (…) I quite like the fact that you know that by having the kind of silly picture at the top and the links at the side there's a suggestion that it's, you know, I found [that] blogs can be very self-referential, they can be perhaps a little self-important so I find that **the kind of humours that touches are perhaps a good way of deflating the blog** and stopping it being pompous

In the literature, Clyde (2004) reminded bloggers to avoid pointless and self-indulgent publishing. Real specialists may not engage in learning by dialogue. It is interesting to note how an academic blogger in my sample is aware of such a risk, and uses humour as a way to deal with this challenge. A more in depth examination of the challenges is discussed in Chapter 6.

Looking at the academics' and researchers' blog, the tone in most blogs (e.g. P1, P3, P7, P13, P14) is serious but not as rigorous and formal as in traditional peer-reviewed academic publications. P16's blog is amongst the more formal blogs, with most blog posts consisting of synopsis or reviews of research papers, with third-person accounts and use of referencing, which contrasts with the informality of the blog layout, with an amusing picture as header for the blog: a rodent peeking its head out as if watching the reader.

However, like in P15's blog, examined in Section 4.2.1., and unlike what is found in academic peer-reviewed papers, CVs, professional web pages, on P16's blog there is the occasional miscellany, sometimes consisting of posts containing light-hearted banter or videos of notable figures in one of the blogger's areas of specialism (e.g. a famous poet, the blogger has a background in literature) but unrelated to his current research project and his main purpose of keeping a blog. However, when exploring the use of visual media at the interview, it emerged that they serve a definite purpose, rendering the blog less pompous and self-important. Indeed his blog is characterised by this shift in the tone between a formal blog post critiquing a paper, written in academic style, with use of references, and another, often with an embedded picture or video with more frivolous content, such as a puppet-based TV series.

There is extensive research acknowledging the informality of blogs in a variety of educational contexts, among undergraduate students (Ellison & Wu, 2008), in legal education (Black, 2006). On the other hand, Ferguson *et al.* (2010) note a shift in style on group project blogs, compared to Twitter and personal research blogs "because it is professional writing and requires a more formal style." (ibid.: 8). Weller (2006: 34) also notes a shift in boundaries between formal and informal in the use of Web 2.0 technologies.

It is interesting to note a shift from a formal to an informal tone within the same blog among some of the participants in my study, as if the blog serves multiple parallel purposes. This behaviour confirms the flexible use of blogging, a characteristic that emerged in the literature in a range of educational contexts (e.g. Farmer, 2007; Kerawalla *et al.*, 2008). Besides P16, P15's blog also presents this shift in tone (see Section 4.2.1.) which appear to reflect her need for the blog to serve multiple purposes at different stages in time, as confirmed at the interview:

> P15: over the years I've found that I have used it for a range of things (...) so it's got a kind of multiple purpose depending on what I'm doing at any one stage.

Finally, to close the chapter on the motivational drivers for academics and researchers to start blogging, it is worth noting that most bloggers started on their own initiative, with some being influenced by reading other bloggers, rather than being guided to do so by another person or an institution (except P9 and P12, research students, who were encouraged by their supervisors, but even in those cases the decision to start a blog ultimately came from the bloggers themselves). This is interesting as it reflects the experience of a number of science bloggers in the examples reviewed by Batts *et al.* (2008), whose initiative was bottom-up i.e. motivated by themselves rather than the institution.

4.6.4. Summary: varied and multiple motivations for blogging in academia

The analysis of RQ1 revealed that academic and research bloggers began blogging for a variety of reasons. For many of them there were multiple motivations for beginning and maintaining a blog.

Some academics and researchers documented the need to have an archive where thoughts and experiences are recorded and to monitor their individual progress. Many mentioned the need to have a personal online space to think of and reflect upon ideas, and to experiment a different writing genre. Another reason which prompted them to start blogging was a need for an online presence as an academic or researcher, and a space where the blogger is able to construct and take control of their online public identity or persona. Some also mentioned the idea of portraying a friendlier and more informal identity, and felt the blog, which can almost be entirely customised by the user, served this purpose more effectively than using personal or institutional websites.

The findings reinforce the flexibility that characterises blogging and as encountered in the literature (e.g. Kerawalla *et al.*, 2008; 2009; Sim & Hew, 2010), and the influence of blogs in education and the profession.

The next chapter looks at findings related to the second research question in my study, i.e. the contribution of using blogs to the educators' and researchers' learning in the profession. What I expect to find next is that the informality, openness, and perceived readability of the blogging practices aids the academics' and researchers' learning in a social way, i.e. making their activity and work known to a large number of people and readers, and developing their clarity and writing skills to be accessible and understandable to a wide and varied audience.

CHAPTER 5

The contribution of blogging to learning in the profession

In this chapter I present the themes identified in the analysis as pertinent to the second research question, i.e. the contribution of blogging to the academics' and researchers' learning in the profession. The themes identified in the analysis are:

- Blogging as an alternative form of disseminating knowledge and findings
- Making an impact through blogging
- Public and social engagement through blogging
- Developing skills: writing, creativity, presentation, self-discipline

5.1. Blogging as an alternative form of disseminating knowledge

Educators and researchers in my sample discussed one aspect of blogging which is the role of blogs in acquiring knowledge and in dissemination. This type of dissemination through blogging appears to take different forms:

- acquiring knowledge and expertise through blogs
- using blogs for research and work in progress (vs. peer-reviewed papers for research output)

5.1.1. Acquiring knowledge or expertise through blogs

This concept was recurrent among researchers in the field of educational technology and online learning. Reading online sources in the field enables scholars to access up-to-date information more immediately and effectively than by reading peer-reviewed academic papers. Several academic and research bloggers not only used the blog to disseminate their own findings, but also engaged with other social software tools and read other blogs to further their knowledge in their field:

> P4: I'm focused on educational technology (…) and blogging is also something I do because a lot of the literature I'm looking at **hasn't yet been published, it's cutting-edge stuff**, so if I want to know about it **I have to read the blogs**, not just write my own...
>
> P6: Other blogs are invaluable for tracking and understanding what's going on elsewhere
>
> P16: My full-time day job is management in higher education and (...) following all these sources on Twitter, it's a very good way of **getting very early information** when a new research report is published

Reading other more established blogs is also a way of developing the confidence to blog and gain more expertise as an academic/research blogger in the early stages of blogging. P3 is a research student and reads blogs from established academics as models to follow or to aspire to. Likewise, when P2 started blogging, she saw more experienced bloggers and more established educational blogs as models to read and are still influential in her later blogging:

> P3: Cloudworks [which includes an element of blogging] has been very useful to me as well because in Cloudworks **I see what the real, established researchers do**, and that gives me an idea of the kind of things that I should do, or even attempt to. That **gives me some kind of model** should or could be about.
>
> P2: I think **my later blogging was influence by XX's style** -- really nice visuals with an informal tone and genuinely *useful* material. I'm not as skilled as T. is visually, but **it gave me something to aspire to**

P14 also looked at other more experienced bloggers before starting his own blog:

> P14: [starting to blog] was entirely my initiative but **I was influenced by my colleague XX, he is been a blogger for many years** so then when I tried to do it before, I saw he's got a good kind of voice there, so it wasn't suggested but I was influenced by him

It can be said that in the early stages of blogging, these academic and research bloggers felt encouraged to blog by the exemplar work of others. In their study, Ducate & Lomicka (2008) saw a similar trend among a few language students who took up blogging.

5.1.2. The blog for research in progress vs. the peer-reviewed journal paper for research output

There is agreement among several academics and researchers in my sample, at different levels in their career, from the research student to the senior-level academic (P1, P3, P6, P7, P9, P14, P15, P16, P20, P22, P24), that the blog is helpful during the research process. For instance, blogs appear to be an effective a way of posting drafts of work to later refine for the doctoral thesis (P1, P3, P9, P16):

> P1: **I post [on my blog] drafts essays**, I started with the hope of receiving feedback from other people (...) with a view of incorporating them [the essays] on my thesis
>
> P9: I really haven't got to the point where I'd have to disseminate but if I did have **I might well put some drafts in there [blog]**
>
> P16: when I'm writing up progress reports for my supervisor I'm kind of **cutting and pasting from the blog onto a Word document** and so it's giving me lots of different editing opportunities

Blogs are also used to report the presentations at a conference almost synchronously, for personal and for the readers' use, thereby increasing accessibility of information (liveblogging for P6 and P7), a theme also encountered among one of the motivational drivers for academics and researchers to begin blogging (Chapter 4, section 4.3.):

> P6: One other thing that's taken off on my blog is **liveblogging**. This is **taking live notes in a presentation** and putting them up online very shortly afterwards. This has been very useful and powerful, both for me personally and as a **'meeting amplifier' for people not able to attend**
>
> P7: I went to **a conference where it got blogged about and it got tweeted about** a lot and in a way that **became a root of dissemination** and that was actually a lot easier for me (…) than write a new journal paper

Looking at an example of a liveblogging post from P6, the style, the norm of interpretation, which refers to the blogger's cultural knowledge needed (and applied, in this case in a blog post) to fully understand a communicative event, is very different compared to other more discursive blog posts. P6 would write a very long post that described in real time what was happening at a conference. For example, one blog post reported the Vice-Chancellor of the institution where P6 works answering questions from students and staff. The monological style of a report was evident in an attempt to record as much meaningful information in as little time as possible: for example, shorter sentences ("academic world knows who you are"), the frequent use of abbreviations ("tech [technology] of tomorrow"), acronyms, initials, and the lack of subjects ("need to do better job").

The possible implications of liveblogging a conference or other face-to-face events are worth noting. It can increase inclusion because not everyone is able to attend face-to-face opportunities for a variety of reasons, for physical or geographical barriers. This may lead to having a wider audience for the blog, which is discussed in more depth in section 5.3.

Blogging can also help to record research or work in progress such as posting information relevant to the bloggers' project, a review etc, which can be later revisited, e.g. following feedback from an audience, to be ultimately included in a conference paper or peer-reviewed journal article as an output (P14, P15, P20).

> P14: I think what a blog allows you to do is **break the research process down into smaller granularity** if you like so you're talking about things as they're ongoing and they don't even need to be a research project, often I'll do a blog post about, just a very quick photo, kind of based on review of an article, it's not something which would make a usual journal article, but spread out over the length of the blog is **part of an ongoing scholarly act** is I think. **The blog itself is research in action**, it's about **the process** whereas journals are kind of the outputs
>
> P15: I might put **[half-baked ideas or initial thoughts] in my blog and then refine over time** and then **ultimately aspects of that might find their way into some more formal publication**, through conference proceedings, and them maybe presenting conferences and again getting feedback from people face to face and then refining the ideas and ultimately leading to a paper. So a good example of that was probably a paper I did on Computers and Education, where I talked about aspects of that in my blog, and then presented at the CAL conference from the feedback I received and refined ideas and ultimately it got published as a paper in Computers and Education
>
> P20: I did use that blog in a research-based way - primarily **to solicit responses to an essay I posted on-line** about White Privilege in Children's Publishing. In that case I delivered a paper at an academic conference in Germany. Afterwards, I posted the essay on-line and asked people to give their responses. I got around 20 replies (...) on my blog. **Ultimately I pulled together the essay and comments into an essay which was published in an academic e-journal**

Research in this area highlighted the potential for using blogs as parallel or alternative ways of disseminating research findings. Oravec (2003) acknowledged the potential of blogs for disseminating ideas in a way that counters the rigid academic rules of dissemination, and the stereotypical themes provided by mainstream broadcast media. More recently, Kirkup (2010) noted this potential in her small-scale study on academic blogging. Bukvova (2011), in her review article, suggested that newer forms of dissemination, if used alongside traditional forms of publishing, may help improve the dissemination of research results. The findings in my study provide empirical evidence to some of the theories and hypotheses put forward in the literature.

However, the overall impression from the findings in this study is that, whilst the blogs are used by the researchers to support the process of research, more traditional forms of academic publishing appear to be still preferred for the output of research, for the polished end-product.

Some bloggers also use blogging to help them during the process of writing a book. This aspect is pertinent to the dissemination of information because, for some educators and researchers, blogs are helpful in the different phases of writing a book. The blog can be used as a repository of drafts of ideas and chapters, it can also be used to seek feedback from the early readers of the book or draft chapters (as seen in Chapter 4, Section 4.2.1.) and, being a public space in the World Wide Web, the blog alongside other social software tools can be used as a means to promote the book.

P2, P14, P15 and P20 used the blog to support their book writing activity in different ways. Their experience is reported in more depth and with evidence in the following section, on the contribution of blogging to make an impact in at least three aspects.

5.2. Making an impact through blogging

For some of the educators and researchers interviewed, their blogging activity contributed to making an impact in their subject specialism. Such an impact may take place in different ways:

- own profile raised by being noted by influential people
- contributing to and promoting more established forms of dissemination
- blogger's work reaches a wider audience than through traditional forms of publishing

5.2.1. Being noted by influential people who contribute to raise one's academic profile

The bloggers P7 and P15 came to the attention of expert and prolific academic bloggers who were well-known in their fields. This raised the profiles of P7 and P15. P7's blogging and microblogging activity led to more work and money for her university. P15 sees these knowledgeable people as 'brokers' who help in translating and divulging research to other people:

> P7: the upshot of [blogging] is that someone, a **higher status blogger than me picking up on [my blog post on giving presentations]**, writing about it, was that my blog traffic went very high, for instance the When Giving Presentations **blog post has over 4,000 views** on SlideShare and which is just crazy! You know, in terms of impact that's **more impact than I might ever get from publishing a journal article** (…) because my work has been a little bit publicised on twitter, we actually managed to get some work because of that, so I ended up **bringing in money to the university because of the fact that I had this online presence**
>
> P15: A significant move for me early on, very early on, within days of me doing my first post, was a post which was picked up by XX. He's **a prolific, very active member in the social media**, a very good blogger, he's also developed a theory of XX which has got a lot of interest but also generated controversy. Anyway, XX **picked up my blog** and he blogged about it and it meant that **loads of people who followed XX started following me**. That role of others in the community acting as **brokers to translate your research ideas to other people** is the key I think

Due to participant P2’s blogging and tweeting who was writing and promoting a book at the time through these tools, an editor offered her a contract. In this case, blogging helped in a more effective dissemination of information as compared to traditional media. This aspect is discussed in the next section.

5.2.2. Contributing to / promoting more established means of dissemination

For some researchers and academics, blogging can even facilitate the production and development of more established forms of writing and disseminating. For example, presenting at conferences upon invitation from a reader of the blog, or working through draft pieces in the blogs to submit a polished piece for a journal, or writing a book.

Both P7 and P15 have been invited to speak at conferences to expand on the issues they addressed in their blogs:

> P7: A happy and wholly unforeseen **consequence of my blogging and tweeting** has been a lot of interest in the small amount of educational research I have done, to the point that I have been asked to **speak at conferences** in related fields
>
> P15: I suspect [blogging] also resulted in me being **invited to give talks** in different places etc for example doing a talk next week in Norway, so it's just really raised my profile

P2, P14, P15 and P20 found that blogging, alone or with other social software tools, helped them as they were writing a book in a variety of ways, from using the blog as a repository of draft chapters or ideas (much in the same way as they and other bloggers do as shown in section 4.1.) to promoting the book and even reaching editors and contract opportunities, as was the case for P2:

> P2: I was also considering writing a book, and I thought that the blog would both be a good way to explore some of the ideas for the book and create a platform for promoting the book. That's worked out pretty well actually, an acquisitions **editor contacted me based on the blog (which had come to her attention through twitter links) about a book contract**, and that's what I'm working on at the moment.
>
> P15: currently I'm writing the book about learning design and I thought of using **the blog to draft chapters** in there

P14 compares the experience of writing a book before and after blogging and notes the advantages the archiving nature of blogging has given to him for this purpose, it facilitate retrieval of information:

> P14: I'm **writing a book** at the moment on digital scholarship and **I use a lot stuff that I previously blogged**. It's amazing **going back to those posts** and spending time to **look at the comments and the useful links that people directed me to** or just the kind of turns it takes about what I've said and how I could write it in the book, so it'd be really **useful to use it towards your own** (...) I wrote [another] book in 2004, 2005, before I was blogging, and the process of writing that book, or writing was completely different. This book [today's one] I use my own blog as much more to a kind of, I've been thinking it through all the way, so I go back to things I've already written and put then that in, and things that I might have referenced there so my blog has become my own **kind of archive**

5.2.3. Reaching a wider audience compared to through traditional forms of publishing

For P7 and P15 a significant aspect of their experience as academic bloggers is that it increased the visibility of both their profile and their work. They and P14 claim their work reaches a wider audience than would otherwise be reached in the more closed environment of traditional academic publications:

> P7: I feel [the blog] helps us to communicate what we do **to a wider readership**, compared to the limited and specialist readers of peer-reviewed journal articles (…) one thing that's been raised by XX is about applying theories to practice, and I think that blogging help us to achieve that in some way, **more people, people outside academia can read them** and this is what research should also be about, otherwise they will just remain abstract theories
>
> P14: when I do eventually write a journal article I'll **blog** it as well so that my article tries to get a readership through and **that's were actually the most readership comes from**
>
> P15: I think the most significant thing is that it's obviously raised my profile and it's got **my work known to a much much broader audience**, hardly [academic] papers are read by many people and certainly papers not available online, they're virtually invisible, so I think that made a huge difference, it meant that I've got a kind of international recognition

Whilst small-scale studies in similar fields (e.g. Ward and West, 2008; Chong, 2010; Kirkup, 2010) highlighted the *potential* impact blogging can have in scholarly work, there does not seem to be to date (July 2011), empirical evidence from a large sample, encompassing academics and researchers from different institutions, countries and backgrounds, on how blogging impacts on scholarly work and the researchers' *in practice*. One reason appears to be that “the number of blogging scholars and the novelty of the medium mean that what blogging is and how it relates to being a scholar in the networked age remains unresolved, but the inchoate informal networks of blogging scholars that exist today hint at the potential for practice” (Halavais, 2007: 117). Academic blogging has become more popular and has widespread in the mid-late 2000s, and it is possible that, whilst my research project may help shed further light on the matter, further work will need to be done and perhaps only time will tell to what extent blogging has had an impact on contemporary scholarly practice. There are also challenges which this medium poses to scholarly activity, but this will be examined in Chapter 6.

However, as far as my sample is concerned, it could be inferred that what contributes to academic blogging reaching a wider audience is the fact that this medium is more accessible in range of ways (see Chapter 4 section 4.5). There are zero or minimal costs for maintaining a blog, it is easy to use, and the academic bloggers in my sample tend to use a language understandable by many more people than the readers of a peer-reviewed academic paper. Blogging also contributes to public engagement in and outside academia, as examined in the following section.

5.3. Public and social engagement through blogging

Blogs are helpful in engaging with the public. For the academic or research bloggers that I interviewed, public engagement happens in the following ways:

- informally engaging with an audience
- awareness of and engagement with other people (readers and beyond)
- engaging with a wider audience
- membership of an academic conversation, dialogue or community

5.3.1. Informally engaging with an audience

For some academic and research bloggers, the way they engage with other people through blogging and other social software tools is playful or light-hearted, which reiterates the perceived informal nature of blogging:

> P7: the **educators I hooked up with on Twitter, often they come and play on the [blog] comments** which is nice, we have little discussions about things
>
> P11: when I have used the blog (...) **it has always been relatively informal,** without any real consistent approach or methodology, and without thinking carefully about to whom it might appeal
>
> P13: my blog is another **channel for me to talk to my colleagues and friends in this area,** so some of my colleagues use Facebook in this way, so that they have the formal publications so that we always see what each other is writing and then there are the informal things such as Facebook for writing, but I don't use Facebook for that, I keep and use it for my friends and family only, it's nothing to do with work at all, so for me **I use my blog for those more kind of informal light-hearted things**
>
> P26: I never intended it to be an “academic blog” but inevitably as I got immersed in a completely new academic environment [following a house move], a large portion of my blog posts involved academic life and practices at my new place of work. However, **I have kept the personal and light tone of my posts**

The informality aspect is one that recurs several times in the analysis across artefacts and themes in this and in the previous chapter. I have shown that informality seems to characterise my sample of academic bloggers in relation to two sub-themes already examined. In Section 4.1.1, the informality of the blog as a repository for half-baked ideas (compared to the formal research outputs) was discussed. In Section 4.5.3, we looked at the informality in relation to the construction and development of an online identity of academic as compared to the formality of CVs or institutional web pages. Blog extracts were also examined which illustrate the informality discussed at the interviews.

Here, informality re-emerges, this time in relation to social interaction through blogging. Evidence of informal engagement was also evident in the analysis of the blogs.

For example, P5, a researcher, has blogged for seven years. During this time, his blogging style changed and was influenced by changes in his personal and professional experience, as confirmed at the interview:

> P5: I was involved in a project where part of the final report was a description of what we tried, what worked, what didn't etc, so I found the best way to keep track was to use a blog. Now my main reason for keeping the blog is to let others know what I'm doing, I lived in Ethiopia for the last 2 years, so my blog keeps people up to date without me having to email all the time

In the earlier posts (2004-2007), when P5 was mainly using the blog to report on his research project, the blog posts were more rule-governed (the content was project-related only and rarely, if ever, solicited feedback from others, textual content only). Later blog posts are less structured and covered a variety of content, both personal and professional/academic. The later posts focus on P5's written monological talk sometimes addressing readers in an informal way. For instance, P5 occasionally uses emotional icons at the end of a post, next to comment requests (*“please post any (...) suggestions below :-)”*).

Compared to text-only earlier entries, later ones (2007-date) also contain visual content, such as images or videos, related to the content of the entry, to illustrate examples discussed in the text, or to provide the readers with a snapshot of the blogger's personal or professional activity. Entries consist of mainly descriptions of the blogger's activities, with occasional comments from readers in response to P5's entry, and often end with a rhetorical or actual question in a friendly/colloquial tone (e.g. using an exclamation mark), to solicit a response from his readers (*“if you happen to be coming through [name of town] ... then (...) drop me a line!”*)

5.3.2. Awareness of and engagement with other people

Awareness of others, and critical discussion between the blogger and their readers, other bloggers, and people related to the blogger's work and practice was reported by the participants. These interactions are via blog comments, on Twitter or other social software tools. There are established researchers or academics who write for their audience (P5; P10); others who take a less radical approach but are still influenced by an audience in the way they blog (P26); discussion may originate from the issues raised on a blog post (P15) or vice versa, i.e. the discussion in the blog comments or Twitter or a discussion started with people outside their social network, or the comments from the blog audience may lead to writing a blog post (P7, P14):

> P5: Nowadays **I write for my audience** (…) I want to let people know what

> I'm doing, what I'm working on, I know that even some of my former colleagues read my blog, I try to write about issues that can be of interest to my varied audience
>
> P26: **I do not think directly about my audience** when I blog, but **I know that** my students **read it**, and some of my international colleagues, and many personal friends, **so naturally I choose subjects that I think might be of interest for others** than myself.
>
> P15: when people comment on and give a critical reflection, such as **when I put a draft paper up and someone comes back** and says 'I like this but I don't mind that, we might like to look at this' so **those kind of comments are very valuable** and it's also motivating when somebody says 'that was really interesting' etc (...) I wrote a series of blog posts quite earlier on about how blog is changing the nature of academic discourse and **that generated a lot of discussion in the comments which was really useful** and kind of prompted me to write further blog posts about it
>
> P7: In the case of It Gets Better [the title of a blog post], I wanted to communicate to a friend and fellow academic all the things I thought she could do that might stop her from feeling ground-down and unappreciated; I started writing an email and then realised what I had to say might be of value to others, so turned it into a blog post. In the case of When Giving Presentations, a friend who is currently studying for a Masters in which students are required to give presentations asked me for advice, and the same thing happened - **what started out as an email became a blog post, because I realised had a lot to say**
>
> P14: the times when you're having a discussion **on Twitter** and **you're kind of struggling to get across each other in under 140 characters** so [I would say] **'I'm going to go away and do a blog post and then I'll come back to it**' so you need these different levels there

The importance of an audience seems to apply particularly to educators using the blog as a teaching tool, to directly support their students and help them acquire new knowledge (P10):

> P10: **my blog is for my students**, so my goal in each post is to think about what we have covered this week, what could be of interest to them...

Overall, this aspect of the bloggers' experience is of importance in that it shows how blogging mediates relationships between people, beyond the dyad blogger-readers. Through blogging, academics and researchers think of others and mediate relationships also with people outside the readership but still connected to the blog. For instance, both P2 and P21 think about others through their blog, and their blogging practice is influenced by their engagement with people outside their main readership:

> P2: I haven't really done much experimenting with how to tie the blogging back into classroom participation, but that'll probably come in the future (…) **I keep an eye on the "instructional design" wordpress tag** in my google reader, and frequently stuff that shows up there are students blogging for their courses. It's interesting to **see students using them for reflection**, and I'd be curious to know about the longer term impact.
>
> P21: **I discovered blogs through other people**, that that would be an excellent medium for us to be able to communicate, put news and photographs etc, to be able to internally communicate here within the [University]

P2's quotation mentions other people 'connected' to the blog, but not necessarily the 'readers'. This is an interesting point, in that we may often think of blogs in terms of authors and readers, but this does not seem to apply to P2 and P21 for example. Likewise, the blogging experience of P14 was influenced by an established blogger when she first started, as discussed in section 5.1.1.

Returning to the audience, in the next section, I have given examples that support the usefulness of blogging in reaching a wider audience as compared to reaching through traditional forms of scholarly publication and dissemination.

5.3.3. Engaging in discussion with a wider audience than via other writing tools

For some of the research students interviewed, the audience did not seem to be important because they were mainly writing for themselves (P9, P12, P16). However, many of the bloggers in the sample including a research student, regarded a broad audience as playing a vital role in communicating findings and new knowledge. They mentioned aspirations such as “to have more readers” and “more constructive comments from them” (P3). The importance of a reaching a wider audience than through academic journals or conferences applies to a number of researchers interviewed (P7, P14, P21, P25):

> P7: [blogging] kick starts discussion, it **gets people who are in academia in touch with people who are not in academia** (…) the advantage of these new tools is that it disseminates information to beyond the specialist audience (…) it's very easy to forget that actually a lot of higher education funding, maybe not so much anymore but, traditionally, a lot of it comes out of the pocket of the taxpayers and they never see most of this work of course, it's hidden behind papers (...) I think **[blogs have] the potential to connect the taxpayer** or the people who might not have thought of what we [academics] do with the people who are working there and maybe **break down some of these boundaries** a bit
>
> P14: what a blog will actually do is to express opinions, **to engage in a debate which often journal articles don't do** (…) the best academic decision I've ever made was to become a blogger, it's really helped me in my career (…) it helped me in terms of thinking things through and way of working and in connecting with my peers, **now I got a very good global peer network** but I don't have to keep up with it by going into conferences

Were it not for blogging, the experience of P25 as a research student would have been very isolating, because of geographical barriers. The blog helps him to connect with other like-minded people, regardless of their place of residence:

> P25: I believe without blogging academia would be a much lonelier pursuit as very few people who live near me share my interests

P21 found out that blogging helped him to engage with a much wider audience, and in a time-effective way, compared to previous means of communication such as newsletters. He learned about this through reading other blogs (see section 5.3.2.):

> P21: ...we were having problems, for example, in reaching students in a quick way [using newsletters] (…) it helps us with the connections, it's a great tool for that

The influence of the audience also shaped P21's blogging practice, who changed the language used in most posts to be accessible to most of his international audience. The use of a tool embedded in his blog, the 99 Counter, which keeps track of the number and geographical locations of the daily visitors, provided him with important information about the profile of his audience:

> P21: I mainly changed into more the English language because originally I was doing Italian-English, English-Italian, and I've moved more towards the English because from that counter I can see that most of our readers are actually English speakers

Blogs and other social software tools are well-known, also in the literature, for having the potential to reach a large audience. In my sample this is evident both in terms of knowledge dissemination (see section 5.2.3.) and in public and social engagement as seen in this section.

Williams & Jacobs (2004) recognise the power of blogs, compared to emails, to reach many more 'netizens', i.e. citizens/users of the internet. Lankshear & Knobel (2006) document the potential of blogs to reach a wide audience albeit in generic terms, encompassing blogs outside academia. Ferguson *et al.* (2010) and Bukvova (2011) note the potential of social software and social networking tools to reach a wider audience. The role of academic/research blogs as shorter pieces reaching a wider audience, in comparison to traditional scholarly forms of publication, has not been fully explored in an empirical study to this date (i.e. to find out whether this potential translates into facts). However, it has recently been documented in mainstream media in relation to US academics (Kotopka, 2010).

5.3.4. Membership of an academic conversation, dialogue or community

For several academics and researchers, blogging, on its own or alongside other social software tools such as Twitter, has helped them to become part of an academic group, conversation, dialogue, community:

> P2: blogging has helped me is that its let me contribute to and **be a part of the broader conversation**
>
> P7: [blogging] **creates some kind of group**, the dialogue [on the blog comments] is usually a continuation of the discussion we started on Twitter (…) Blogging allows me to explain myself more fully to the guys on Twitter, and Twitter allows me to connect with people with whom I'd like to discuss my thoughts via blog-posts (…) it feels like **Twitter sort of completes the circle of that**
>
> P15: [blogging] really raised my profile to enable me to **feel part of a broader international community** of educational technology researchers and, as I said before, it's been really motivating
>
> P21: Positives [of blogging] to me, are the access to information, **the community you can tap into**...

Membership of a community through blogging and other social software tools has been highlighted in reports in the literature (e.g. Armstrong & Franklin, 2008). There is empirical evidence of blogging being able to foster membership of a community in taught university students (e.g. Nardi *et al.*, 2004; Kerawalla *et al.*, 2008). It appears that similar experiences also occur in scholarly contexts.

Among the benefits reported in my sample about maintaining a blog for a length of time was the development of a range of skills. This is the focus of the next section.

5.4. Developing skills through blogging

A number of academics and researchers reported that blogging helped them to develop and improve a range of skills. The following skills were highlighted in my sample:

- Development of writing, presentation skills and creativity

- Development of self-discipline

These are discussed in the following sub-sections:

5.4.1. Developing writing, presentation skills and creativity through blogging

A number of academics perceive that blogging has helped them to improve their writing over time, not only in terms of mastering lexicon in academic writing (P23, whose first language is not English) but, as can be gleaned from the quotations, also in terms of clarity of expression and presentation of ideas.

> P7: I hope that I've become a better writer and a better essayist I guess, it takes me forever to write a blog post (…) I think that the arguments that I present in my blog are better, I think the writing is probably better, the content
>
> P23: [blogging] also helps me to practise my academic English skill, because I don't get many opportunities to practise here in Japan

For P3, P9, P13 and P11, putting thoughts in writing, and editing and polishing their writing, has helped them to clarify their own thinking and ideas, in a way that no or few other writing genres allow them:

> P3: sometimes I even edit [the blog posts] several times, it's **for my own benefit** because **by writing properly, by editing, I reflect on what I write**
>
> P11: [blogging] was worth it for me, because - especially when thinking about some of the recent, non-professional blog posts, **writing helps clarify thought**
>
> P13: having a blog (…) gives me the opportunity to **practice a different kind of writing genre**. I like writing. It allows me to comment on feminist issues when I might not have the opportunity in the rest of my work

These results, on the contribution of blogging in developing academic writing skills echo the findings identified in the literature in other educational contexts (see Chapter 2). For example, Kerawalla *et al.* (2008) noted the importance for taught university students to present written work online. Other empirical studies (e.g. Thorne & Payne, 2005; Drexler *et al.*, 2007) also highlighted the role of blogging in developing and improving writing skills among secondary school pupils and foreign language learners. Can we then talk about academic blogging as a new kind of writing genre, in the words of P13? Davies & Merchant (2006) proposed that academic blogging is a new form of literacy, and Ferguson *et al.* (2010) noted the need for blogging to become a more established contributor to a new genre of academic writing, even though academic blogging still faces challenges in terms of recognition (see Chapter 6).

5.4.2. Developing self-discipline

Another skill which some of the academic/research bloggers reported was improvement of time-management skills and self-discipline. Blogging for some of them helped to set deadlines and to be task-focused by 'forcing' themselves to engage in blogging activities regularly:

> P3: I kind of forced myself to do, and it brought to be very useful, in ways that I didn't even expect when I started, but I wasn't convinced with it (…) now I think I'd encourage everyone to go public

5.4.3. Summary: the personal and professional benefits of blogging

In analysing RQ2, I looked at the benefits for academics and researchers who blogged for a period of time. It appeared that for some of the bloggers, the boundaries demarcating personal and professional learning were blurred, because the benefits they perceived applied to both spheres.

Developing writing, self-discipline, networking

Some academics and researchers commented on the usefulness of blogs to improve skills, such as creativity and self-discipline, which are important on a personal as well as professional level. Blogs helped academics and researchers socially in a number of ways:

- in interacting with and presenting a piece of writing to an audience,
- in thinking about people in and outside the audience, and
- how they can write about issues valued to people connected to their practice.

Disseminating information

On a professional level, findings revealed that blogs can be effective to disseminate knowledge and findings and may also make an impact on the bloggers' field of teaching and research. Blogs are perceived as disseminating knowledge in a more effective way as compared to traditional forms of academic publishing. There appeared to be agreement on this aspect among bloggers at different stages of their careers, from being a research student to an established researcher and from an advocate of 'digital' scholarship to the less enthusiastic about using blogs as a form of publishing.

Complementarity with traditional publishing

Blogs were perceived as being parallel to and complementary to traditional forms of dissemination. Established forms of academic dissemination and publication are more rigorous, formal and ensure validity of information [although this domain often presents challenges regarding validity and consistent measures of impact (Weller, 2009a; Grant, 2009; Goldacre, 2010)], and do not appear to reach the wide audience of blogs. Several bloggers in the dataset argued in favour of using blogs to report research in progress whilst keeping traditional publications for the 'formal' outputs.

There are a few possible explanations for this preference, as introduced in Chapter 1. Traditional publications use formal, technical jargon which may be difficult to understand for a non-specialist audience, and some of them also require readers to be affiliated to an HE or research institution to access them. Also, some publications can only be purchased for access. Therefore, whilst the rigour and validity may have to be ensured, the dissemination or impact to a community outside academia, for whom findings may be relevant, might be minimal (e.g. Wolff, 2008). Indeed, as discussed earlier in this dissertation, publications in open access journals receive more citations than those in restricted access journals (e.g. MacCallum & Parthasarathy, 2006). The accessibility and informality of blogs may further help to fill the gap in public engagement.

Complementarity with other social software

What has also emerged from this study is the complementarity of blogs with other social software tools such as micro-blogging (Twitter) and teaching and research-oriented social networks which include an element of blogging, such as Cloudworks. For some academics and researchers, the benefits of blogging are maximised if this is complemented with other social media. For example, blogs can be used for longer, more deeply thought repositories of ideas; Twitter to be in touch with others and disseminate short, salient pieces of information, such as URLs, immediately (P7); Cloudworks to be part of a online community of educators and researchers (P15); Flickr as a repository of images which can be embedded in a blog (P18).

The next chapter focuses on findings concerning my third research question, on the challenges academic/research bloggers face. Given the open and social nature of blogging, challenges encountered relate to the content such as presenting unsubstantiated facts and opinions and concerns associated with anonymity of data.

CHAPTER 6

The challenges of blogging for academics and researchers

We have seen in chapters 4 and 5 that blogs can contribute to the learning of educators and researchers in their profession. However, blogging also presents challenges, which is the focus of this chapter. Some of the challenges are:

- Validity of information, knowledge and findings
- Concerns over preserving content
- Managing the public-private divide
- Disappointing social interaction
- Managing and maintaining the activity: time-management and self-discipline

6.1. Validity of information, knowledge and findings

A number of aspects emerge on the extent to which blogging as a form of writing can be considered reliable, valid and authoritative. This issue is of importance in the context of academia. One of the ultimate goals for a scholar is to disseminate knowledge and findings. This section explores the challenges blogs present when they are used as publishing tools. The following low-level themes were highlighted as being challenges for blogs as academic publishing tools:

- Not peer-reviewed and not rigorous enough to be authoritative
- The blog as an alternative publishing medium: for work in progress and for a wider audience

- Concerns over permanence / vulnerability of data

6.1.1. Not peer-reviewed and not rigorous enough to be authoritative

Academic/research bloggers are aware of the importance of publishing research recognised as valid and authoritative which is generally ensured through peer-reviewing and traditional forms of publishing. This appears to be of importance among the less established professionals: for early and mid-career researchers (e.g. P6, P7, P24) and research students (e.g. P9, P12):

> P6: do find that I'm not blogging about my main activities very much, mainly because I really want to turn them in to journal papers, and some **journals are very picky about not accepting stuff that's seen the light of day elsewhere**, and **I am not in a career position to tell them to take a hike.**
>
> P7: there are **problems with this potential [publishing research on the blog] because it won't be peer-reviewed research and it won't guarantee quality**, so I'm not suggesting that we bypass it
>
> P12: I actually don't say an awful lot about my own research progress on there [on the blog] - mostly because my ideas etc feel like they keep changing! And I guess, **I want to save my real insights and findings for [traditional] publication.**
>
> P24: I am afraid that [academic blogging] will remain something of an oddity (...) as long as there is **little academic credit to be gained from it**.

This suggests a feeling of insecurity and anxiety among researchers who are not established enough in their career to take the risk of trying a form of publishing which is very recent and is still in a state of flux. Blogging is not recognised as yet as being equivalent to traditional publications as can be seen below through an example from P14's experience. This also confirms Cheverie *et al.*'s (2009) claim that junior level academics are discouraged from embracing a digital scholarship too seriously for tenure and promotion purposes.

Senior-level academics are not so bothered about embracing new tools for disseminating their work, but are nonetheless aware of the constraints in terms of getting these new forms of academic writing and dissemination recognised by professional bodies and committees, when it comes to evaluate the scholarly impact of a research/HE institution or an individual. The experience shared by P14 at the semi-structured interview illustrates this dilemma:

> P14: it's much **more hard of them [the UK Research Excellence Framework] to evaluate what's the impact [of scholarly blogging]**, what's the value of this, to ask the university what's the value of it, what's the impact of it and then your research centre, your scholarly impact, so I think there's a tension not just with my university but with all universities on how they adjust these things, and particularly how they begin to reward them. It's OK for me, **I'm a professor, I get away with it** but I was trying to get **my colleague XXX to [consider promoting him] based on his [blogging] work and it got rejected**, 'cause I think that **the people that sit on the committee just don't understand these types of things**

However, researchers and educators also note the limitations in using traditional methods such as the reduced scope of dissemination and this was also discussed in section 5.1. This is particularly relevant to journals with paid or restricted access:

> P15: one of the problems is **the traditional way** in which research is validated and recognised is through formal publications and peer-reviewed journals and I think that **is limiting now, it's not taking account of these other forms of dissemination and communication** and we really **haven't found a way in which we can properly recognise and fit** in these other forms of communication

The issue of the formality of academic papers and books versus the informality of blogging emerges again as a substantial difference in the way the two forms of writing operate:

> P13: it's different, it's not like I would publish in a journal, **not like doing the formal journal publication**, I think **this is much more informal than that,** (…) maybe the kinds of conversations you'd have maybe in writing letters to friends, as in years ago (…) my blog is a bit more personal in terms of my ideas, not in terms of telling you about my children really, but **it's an informal place where I think about ideas** and stuff than the other formal areas like the [institutional] websites and publications
>
> P14: [blogging is] different in tone [compared to academic journals], you kind of **write in a much more personal way** I think, when you write a blog you stick a few jokes in, and so you have a **much more informal style**
>
> P15: obviously **I publish more formally in traditional journals** and books and also present at conferences (…) I think it's much more a spontaneous **'write as you feel' manner [on the blog],** I think people have different voices so my style is kind of, you know, off the moment, **it's chatty, light-hearted in contrast with what I write on papers which is much more formal, considered, reflected on, refined**, so it's again, recognised as **a different media**, the nature of the media and the form

Looking at the blogs of P13-P15s and other research/academic blogs in the data set, it emerges that blogging is considered serious but not as rigorous and formal as in traditional peer-reviewed academic publications. The expressions used across the blog are sometimes informal/colloquial and friendly, as noted by the use of exclamations, occasional irony, rhetorical questions, actual questions directed to an audience real or imaginary, emotional icons, or contracted words or phrases. In the examples discussed earlier, the blogs range from a very rigorous and serious tone to a somewhat 'silly' tone characterised by use of jokes and other amusing banter (e.g. P16's blog, Chapter 4, Section 4.6.3.). Also, compared to traditional peer-reviewed journal papers, blog posts may present evident rules of interaction e.g. asking for feedback from readers at the end of a blog post, using the collective 'we', as if to include readers or other people connected to the blogger and the blog; they may also back up their arguments using alternative forms of referencing, such as hyperlinks.

6.1.2. The blog as an alternative publishing medium: for work in progress and for a wider audience

As it emerged several times in my analysis, blogging does not necessarily mean using an inferior medium of publication and dissemination but it is a different or parallel one, and one that may help to complement more traditional forms of publishing. For some of the researchers and educators that I interviewed, the blog cannot replace peer-reviewed academic journals because of the issues of validity and rigour, but blogging can reach a much wider audience than academic journals. Blogging may, therefore, lead to more significant impact, one that may not be recognised by a professional committee, but one which spreads awareness more successfully in the community about research findings as noted by P7:

> P7: I always think that **there is potential for a parallel culture** here (…) I'm not suggesting that we bypass [peer-reviewed research], I just think it's quite interesting that **[the blog] is a slightly alternative route**, and I'm sure I'm not the only person doing this. (...) **blogging and other tools shouldn't replace traditional peer-reviewed journal but** at the same time maybe **the advantage of these new tools is that it disseminates information to beyond** the specialist audience, the people who would read peer-reviewed journal

Other researchers and academics highlight the usefulness of blogging as a medium to document research in progress: drafts of research project, half-baked ideas, which has been recurrent in the analysis and was discussed in more detail in section 4.1.

The control the user has on the content makes it possible for blogs to span from speculation and rants to work of scholarly level (Butler, 2005). However, there has been an increasing awareness of the potential of blogs and increasingly there is commitment to find out more about how can scientific conversations fill the gap between blogs and academia (Batts *et al.*, 2008; Bukvova, 2011). This interest is extending to a range of academic fields and at different levels in the bloggers' career ladder, from small-scale studies on research student bloggers (Walker, 2007; Ward & West, 2008; Chong, 2010, Ferguson *et al.*, 2010) to case studies involving more established researchers in the field of educational technology and in one institution (Kirkup, 2010). My research,being of a larger scale and involving participants from other subject specialisms and HE institutions aimed to further investigate themes and issues that were identified in previous studies and to identify others which may be of relevance not only to academics and researchers but to a wider community.

6.2. Concerns over preserving content

Many bloggers in my sample expressed concern over another aspect related to the validity of data, that is, its permanence and whether it is a positive or a negative characteristic. Indeed there were two opposite attitudes:

- worry over vulnerability of data and being able to preserve content
- worry over permanence of data and inability to remove content

6.2.1. Worry over vulnerability of data and being able to preserve content

P3, P14 and P21 care about having their blog content (which include reflective, teaching and dissemination material) preserved in some way. They are worried about the prospect of losing their work:

> P3: it would be important to do it, **something that I've been wondering abou**t, about electronic...or things on the web, is **how long should you leave things on the web**, for instance, in most courses I teach I create electronic content that is still available on our VLE, and every time I start a new semester, should I get rid of this? But then I think, people may be using it. Personally I think I would like to keep my blog for a couple of years after I finish my doctorate, or just after I finish it, but **I would like to have the option of saving in a convenient way**

> P14: **certainly I care [about] the idea of having a preserved archive** (…) I don't think [the blog] could be effective [in preserving archived data] and I think in some way it's part of the problem and, **if typepad one day went bust** or the servers crashed then **I'd lose all of that reflection**, all of that process and that's **quite worrying**

> P21: yes yes of course [I would be worried about losing blog content], because (...) it is a resource for the alumni, so **we try to keep everything**, databases etc that were built out of it (...) the **blog kind of becomes the real record of a lot of those movements** because, you know, the changes, the new bishop etc, sometimes happen very quickly, and it's too quick for us to receive it via other means, so you look it up on the blog

6.2.2. Worry over permanence of data and inability to remove content

Compared to the previous quotations examined, P9 is not so bothered about being unable to preserve data, her attitude is less radical. For P9, her only concern is being able to preserve content for the duration of her doctoral research:

> P9: I don't think I've given that much thought, I haven't got a separate copy of it, I haven't put any kind of backup to it. I think **it would worry me if I couldn't access the content during the time that I'm writing up**, preparing for the examination, but I think that beyond that I'm probably not that worried, which is interesting because I do keep a backup for just about everything else, but there's almost a sense of yes it's something that it's there, if it disappeared … I'm not sure it would worry me that much

P13 appears to be more concerned over being able to delete any data when needed, for example, when the blog post can cause problems to any person or the institution:

> P13: for me [the blog] definitely transitory, I had no problem about going back and deleting the whole contents between 2006 and, I thought that's it, I

> decided **I didn't want to struggle with it any longer** and I thought **I'll just wipe it out**

Other participants (e.g. P16, P22, P25, P26) admitted that they had not thought seriously about the potential and risks of losing data and that I was asking “a good question” (P22, P26). This seems to reflect current attitudes towards preserving digital data, and the uncertainty over efficient measures towards preservation (Naughton, 2010). The uncertainty over safe measures for preserving data for posterity does not seem to be a technical/hardware issue only, but also institutional i.e. lack of commitment from the people in charge of doing so (Swartz, 2010).

Today we may not think enough about the issue of preserving blog content, but digital data are something which characterise the society we live in. Perhaps in a hundred years’ time historians may be interested in them, as much as our historians are interested in the waxed writing tablets of Ancient Rome.

Another significant challenge highlighted by the educators and researchers is one that is of concern to most forms of writing in a public space: confidentiality issues, managing sensitive information and data, managing identity and reputation. This challenge is discussed in the following section.

6.3. Managing the public-private divide

This challenge is raised by many of the bloggers in the sample. Several participants have a statement in their blog in which they say that the views expressed in there are personal and do not represent those of the institution they work with. There is an awareness among the bloggers about the risks involved in making public any information which is sensitive, may offend, may bring individuals or institutions into disrepute, may infringe copyright or put the blogger's intellectual property into jeopardy. The following low-level themes were identified and discussed:

- Care in dealing with sensitive and confidential information
- Care in maintaining a reputation (of self, others and workplace)
- Fear of an audience / reluctance to go public
- Preserving intellectual property

6.3.1. Care in dealing with sensitive and confidential information

Some of the academic and research bloggers faced the dilemma of posting confidential information in a public place. They coped with this challenge in different ways. For example, P4 had a 'secret' blog i.e. only accessible by entering a password, because her blog contained information which was commercially sensitive. On the other hand, P9 keeps a public blog but is careful about refraining from 'crossing the line' and posting content which would not be acceptable on a public space:

> P3: **I had to be careful because it didn't just involve me, it involved my university, my colleagues,** that made me hesitant at the beginning
>
> P4: last year **I was involved in a project which was quite commercially sensitive, anyone who got involved with it had to sign a non disclosure agreement** (...) but I like to have a research blog because it's a place to keep things, to find and to access them, so **I came up with a blog who was only accessed by me** and another researcher
>
> P9: I think when it starts to get personal I think **there's a line that you don't want to cross**, **where you give away personal information** and if that's more obvious to the university, like they know you're there, and someone you know is seeing you and checking your blog, it would probably influence me (…)
>
> P26: I haven't had any problems with my colleagues (...) because **I am very**

> **careful** about what I write on my blog (…) about **not sharing personal information**, or things that might upset people on my blog, or on Facebook

P13, a senior academic and HE manager, was faced with difficult circumstances concerning some of her colleagues and the people she managed. She did not have anybody reprimanding her for her blogging, because she censored herself, so much to the point of deleting almost four years of blog content and re-starting the blog with a different focus:

> P13: I completely **deleted all the entries** of when I started (...) I decided that I couldn't continue with that blog, my job had changed for one thing, but also **it was much too restrictive, I couldn't be honest enough about the issues that were concerning me in the work** as a manager, (…) **you can't say things about people, you disguise them**, other people would recognise them, so I thought that was not possible to have a public blog about something that, that's involved with managing people and the data (…) I decided to stop trying (...) I thought I'd delete all the entries, **change the title and keep the same blog (...). This is much more light-hearted** and easier to put things in 'cause I decided to go **completely in another direction** [her other research interest] and I decided that it wouldn't be about the data that I process at work

6.3.2. Care in maintaining a reputation (of self, others and workplace)

Besides the challenge of being careful about posting commercially sensitive or confidential information, for some of the bloggers, refraining from 'crossing the line' also entails a degree of attention about posting information which does not bring themselves, other people or institutions into disrepute. P7 was even asked by the institution she works at to declare her blogging activity, and she felt the need to reassure her line manager that her blogging was very 'professional', and would never have used it to bring the institution into disrepute:

> P3: I think that there is a lack of transparency about infrastructure and IT

provision [in my university] and I realise that **if I wrote about this in the blog and somebody read about it I could be in trouble**, and I'm also concerned about when I have to write about this in my thesis, I think that I probably wanted to talk about it on my blog at some point but I didn't because I am worried that it might get me into trouble

P7: **someone I work with or someone I work for needs to be able to read this and not sue me or ask for me to be sacked!** So I have to bear that in mind as well, so **I'm very mindful about what I write and I'm very mindful about who might read it** (…) We were asked as a matter of the university policy to declare these things [that we blog] a couple of years ago and my line manager at the time, I basically said in a quick email to her 'I have this blog here, I'm very professional, I would never say anything which would drag the university in disrepute...'

P15: **I'm quite careful** about how I blog, about **not putting things that would be rude to colleagues or bring my institution into disrespect** in any way

P16: I ***cannot*** [P16's emphasis] write about my day job, you know, in the blog, because in a way I keep those identities separate anyway by choice because you know it's at a business school, I can see that **if I strained into that territory then I could end up saying some, I might cause antagonism** (...) even **when I think an article is not particularly good I'm not going to post up the 'don't waste your time with this, it's rubbish'** I'm more likely not to bother blog on it in the first place

6.3.3. Fear of an audience / reluctance to go public

A psychological aspect emerging about some the bloggers' experience (e.g. P3, P5, P9, P14, P16) is their feeling of uncertainty or anxiety towards their audience. This may happen for a number of reasons.

For example, P5 was sometimes unable to fully express his thoughts on his blog, because of his awareness of who his readers are, and the people who should not read what he really thinks. P9's blogging is influenced by her awareness of her audience, and by her uncertainty towards who her audience is:

P5: there are times when I haven't really been able to say what I want because I know who's reading!

P9: Now **I am unsure of who my audience is, and I sense my ideas need to be a little more formulated before I post** (...) much earlier on, I was

> thinking about how far am I prepared to be open on blog, how far I was actually prepared to share (…) you really have no idea [of who reads it] and I think at that point **I started feeling a bit vulnerable**, a little bit less happy about exploring ideas as I wasn't quite sure who my audience was

Both are aware of their audience and feel uncertain or anxious about it. However, while P5 feels anxious about knowing who might read his thoughts, P9 has feelings of uncertainty because of *not* knowing who might read it.

P3 and P14 felt at times to be 'exposed' for sharing ideas on their blog which could have caused an 'image trouble' to them and to their institution. Likewise, P16 is reluctant to share too many of his own ideas which can potentially lead to controversy:

> P3: **I had to be careful [in sharing information] because it didn't just involve me, it involved my university, my colleagues,** that made me hesitant at the beginning

> P14: **the [University] got attacked about not being open source** enough by this Open Source commission and **I kind of defended** it and **my piece got picked up** by the register, and **they kind of wrote this little piece, quite nasty little piece** (...) having a go at me and the university and I felt (…) just for a moment there was kind of a flash of **'am I starting to become exposed here?'** I wasn't really getting into an image trouble, or the university, but it was kind of a relationship between the two and you can see how that kind of thing could escalate

> P16: **I might be a bit reluctant you know to broadcast my work** that way, I don't know, we'll have to wait and see but it's something that, you know, 'cause **I'm having lots of ideas of my own but I'm not sure I want to expose those**

Looking in particular at P3, one of the research bloggers who perceive blogging as 'experimenting', he initially felt a genuine fear towards an audience. Now he is not as fearful about writing in the public domain as he used to be, but is still concerned about sharing confidential information to an audience:

> P3: when I started **I was very unsure about what I was doing**, I didn't really know what to write, what to mention, what not to mention (…) my blogging there [his first blog] was completely private, **I was too scared to make it**

> **public**, but that was a kind of practice that allowed me to have the blog I have now, which is public
>
> (…)
>
> I try not to let the fact that it's public influence me (although **I can't help think of the audience who might read it when it comes to protecting participant data**, for example)

Therefore, bloggers experience feelings of uncertainty or anxiety towards their audience, which to some extent influence their blogging experience. These feelings may be due to different reasons: the experience of 'experimenting' something novel in public, the awareness of an audience, or of not knowing who their audience is.

Another aspect of the bloggers' experience which raised concerns was the issue of ownership and preserving intellectual property. This is discussed next.

6.3.4. Preserving intellectual property

P9 raises the issue of being careful about putting an original idea or piece of work on the public domain because of the risk of being stolen and losing its intellectual property:

> P9: because this is actually stuff that's been written, it's way into my thesis, it's stuff which is original, I didn't want to make it public (…) I think one thing which I had to **think about quite carefully was the extent to which I feel happy about sharing what may be more novel ideas on the blog** and I suppose that's the whole question of **intellectual property** and **how free I feel to put things down which somebody else might decide to take and use** (…) [there] is a diagram that I will be using in a presentation (...) but it's a diagram that I don't actually feel I want to be sharing online at the moment (...) that's probably something to do with ownership

Challenges related to identity and reputation, the sharing of confidential and sensitive information in a public space, and copyright and intellectual property issues, are also evident in the literature in education and management (see Crook *et al.*, 2008; Kerawalla

& Minocha, 2009; Cain & Jones, 2009; Warschauer, 2010). However, as regards ownership, in some instances stealing work is not as straightforward as it seems, even when the blog is a public, open space, as noted by P9. Passing ideas that required a long time and effort to develop as one's own may be difficult to prove in front of an expert audience, or in other instances where not just the ideas, but an understanding of their context and the hard work associated in developing them, also need to be proved:

> P9: there's, I guess, the idea that we all go through 'am I going to give the game away if I put too much in my blog?' but on the other hand I think that's so highly unlikely that in a sense it doesn't matter because **I've been doing the thinking and it would take anybody else quite a long time to get where I've got to**, in thinking about things that are likely to form part of the thesis

The following section looks at another disappointing experience encountered among some academic/research bloggers, i.e. scarce or disrupted social interaction, in particular a less critical, deeper engagement compared to the bloggers' initial expectations.

6.4. Disappointing social interaction

Whist I have shown evidence that blogs to a certain extent help to engage with the public, my qualitative analysis helped me to derive a few salient differences in the bloggers' experiences. In a few cases the social interaction experienced through blogging was below the bloggers' initial expectations. This theme is further broken down and discussed in three aspects, addressing both different types of concerns and measures the bloggers used to overcome them:

- scarce or no critical engagement with peers
- other social software tools compensating the weaknesses of blogging

- disruptive forms of communication

6.4.1. Scarce or no critical engagement with peers

In my sample, the trend appears to be that whilst blogging alone can facilitate an informal engagement with others, blogging does not so easily and always foster critical and deep discussions.

P1, P3, P9 and P25 are research students at different stages in their doctorate, and P13 and P14 are established researchers and educators. They all experienced a lack of constructive critique among their peers at least once. They expected to receive more constructive criticism and feedback on their research work and ideas from peers in a more informal setting, either as a way of breaking the social isolation of daily life, or to have feedback from others besides a supervisor, as shown in the following quotations:

> P1: I do like it when people comment on my blog, but what I usually get is 'this is very interesting, I enjoyed reading it, thanks for sharing my work', which I appreciate, but it's not really helpful (…) **so far my only experience of receiving constructive criticism was from my supervisor**, I don't expect my readers to comment with the same level of thoroughness, but **I hoped for more critique among my peers**
>
> P3: in the end I gave up to cater for either one or the other kind of audience, and I basically write for myself because I also realised that although some people might be reading the blog, **people are not engaging with it very much** (…) I would love to have people react to my thoughts on Vygotsky etcetera (…) I'd like to have some comments and some feedback so that I don't feel so much alone in the process
>
> P9: I've had very very few comments, I've had some contacts and comments outside the blog, on things that were contained within the blog, **there are times when I'd love to have comments and you may have noticed that in some of my postings I put questions towards the end** (…) one [post] was on analysing and transcribing data and basically taking a different approach to what I have been doing and I asked 'what do you think?' Because I think it is an area which I was finding troublesome and which I suspect other students find troublesome as well, and **I was a bit disappointed that,** apart from one comment which came from outside, that **it didn't initiate discussion**

> P13: I would love to have people to comment. I've had very few comments on my blog and the only ones have been people usually agreeing with something, but it hasn't, **nobody has every argued on my blog**, or made a comment, maybe challenging or wanting to respond with something else
>
> P14: it is really nice (...) when you engage with them [the readers], so it's a bit, **slight disappointment when you put a blog [post] where everything's great and you're waiting for comments and** then it just, (...) you're blowing through the digital tumbleweed and **you don't get what you'd expect**

6.4.2. Other social software tools compensating the weaknesses of blogging

For P7, P9 and P14, other social software tools such as micro-blogging on Twitter tend to compensate the lack of conversation on blogs and they use a combination of the tools. Blogs are used for longer reflective discussions while Twitter, Facebook and other social media are employed to engage in conversations, often revolving around the thoughts written on blogs:

> P7: **Twitter very much changed how my blog worked**, because now people come [on the blog] because I tweet about it, or other people tweet about it, so it's just changes the dynamics completely, but it's nice also because a blog is kind of an information dump, you know you can write a post and it can be a lot of information and then it just stops, you know you got it out there and nothing happens and it feels like **Twitter sort of completes the circle** of that
>
> P9: With a **blog**, you put something out there, you may or may not get feedback. It **tends**, in my experience, **not to develop a conversation**, whereas **the microblogging sites do a lot for that, are a facility for conversation**
>
> P14: something that's becoming to replace comments is if you tweet about your new blog posts and gets retweeted I kind of take that as a thumbs up for the post you know, it's like, it's as good as a comment. I do generally, I like getting comments as it shows that I at least stroke a chord, and have a discussion

Social interaction may also be disruptive in other ways as shown in the following section.

6.4.3. Disruptive forms of communication (spamming, trolling)

Many educators and researchers highlighted the problem of receiving a lot of spamming in the comments section. They say that checking individual comments is time-consuming. For P4 and P13, despite their good spam filter, it was becoming more and more difficult to distinguish between genuine comments and spam:

> P3: When I look at my new comments and I am sometimes annoyed because some of these are spam messages (...) **I do have a spam filter, but it doesn't always filter it out automatically**
>
> P4: There is **an astonishing amount of spam now**, yesterday my spam filter caught 75 pages of spam (…) this is a small complaint at the blog (...) **spammers are becoming clever,** they don't just put an advert, they come in and they put some comment which looks vaguely as if a real person has read the blog, maybe they pick some key words from the blog, there is always a link hidden in their name, there must be some very clever programming tool that does this
>
> P13: I get a lot of spam, but we have a good spam filter, and **at first it wasn't obvious to me that it was spam, it looked a little like comments**, but they were bringing advertising links

Trolling (i.e. the posting of off-topic, inflammatory messages on a public space to annoy other users of the space and disrupt a discussion), spamming, confidentiality and reputation (these two are discussed in more detail next) are issues P8 experienced.

> P8: I now host a blog on my own website, I pay for it, but this doesn't prevent trolls and spammers from posting junk or defamatory comments (…) I allow anonymous comments because I don't want to suppress potentially interesting contributions. Not everyone is willing to identify themselves, if their view disagree with that of their superiors or other members of the scientific community

P8 was the only academic in my sample who experienced trolling, although one reason may be due to having a large audience. The size of the audience was noted by P14:

> P14: I don't think my readership is quite big enough to get people who are just kind of trolling for arguments

P7 is aware of the potential of trolling, but she feels 'very lucky' to have never experienced it, despite her audience appearing to be among the largest in my sample:

> P7: I have never had anyone trolling on comments, or anyone being mean, so I've been very lucky

6.5. Managing and maintaining the activity

The challenge about maintaining the blogging activity relate to two aspects:

- problems about being self-disciplined enough and determined to blog regularly, despite good intentions
- concerns over finding time to blog

6.5.1. Maintaining self-discipline

Being self-disciplined, determined, and forcing oneself to maintain the activity was a challenge amongst some of the academic/research bloggers. P3 experienced this challenge at the early stages of blogging. He wanted to experiment with blogging but he 'forced' himself to regularly engage in the activity with the hope that it would benefit in the long run:

> P3: I kind of forced myself to do, and it brought to be very useful (…) but I wasn't convinced with it, I kind of forced myself

Likewise, being determined in maintaining an activity is felt by P9 as an 'achievement':

> P9: I still got a blog alive and putting stuff in it, over two years since starting it, so yes the major [achievement]...**if I was looking for any achievement it would just be the determination** of keeping the thing going (…) **[blogging] does require discipline** and I think I was probably more disciplined early than I have been recently

6.5.2. Time-management issues

For some bloggers such as P14, time was not considered a problem, but other academic/bloggers found the activity requires time, often more than anticipated:

> P3: **sometimes I don't have the time to write on it** and I would like to write on it more often but I can't, that's the only thing that I don't like very much
>
> P7: [blogging] takes me quite long because I have quite a lot of things to say and I want to put in but it takes time (…) I didn't expect to write such long essays, and **I didn't expect it to take so long but it does**
>
> P15: you have to find time to do the blog, and that's a key point of it of course, as **it does take up time**

P7 spends a lot of time for one blog post. She rarely refines the post after publication, but she does a lot of editing before publishing:

> Researcher: Roughly how much time do you spend on each blog post before publishing it?
>
> P7: Oh God [laughs]
>
> Researcher: Too much?
>
> P7: Yeah probably **too much**, I don't know, if you consider all the hours that I spend writing a blog post it probably comes to about, between 12 and 20 hours. 'Cause I would write a bit, think a bit, come back to it maybe, or do some reading, so I did assemble it every time (…)
> I don't do much later editing, I guess probably because **I spend more time before**, trying to get it right

For P13, one of the reasons for blogging being time-consuming is the fact that she spends time thinking about the appropriateness of the content, making sure that what she blogs about is not confidential or otherwise inappropriate and leading to negative consequences for her or her institution:

> P13: I would spend a lot of time thinking about whether I should put [confidential] stuff in there

6.5.3. Summary: the challenges of the new, the unfamiliar and the public

For RQ3, the study confirmed that blogs, whilst effective tools for dissemination, also present challenges with regard to validity and ownership. The lack of recognition of the blog as a parallel form of dissemination from professional and regulatory bodies still poses a challenge to new forms of scholarship.

Another issue is that, being public spaces, the threat of revealing confidential and sensitive information concerned many of the bloggers in my dataset. There could be risks to the reputation of the individuals, or other people and institutions connected to the individual.

Other challenges are associated with personal management, such as time-management and self-discipline, as well as the fear of an audience and instances when bloggers felt reluctant about going public. This was due to concerns over sharing sensitive information. Finally, beginner-bloggers faced difficulties in finding their voice and style, and in being oneself when pressured by readers to write for them.

In the next chapter, Chapter 7, I summarise the results of the three chapters (4-6). I address the implications and present the guidelines derived from the findings. Finally, I reflect on the issues arisen as a result of applying different qualitative methods for analysing the different artefacts in my empirical research. I also provide some recommendations to researchers about combining different research methods in their research designs in similar research domains.

CHAPTER 7

Empirical and methodological contributions of the research

In this research I have investigated the role of blogs among academics and researchers across different HE institutions and disciplines. The analysis of the different datasets highlighted a number of aspects of the blogging experience common to the bloggers, as well as those more idiosyncratic, but nevertheless crucial for the individual concerned.

In this chapter, I summarise the salient findings of this research. I then present an empirically-grounded framework on blog use in digital scholarship, explaining how I derived this framework by adapting it from two existing models in the literature and my research findings. Then I present the empirically-grounded guidelines on using blogs and other social software to support HE teaching and research. I conclude with a reflection on the methodological contributions of this project, and give some recommendations on mixing and matching different methods for conducting empirical research in similar research domains.

7.1. Summary of the findings

Table 10 illustrates the main findings in chapters 4-6 and for each of the three research questions.

Table 10: Summary of the findings in this research project

Why do academics and researchers engage in blogging? (RQ1)	**How do blogs contribute to the academics' and researchers' learning in the profession? (RQ2)**	**What challenges do academic and research bloggers experience? (RQ3)**
They use blogs as repositories of half-baked ideas, experiences and events	Blogs are an alternative form of disseminating knowledge, less formal, for research-in-progress (vs traditional publishing for outputs)	Concerns over validity of information and knowledge, compared to more established mediums
To think and reflect on ideas, experiences and practice	Can help to make an impact, e.g. being invited as keynote speaker thanks to blogging	Concerns over preserving content
They see blogging as a form of public experimentation	Foster public engagement, reach a wider audience and network, mediate relationships with audience and other people	Managing the public-private divide: concerns over managing confidential information, reputation, intellectual property
They use blogs for their accessibility to self and others	Help to develop skills: writing, creativity, presentation, self-discipline	Disappointing social interaction
To construct and control an online professional identity		Managing and maintaining the activity: concerns on time-management, self-discipline

The results presented in the table and also summarised at the end of each chapter highlight varied and multiple motivations for blogging in academia, from a repository for draft ideas to a necessity to construct and control an online identity. There are a number of ways in which blogs helped researchers and academics in their learning in the profession, both personal and professional: blogging as an informal medium of dissemination, or to developing research-related skills such as self-discipline. The findings also highlighted a number of challenges from concerns over validity of information in the blogs to their time-management problems.

7.2. Implications of the research

7.2.1. A new academic genre to be recognised

There is a growing awareness of blogging as a writing or communicative genre in HE and research, either as a new form of scholarship (Halavais, 2007; Ferguson *et al*., 2010; Kirkup, 2010), or as a substitute for research journals among postgraduate research students (Walker, 2007; Ferguson *et al*., 2007; Ward & West, 2008). Whilst it is important to ensure validity of work through established forms of publishing, integrating these with blogs or other social software tools may help authoritative findings to be known to a larger number of people, specialist and non-specialist, for whom the findings may be relevant to their research or practice. Blogs also enable sharing information without time lags involved in formal publications.

Is academic/research blogging a form of literacy that draws from the characteristics and linguistic styles of existing literacies to create a hybrid form? Or is it, as Davies & Merchant (2006) claim, a new form of literacy? Bloggers are not quite diarists, not quite journalists, and yet their writing practices encompass some of these extant forms of writing and communicating. Blogs appear to occupy an intermediate space among established writing forms such as peer-reviewed academic papers, newspaper articles, diaries, blurring the private-public and formal-informal divide, as shown in Figure 9 (Heap & Minocha, 2011).

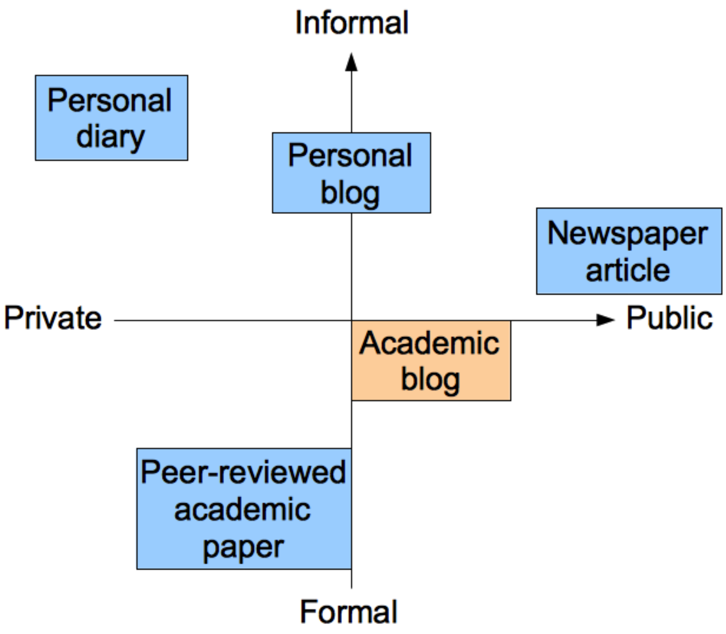

Figure 9: Academic blogging and other writing forms across four dimensions

This tension, between the formality and informality of academic blogging, and in negotiating public versus private access, is reflected in the bloggers' subjective experience of uncertainty and anxiety (see Chapter 6, Section 6.3.3.).

The writing genre of academic blogging has these characteristics:

- open: blogs enable a wide participation. However, openness has its challenges as blogs can be considered as spaces for unsubstantiated opinions. This raises the challenge concerning validity of information, as noted in our findings.
- collaborative: it enables collaboration and sharing of knowledge which helps mediate relationships between bloggers and the audience.
- user-generated: content is created and shared by blog users, which in turn makes them producers (Bruns, 2007).

Boyer's (1990) framework of scholarship, therefore, needs to be reinterpreted in the current context. It does not take into account the dynamic or cyclical knowledge collaboratively generated and shared using social software such as blogs. Garnett & Ecclesfield (2011) also suggest that Boyer's model should be updated to define this form of open scholarship in the social media age. Pearce (2010) proposed an updated framework to account for the trend towards openness in digital scholarship, but it did not consider its collaborative, participative and dynamic nature (Veletsianos & Kimmons, 2012). [Boyer's framework, its dimensions and a critique were discussed in detail in Chapters 2 and 3.]

7.2.2. An empirically-grounded framework for blogging in academia and research

Bloggers in my dataset cared about making an impact through blogging and engaging with an audience and a wider community, and they found blogging more effective than traditional means of publishing and dissemination. Blogs are often combined with other social media. Academics and researchers also note the possibilities offered by blogging in developing digital literacy skills such as writing online and in public, and in fostering creativity. Challenges were also evident, in relation to producing knowledge in an open context (e.g. validity of unsubstantiated opinions), in making an impact, in public engagement (e.g. managing reputation of self and institution) and developing personal time-management skills.

The bloggers' experiences in my dataset, therefore, suggest that blogging, as a scholarly practice, is open, dynamic and social. By combining Boyer's (1990) scholarship model with Kerawalla *et al.*'s (2008) framework for blogging in education and my empirical findings, I have derived a framework for digital scholarship pursued through blogging (see Table 11). I will now explain how this framework was derived.

Table 11: Heap's framework of blog use in digital scholarship

Purpose	Type of scholarship	Description of scholarship through blogs
Motivation for beginning and maintaining a blog	Open Knowledge Production	Posting and archiving ideas in progress, 'half-baked'
	Impact	Need to construct and control an online academic persona
	Audience and Public Engagement	Being accessible to other people
	Skills Development	Experimenting writing online
Benefits of blogging	Open Knowledge Production	Informal and faster dissemination of information
	Impact	Invitation by a blog reader to give keynote presentation Promoting a book
	Audience and Public Engagement	Mediating relationships between academics and non-academics Complementing blogs with other social media
	Skills Development	Developing self-discipline; clarity in writing
Challenges to address	Open Knowledge Production	Information and opinions presented in blogs may be unsustained
	Impact	Content on blog is vulnerable, may disappear for server problems
	Audience and Public Engagement	Care is needed when writing about third parties (people, institutions) in public
	Skills Development	Difficulties in maintaining the activity and managing time

I have extended the conceptual model employed in my empirical research, presented in Table 5 in Chapter 3, to develop Heap's framework in Table 11 (see also Heap & Minocha, 2012).. Audience has been incorporated into Academic and Public Engagement. This dimension focuses on the collaborative and social aspect of pursuing digital scholarship through blogging. Another dimension has been added to stress the openness of academic/research blogging. This new dimension incorporates my findings related to generating and disseminating knowledge not just collaboratively, but also openly: Open Knowledge Production. Each purpose for blogging is broken down into four dimensions. Each dimension is illustrated with a practical example of how this form of open and participative scholarship is manifested through blogging.

Academics and researchers wishing to take up blogging or other social media tools to support their practice can apply Heap's framework of scholarship. The framework guides how blogs can help in engaging with an audience and the associated challenges. For example, academics/researchers may construct an online academic persona, or combining blogging with other social software tools for networking, or to promote a book to an audience and even reach an editor, or for considering back-up measures for saving content.

The next steps in my research are to validate the effectiveness of the framework as a thinking tool about digital scholarship, and also for guiding the practice of blogging in academia and research. This will involve evaluating the framework with colleagues who already blog as a part of their practice, and who are considering adopting blogging for digital scholarship. The feedback will help me refine and improve the framework.

In addition to this framework, I have developed a set of empirically-grounded guidelines on blog use in academia and research, which I discuss in the next section. The guidelines are targeted at academics and researchers who are considering taking up blogging as scholarly practice. The guidelines contain examples of how a blog can be used to benefit the practices of academics and researcher, and any precautionary measures that they should consider to minimise the challenges or risks of blogging.

7.2.3. Empirically-grounded guidelines on blogging in academia and research

Given the increasing use of blogs and social software tools among educators and researchers, not only evidenced by this research but by other research in the literature, it is surprising the lack of or scarce number of official policies or guidelines on blogging which have been developed by HE and research institutions for students and staff (Minocha & Kerawalla, 2010). Policies on blog use may help spread an awareness of the challenges involved in writing in a public space, particularly among inexperienced bloggers, and at the same time ensure bloggers can use their tools in a flexible and multi-faceted way.

Based on the research in this project, I have derived guidelines to maximise the beneficial effects of blogging for professional purposes, whilst considering the challenges and risks encountered.

7.2.4. Derivation, description and assessment of the guidelines

Each guideline is a recommendation on how the blog can be used by the academic or researcher to support their work ('advertise your blog through several channels'), and is followed by a practical example (e.g. 'add your blog URL to your LinkedIn page').

The guidelines were derived from the findings of this research project, and hence are empirically-grounded. The higher-level categories, used to group each guideline, were derived from findings addressing the three research questions:

- Flexibility (RQ1: one of the motivations for using blogs)
- Networking (RQ2: one benefit of blogging to learning in the professions)

- Schedule and self-discipline (RQ2 and RQ3: one of the skills developed, but also difficult to maintain, through blogging)
- Presentation and clarity (RQ2: one skill developed through blogging)
- Privacy (RQ3: one challenge of using blogs)
- Validity of information (RQ3: one challenge)
- Combining social software tools (evident in 24 out of 26 participants)

This categorisation aspect of grouping the guidelines is in accordance with the ISO standards on usability such as the ISO 9241-210:2010 (e.g. the checklist in Appendix B of this standard has three high-level categories).

Table 12 lists the empirically-grounded guidelines derived from my research. The Table also shows the evaluation framework that I employed for evaluating the guidelines.

I will discuss how the evaluation framework was iteratively developed during the course of my research.

Table 12: Empirically-grounded guidelines for blogging and evaluation framework

Please reply with a digit, using the following scale:
1 – very much; 2 – fairly; 3 – neither; 4 – not very; 5 – not at all.
If possible, give a brief explanation for your answer.

Guideline or task	**Comprehensibility**	**Usability**				**Utility**
	Is the wording clear?	**How easy is it to carry out the task on your first try?**	**When you return to blog after some time, how easily can you reestablish proficiency of the task?**	**How many errors do you make by trying this task? How easily can you recover from them?**	**How pleasant is it to use the guideline?**	**Does the blog provide the guideline suggested?**
Flexibility						

Use blog flexibly e.g.: write own reflections, and/or monitor your progress, publish drafts, write whenever you have an idea						
Networking Connect with like-minded people e.g.: add your blog address on your institutional webpage, find other bloggers through the staff directory, follow their blog						
Advertise your blog through several channels, besides your institution e.g.: add your blog URL on your LinkedIn page						
Schedule and self-discipline Set a timeframe during which you will blog for your project e.g.: three years, for the duration of your PhD						
Adhere to schedule where possible e.g.: blog once a week. If busy, write						

fewer words, but keep regularity						
Presentation and clarity						
Ensure language is understandable by your readers. e.g.: clear terminology but not too technical and formal						
Make your blog easy to read e.g. avoid writing long posts, use images to break the text						
Privacy and ethical considerations						
To limit information sharing, adjust the privacy settings of your blog e.g.: posts with sensitive information are accessed by a limited audience						
Create a separate blog for confidential information e.g.: a private blog for paper drafts, with read/write access only to you and the co-authors of your paper						

Keep in mind ethical issues e.g.: anonymise information, or seek written permission to divulge it from the interested parties						
Validity of information						
Ensure your blog has reliable information, verifiable by readers. e.g. when you cite a fact, use a hyperlink which sends the reader to the original source						
Combining social software tools						
Combine blogging with Twitter, for immediate social contact and dissemination of information. e.g.: tell your Twitter followers of your latest blog post by 'tweeting' the URL						
Or use a social networking site e.g.: post your latest blog update on your Facebook status, so your connections can view it						

Use photo/video sharing websites, as repositories for audio-visual resources for your blog. e.g.: embed a photo on your blog post, to illustrate your point. Use Flickr as your repository						

The guidelines and the evaluation framework that I used to evaluate the guidelines developed iteratively, through user feedback and by referring to the literature, as with the development of standards such as the ISO 9241-210 (2010) [Ergonomics of human-system interaction -- Part 210: Human-centred design for interactive systems] which has guidelines for human-centred design of interactive systems.

The empirically-grounded guidelines on blog use that I derived were initially assessed by applying a simple framework based on three criteria: comprehensibility (is the wording clear?), usability (is it easy to use?) and usefulness (is it useful for you?). The guidelines were evaluated by four users by applying this initial three-criteria framework. The process of evaluation and the outcomes are described in sections 7.2.5. and 7.2.6.

Cronholm (2009) highlights the tendency amongst usability experts not to thoroughly follow existing usability guidelines, but to adapt them according to the context and type of tool, product or environment addressed. He also stresses the importance of testing the guidelines in the real world in a “usage context” (ibid.: 237), and to gain feedback from this ‘contextual evaluation’.

My evaluation framework was accordingly refined in light of user feedback received.

The ‘revised framework’ was adapted from Nielsen's (2003) usability model. Nielsen uses two criteria to assess the usefulness of the guidelines: usability, i.e. how easy and pleasant is the blog (as a tool) to use, and utility, i.e. whether the blog (as an interface) provides the features needed. Nielsen defines usability by five quality components:

- Learnability: How easy is it for users to carry out a basic task on the first attempt?
- Efficiency: Once users have learned the design, how quickly can they perform tasks?
- Memorability: When users return to the design after a hiatus, how easily can they reestablish proficiency?
- Errors: How many errors do users make, how serious are they and how easily can they recover from them?
- Satisfaction: How pleasant is it to use the design?

However, Nielsen's framework (2003) was developed with a view of assessing the usability of interactive systems in general. To assess the blogging guidelines, I derived a framework by adapting Nielsen's framework, as illustrated in Figure 10 below.

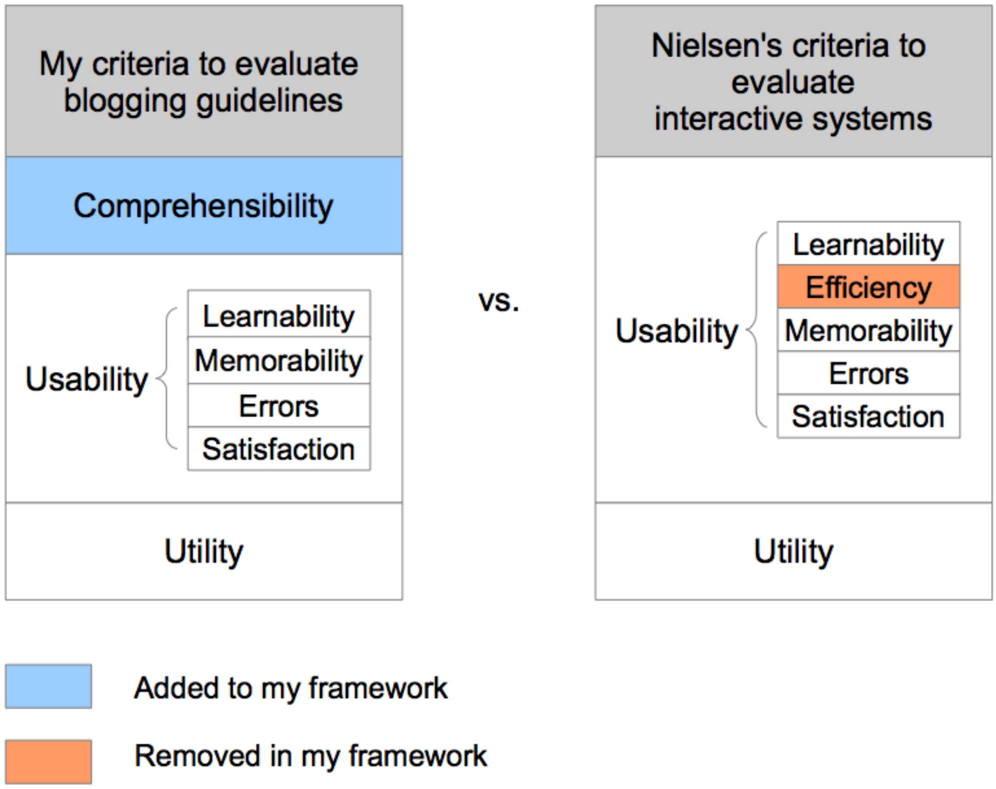

Figure 10: Derivation of the evaluation framework

The efficiency component in Nielsen's model (2003) was removed in my framework, because it may not be so useful to assess some of the guidelines for blog use. For example, the blogging activity of personal reflection requires time to be carried out satisfactorily. Also, another criterion was added to my framework, i.e. comprehensibility, to assess whether the wording of each of the guidelines is clear and understandable for the user.

7.2.5. Evaluation of the guidelines

The guidelines were evaluated by four users. Besides the feedback collected from my two supervisors, two participants from my research provided feedback.

Collecting the feedback

The procedure to collect the feedback from the participants was as follows:

- Two participants were contacted by email and asked whether they were willing to evaluate the guidelines.
- The guidelines (an earlier version of those presented in Table 12, but with a simpler framework of usability/comprehensibility/usefulness described in section 7.2.4.) were then emailed to the participants as an attachment.
- The participants were required to complete the table by saying whether each guideline was usable, comprehensible and useful. If they felt that a guideline was not usable, comprehensible or useful, they were asked to add a short explanation.
- The completed table was returned to me by email as an attachment, and the participants were thanked for their feedback.

Outcomes of the evaluation

Having the guidelines checked by practitioners in this field, i.e. active academic or research bloggers, helped to evaluate and understand if others can read and find the guidelines meaningful for them. A number of issues emerged from the feedback collected, which helped to modify the guidelines and render them more meaningful and comprehensive, from the initial draft. For example:

- One of my supervisors highlighted the need for a lower level of categorisation, i.e. grouping the guidelines under broader themes. Also, in my first draft each guideline consisted of a small paragraph, but it was reduced to a sentence followed by a brief practical example, to aid the reader's understanding. This checklist approach of writing the guidelines is in accordance with the ISO standards on usability such as the ISO 9241-210:2010.

- One of my participants suggested modification in a guideline, i.e. write a blog whenever you have something to say, as opposed to blogging according to a set routine or schedule.
- In giving feedback to the theme of 'combining tools', the participant highlighted the importance of demarcating between personal and professional online identities. For example, this participant uses the blog for academic reflections and the Twitter for personal matters. He uses a range of tools, but does not combine them for ‘projecting’ one identity.
- One participant suggested to keep in mind one key advantage of blogging, i.e. its simplicity, and expressed a concern over the recommendation of adjusting the privacy settings of a blog, which could make it complicated for the blogger.

This evaluation process helped me to understand the need for deriving guidelines which can cater to a varied audience with different skills and expertise of interacting with technology and social software tools. The evaluation also highlighted the importance of the versatility of blogging, i.e. one guideline may serve the needs of one blogger, but may be useless to another. As mentioned in section 7.2.4, along with the guidelines, the evaluation and Nielsen’s usability characteristics helped me to refine the evaluation framework itself.

However, as Cronholm (2009) suggested, more evaluation is required in actual ‘usage contexts’ where potential bloggers or bloggers with minimal experience of blogging could evaluate the guidelines for their utility and usability. A blog itself may be used as the space to collect user feedback. Nichols & Twidale (2006) investigated user feedback from real usage contexts, such as improving the usability guidelines of open source software initiatives, including blogs. They found that blogging itself can be effective at facilitating dialogue and immediate user feedback. For example, a suggested guideline on blog use may be posted as a blog entry, and the comments feature used to collect feedback from users.

Further work on evaluating the guidelines will need to be carried out. This is examined in Chapter 8, Section 8.2.

7.2.6. Contribution of the guidelines to academia and research

Blogs, as we have seen, can serve a range of purposes such as:

- to document research-in-progress,
- to make an impact and promote dissemination in academia and research,
- to become aware of issues or risks associated with writing in public.

I will now demonstrate the role of the guidelines (Table 12) for these purposes of blogs.

Using blogs and other tools to document research-in-progress

A number of participants in this research regularly used the blog as a repository for research in progress: drafts of book chapters (P14, P15, P20); or 'half-baked' ideas to be refined through reflection and/or feedback from an audience (P15, P20); or blogs used alone or alongside other social software, such as a wiki page, for drafts of doctoral work (P9, P16). See Table 13 below for an illustration of how new and established forms of academic writing can complement each other:

Table 13: Type of medium for research process versus output

Phase of Research	Activity	Medium
Process	Drafting, reflecting, annotating 'half-baked' thoughts, seeking feedback, engaging in discussion	Blogs (or other social software such as wikis, microblogging)
Output	Presenting a refined, polished product	Peer-reviewed academic publications, research reports, theses, books

The guidelines in the category ‘Combining social software tools’ (see Table 12) could be useful when users are considering using other social software tools alongside blogging.

Using blogs and other tools to make an impact and promote dissemination

If blogs are to be used as a research-in-progress record, how can its impact be measured in terms of recognising and advancement? First, it is necessary to clarify what I mean by impact.

According to the REF, impact refers to research activity and findings which “deliver demonstrable benefits to the economy, society, public policy, culture and quality of life” (HEFCE, 2009). My definition of impact encompasses the REF definition, but is broader: besides a practical and tangible benefit to society, I also refer to research activity which contributes to the researcher's learning in the profession. For example:

- your research blog is noted by an important academic/researcher/practitioner in your field;
- this person thinks you have something useful to contribute to, and to share with people with similar interests;
- the person invites you to give a keynote presentation at an international conference.

There were several examples in my dataset of blogs enabling an impact. For instance, P7 and P15 were invited to give keynote presentations to conferences as a result of their blogging activity. Also, P2 and P7 gained paid work opportunities relevant to their profession. P2 secured a contract with an editor to publish a book, and P7 became involved in a funded project.

Another possible criterion for recognising the impact of a research-in-progress activity, documented through blogs and other social software tools, is ensuring that the process results in an output on more established forms of publishing.

For example, P15 and P20, established researchers, posted drafts of work on their blog. These were refined over time through the contributions or feedback from their audience. P20 refined her conference item through her blogging activity, which later resulted in a journal article. For P15, her work on her blog resulted in a conference presentation. This conference output was further refined, also through blogging activity (posting thoughts on the blog, seeking feedback from readers) and ultimately resulted in a publication in a peer-reviewed journal.

The role of blogs in creation of an impact is evident in P15's and P20's research experiences. Their endeavours via blogging should not be be labelled as 'a waste of time', as it is happening in more conservative contexts (e.g. Procter *et al.*, 2011).

Connecting with others, and becoming part of a community of academics/researchers with similar interests, can help the blogger / social software user to have fruitful discussions, regardless of physical and geographical constraints, and to make his/her own work and interests known to a relevant network of people. This is an aspect of digital scholarship that is recognised by researchers in the field as happening, and reflects current trends in the literature (e.g. Weller, 2011a).

The guidelines in the categories of ‘Flexibility’, ‘Networking’, ‘Presentation and clarity’ and ‘Validity of Information’ (See Table 12) can help guide the blogger in using the blog effectively for networking, research outcomes and long-term impact.

Awareness of the risks of writing in public

The guidelines (Table 12) also address privacy and ethical considerations. If you are an academic or researcher embracing blogging or other tools, you should take careful measures when revealing potentially confidential and sensitive information, to avoid identifying the people or institutions involved. Alternatively, you could enquire about the possibility to write about an event, person or situation in the public domain and, where applicable, obtain permission in writing from the interested parties.

This aspect concerned many of the bloggers in my sample (e.g. P3, P4, P7, P9, P13, P26 to name a few). It is one that, if overlooked, may bring the reputation of the individual blogger, of other people, and the institution(s) connected to the individual, into disrepute.

Another risk posed by writing in public and by using the blog or other social software tool to support research-in-progress is that some restricted-access academic journals may not accept manuscripts which have been already fully or partly published elsewhere. P6 warns about these risks in my study:

> P6: some journals are very picky about not accepting stuff that's seen the light of day elsewhere, and I am not in a career position to tell them to take a hike

As recommended in the guidelines in the category on Privacy and Ethical considerations’ (Table 12), if you are an academic or researcher, particularly at an early stage in your career, you should consider which journals you aim to publish your work on, before publishing drafts of work on a public blog or advertising it on social networking platforms.

7.2.7. Application of the guidelines in other professional domains

The guidelines presented in this section (Table 12) may also be used by other professionals such as journalists, politicians, health professionals, who are considering using blogs or other social software tools as part of their practice.

For example, a journalist could consider taking up blogging alongside writing newspaper articles. One guideline recommends the flexible use of blogs. Therefore, rather than just describing facts, as in newspapers, the journalist may use the blog for reflections and commentary on contemporary affairs in their field. The comments feature could be used to facilitate discussion with readers. The guideline of maintaining weekly frequency in blogging could be useful for the journalist, to keep their readers interested in their contributions and regularly updated on current affairs.

To summarise, whether you are an academic, a researcher, or other professional, always ensure that:

- The language you use in your blog is understandable to your intended audience;
- The information you supply is accurate and appropriate in its context (e.g. not confidential and published without written permission);
- Primary sources or other factual information are easily reachable and verifiable by your readers, through, for example, the use of hyperlinks.

The next section discusses the methodological contribution to this research and demonstrates how each method was applied to the data. Some guidance is also provided on combining a range of methods for empirical investigations in similar research domains.

7.3. Methodological contributions and reflections

In the following subsections I briefly document which research methods gave me more insights on certain aspects than others, and how has one method influenced my use of the others. For each method, I look at both its empirical and methodological contribution through illustrations of how I applied them to the dataset.

By empirical contribution, I mean the usefulness of each method in answering the research questions. By methodological contribution, I mean how each method provided guidance on applying the other methods.

7.3.1. Using descriptive phenomenology to analyse the unstructured interview

Descriptive phenomenological analysis (Giorgi & Giorgi, 2003; Langdridge, 2007) was employed for the unstructured interview, the first stage in the empirical research.

Box 1 in Appendix 10 provides an example of one response to the unstructured interview and how I applied descriptive phenomenological analysis.

Empirical contributions

In their response, participants tend to go with the flow of their thoughts, and may not always connect aspects in a logical manner. By dissecting a participant's original account into smaller components, I was able to construct a coherent and chronological narrative, from what made people start a blog (which is relevant to RQ1) to the benefits and challenges experienced (RQs 2 and 3).

Using phenomenology to analyse the initial unstructured interview provided answers to the three research questions. RQ1 looked at reasons for beginning a blog, and what emerged at the unstructured interview was a need for experimenting, testing a new way of thinking ideas in the public arena. Regarding learning in the professions through blogging (RQ2), the phenomenological analysis highlighted that blogging facilitates networking and constructing relationships. Academics and researchers think of others and mediate relationships with readers and with people outside the primary readership but still connected to the blog in some way. Regarding the challenges experienced by bloggers and addressed in RQ3, it emerged that bloggers feel anxious towards their audience: for experimenting something novel, or for awareness of a readership.

Methodological contributions

Descriptive phenomenological analysis was used for the responses to the unstructured interview by email. This step has been useful as a preparatory task to gain more background information about the participant's experience of blogging, or to adapt the follow-on semi-structured interview questions, or for choosing and analysing a blog extract.

For example, at the unstructured interview, a PhD student (P12) said that she was reluctant to blog about her research progress, and kept a separate private journal for it. I tailored some of the follow-up interview questions to expand on her anxiety about sharing in public. The follow-up interview clarified that it was due to preserving intellectual property. She wanted to ultimately share her work, but only after publication in formal outputs (see Heap & Minocha, 2011).

7.3.2. Using ethnography of communication to analyse blog extracts

To analyse the blog extracts, discourse analysis and an approach called the ethnography of communication (Saville-Troike, 2003; Wetherell *et al.*, 2001) were chosen.
The Box 2 in Appendix 10 provides an example of one blog as to how I applied this method by applying the Saville-Troike's framework which dissects the components of communication.

Empirical contributions

By applying the approach of ethnography of communication, I was able to highlight any changes in the blogging style and patterns since the bloggers started using the tool. For example, the analysis of blog extracts helped to identify longer or shorter posts over time, gaps that resulted from deletion of parts of blogging, and new starts due to challenges experienced (relevant to RQ3), and where the attempts to address the audience were more evident, or when writings were directed at the self. The approach helped to illustrate the theme of 'improvement of presentation and writing skills' (relevant to RQ2) as a result of blogging. It made me see how this improvement, noted by the participants at the interviews, occurred in practice.

Methodological contributions

The blog extract has been useful as a supporting dataset to illustrate and validate the information gathered from other artefacts. Locating blog posts relevant to a research question (e.g. a post containing personal reflection and asking blog readers and Twitter followers to comment on it) helped me to gain a preliminary understanding of how the blog was used by the academic/researcher, and to expand on this aspect at the time of semi-structured interview.

Conversely, the other artefacts helped me locate the specific blog postings meaningful to the blogger's experience, and relevant to a research question. For example, one academic (P20) mentioned that she occasionally used the blog to post drafts and solicit comments from readers, to be able to refine and eventually publish the drafts as journal papers. At the unstructured interview she described one blog posting in detail, so I was able to locate her posting and analyse how this form of mediating relationships and peer-reviewing was taking place on the blog, such as brief exchanges between blogger and readers through comments, use of informal language, etc.

7.3.3. Using thematic/saliency analysis for the visual blog content

An analysis was also carried out on visual data (e.g. images, videos) within the blog. A combination of saliency analysis (Buetow, 2010) and inductive thematic analysis (Thomas, 2006) was employed for this artefact.

The Box 3 in Appendix 10 provides an example of two blogs and how this method was applied to visual data in these blogs..

Methodological contributions

Like descriptive phenomenological analysis, the inductive approach that I used through thematic/saliency analysis requires that the themes that are derived are strongly linked to the data themselves (see Braun & Clarke, 2006). Therefore, it helped me to overcome one of the shortcomings identified in my pilot study results: looking at data with pre-conceived ideas. Also, visual media on the blog was contextualised and information was drawn from the other artefacts in my dataset in order to explain the use and relevance of the visual media.

Empirical contributions

The visual data in the blog, like textual data, provided supporting information to illustrate or reinforce information collected from other artefacts. Visual media was used to support content described textually, to illustrate metaphors, simplify or exemplify concepts discussed in the blog text (P2, P5, P8, P10, P12, P13, P14, P21, P22, P26), such as photos and videos depicting a conference in which the blogger participated (e.g. P8, P12, P14), or the cover of a book discussed in the post (e.g. P20, P26). The integration of the visual media illustrated how the presentation skills of the bloggers were being developed through blogging, which is relevant to RQ2.

However, many bloggers had few or no visual components in their blogs (P1, P3, P7, P11, P15, P17, P18). Others often used pictures irrelevant to the written content just to make the blog look more attractive, or to break long pieces of text, as explained at the semi-structured interview (P5, P6, P12).

7.3.4. Using thematic analysis for the semi-structured interviews

For the follow-on semi-structured interviews, inductive thematic analysis was chosen

(Braun & Clarke, 2006). The Box 4 in Appendix 10 provides an example of an extract of a semi-structured interview with P16 and how thematic analysis was applied.

Empirical contributions

The semi-structured interview and the subsequent thematic analysis helped me to answer the three research questions. This artefact was the last one employed in the research process, and the most important one. It helped me to collect comprehensive information, as I was able to investigate aspects that had emerged in the previous stages of data collection and analysis.

The bottom-up approach of inductive thematic analysis, i.e. from the data to the theory, helped me to structure the analysis by looking at patterns more relevant to the research questions, and it helped me to develop an initial structure of the three results chapters (chapters 4-6).

As discussed in the other sections, most themes described in the results chapters (e.g. blogging for personal reflection (RQ1), reaching a wider audience (RQ2), managing reputation (RQ3)) either emerged at the semi-structured interview, or emerged in other artefacts but were further examined at the semi-structured interview.

Methodological contributions

The thematic analysis of the semi-structured interviews, was the last step in the research process and it, helped me to gain a deeper understanding of the blogger's experience. Aspects emerged in the previous artefacts were further investigated at the semi-structured interview by tailoring the interview questions.

For example, in response to the pre-interview questionnaire, P7 mentioned that, besides blogging, she made extensive use of Twitter. This provided me with background information to expand on at the semi-structured interview. I asked P7 why she used Twitter alongside blogging. She explained how the tools (Twitter and blogging) complemented each other: Twitter for short and immediate exchanges of information (including news on blog updates) within the academic community, and blogging for detailed reflections.

In the following section, based on the reflections in this section, I provide some guidance on how methods can be combined in research designs.

7.3.5. Guidance on mixing and matching methods

In this section, some recommendations are provided with examples on how a range of methods can be mixed and matched in similar research domains. Possible applications of artefacts and analytical methods are illustrated in Tables 14 and 15. Table 14 focuses on data collection methods and Table 15 lists the analytical methods:

Table 14: Guidance on the application of collection methods in similar domains

Data collection method	Possible applications
Content in social software platforms	To study how the tool is used in practice. To tailor questions in a follow-up interview or questionnaire.
Pre-interview questionnaire	To collect background information about social software user, i.e. subject specialism, use of other tools, length of time using. To tailor questions in follow-up interview according to user's background information.
Initial unstructured interview	To tailor follow-on interview questions. To build up a working relationship between researcher and participant at the preliminary stages
Follow-up semi-structured interview	To expand on issues identified in the other

	datasets. Some structure (pre-set questions) derived from analysis of preliminary responses; also helps to keep to the flow and timeframe.

Table 15: Guidance on the application of analytical methods in similar domains

Data analysis method	Possible applications
Discourse analysis	To identify linguistic patterns and styles
Quantitative analysis	To measure similarities and differences in patterns across users, to represent patterns in diagrammatic form to aid the readers' understanding
Phenomenological analysis	To investigate the lived experience and psychological significance of the user engaging with a social software tool
Inductive thematic analysis (with or without saliency analysis)	To identify emerging patterns, recurrent (or important but not recurrent) among participants, related to the research questions

The following sub-sections examine scenarios in which methods can be used on their own, or combined at different stages of the research process.

Collecting and analysing content in social software platforms

Uses of a social software tool, in an academic or professional context, may be investigated by collecting extracts of written or visual work produced on the social software platform (e.g. Twitter extracts), to find out how the tool is used in practice.

This dataset can be analysed in a range of ways, qualitatively or quantitatively, depending on the type of artefact and the research questions. For example, if the researcher is investigating the experience of networking through Twitter, a research question may be looking at the conversational practices through Twitter, compared to other forms of communication and dissemination. Conversations on Twitter can be analysed by applying, for example, discourse analysis (e.g. Wetherell *et al.*, 2001), to look at the linguistic styles and patterns.

Collecting and analysing background information with questionnaires

Background information about the social software user can help to obtain an initial idea of the user's experience in engaging with the tool. This background information can be analysed as a separate (data) artefact. The background information can also help to tailor the questions in a follow-up interview. Also, the background information may be analysed and represented quantitatively, as I did in my research for the data obtained with the pre-interview questionnaire (see Chapter 4, Section 4.1.). Background information about the social software user may consist, for instance, of asking questions about length of experience using the tool.

Collecting and analysing data using an initial open-ended interview

An initial interview may consist of one open-ended question, by email, or by private message in a social networking platform. The initial asynchronous interview may also help tailor the questions in the follow-up synchronous interview according the information provided by participants at this stage. Being an open-ended interview, tit may be analysed using a qualitative method like the descriptive phenomenological approach (Langdridge, 2007) that I carried out.

These preliminary activities in the research process such as the background questionnaire or the initial interview by email may also help to develop a rapport between the researcher and the participant (Minocha, 2010). This can be particularly important for research conducted remotely, with no or minimal opportunities for face-to-face encounters between researcher and participants.

Collecting and analysing data using follow-on semi-structured interviews

The follow-on interview can help to expand or clarify issues that emerged at the unstructured interview stage. Therefore, some structure in the follow-on interview questions is useful to derive as much relevant data as possible. Having some direction in the interview also helps both the participant and researcher to keep to the flow.

Semi-structured interviews can be conducted in several ways. The suitability of the medium (e.g. face-to-face, telephone, VoIP) depends on the requirements of the research, and the availability of researcher and participants.

Using inductive thematic analysis to analyse responses in the semi-structured interview helps to derive the patterns most relevant to the research questions, and the most recurrent. Also, thematic analysis, unlike other qualitative approaches, is not strictly bound to a specific theoretical or methodological framework (Braun & Clark, 2006). This may be useful for research in similar domains which draws from more than one framework, as in my research. Saliency analysis may be combined with thematic analysis to look at the importance of the theme for one or a small set of participants and the research questions, even if the theme is not recurrent across the majority of the participants (Buetow, 2010).

Methodologically, my research is novel in the sense that I have employed a range of methods to investigate the three research questions to investigate the blogging practices of academics and researchers. Based on my reflections presented here, it can be said that combining different methods helps complement the strengths of each method, thereby providing a very rich picture of the phenomenon being investigated, and the use of different methods helps to look at the phenomenon from a variety of theoretical and methodological perspectives.

The following chapter summarises the theoretical and practical contributions of my research to extant knowledge and to my professional practice. It also presents suggestions for possible further work in this research domain.

CHAPTER 8

Conclusions and future work

In this last chapter, I summarise the main contributions of my doctoral research, and how my research has added to extant knowledge on social software use in academia and research. I also reflect on what I have achieved as a researcher and as a practitioner, and discuss the contribution of this research in my practice. Finally, I suggest further work I plan to conduct, and further areas of research which could be investigated to gain a better understanding of blog and social software use in academia, research and other domains.

8.1. The theoretical and practical contribution of this research

8.1.1. Contribution to existing knowledge

Previous research in this area had limitations, because it consisted of studies involving five or fewer participants within one institution. I added to this research by recruiting a multi-national and multi-institutional sample. I also applied a multi-method approach to my research, to increase the applicability of the findings and guidelines to academic and professional contexts.

I collected and analysed the experiences of 26 academic and research bloggers from several countries (11), institutional affiliations (19 and 2 freelance) and disciplines (12). I investigated their motivations for blogging, benefits perceived and challenges experienced.

The findings revealed that there are several motivations for blogging: for example, to have a repository of drafts of written work, or to develop personal reflections. I found that blogging contributes to learning and development in the professions of academics and researchers in a range of ways: for example, to disseminate knowledge in a less formal way, or to develop skills such as writing, creativity, self-discipline. My research also highlighted the challenges of academic/research blogging. The bloggers, for example, expressed concerns over validity of information in blogs, compared to more established media of dissemination.

Based on these research findings, I was able to derive an empirically-grounded framework to guide blogging for digital scholarship (Heap & Minocha, 2012). With this model I achieved what Garnett & Ecclesfield (2011) were recognising: that Boyer's model (1990) needed to be updated to define open scholarship in the digital age, and overcame the shortcomings of Pearce *et al.* (2010), which did not consider the collaborative, participative and dynamic nature of open digital scholarship.

8.1.2. Contribution to my professional practice

The findings and the research process helped me to reflect on the methodology, to suggest some recommendations on conducting studies in similar domains by employing and combining a range of methods. The recommendations may help other researchers and professionals investigate similar domains.

In Chapter 1, I explained why I wanted to research blogging in academia and research. As an educator, I use blogs alongside other social software tools, and wanted to find out more about how can blogs effectively support research, teaching and learning. By analysing the data collected in this research, and by interacting with other academic and research bloggers over the past three years, I was able to gain a better understanding of the motivations, the benefits and challenges of blogging in academia and research. This research project has also sensitised me about issues related to effective uses of blogs in my profession.

I developed empirically-grounded guidelines on using blogs and other social software. These should inform academics, researchers, other professionals and educational policy-makers on effective uses of blogs and social software to support academic and professional initiatives. The empirically-grounded guidelines are also influencing my own practice.

For example, considering the 'privacy' guideline from my guidelines-set, I have incorporated this into my own practice as an educator and researcher. I set up two blogs for two different purposes: one as an educator to support my students, one more personal as a researcher, to keep those two online identities demarcated. The first is hosted on the University website and I adjusted the privacy settings to allow students to access my blog. The second blog is semi-private, i.e. accessible to everyone but not indexed in search engines.

As a researcher also, I have reflected on the methodology and on how my experience conducting this project influenced my practice. One key lesson I learned is that combining at least two or three methods can be very useful to obtain an understanding of the phenomenon from different perspective, and to increase the applicability of the findings to different contexts. I also intend to take forward the lessons learned from this research in future projects. This is examined in the next section.

8.2. Suggestions for future work

8.2.1. Further validation of the empirically-grounded guidelines

The evaluation of the empirically-grounded guidelines will form part of my future work. The guidelines have already been modified following the feedback received by four users: my two supervisors and two research participants.

As part of my future work, I plan to create a web-based survey, using SurveyMonkey.com or other online survey service, so that the participants will be able to easily access the guidelines and provide feedback on them. Participants will be recruited among academics and/or researchers who actively blog or use other social software tools. The evaluators may be recruited through search engines, or by searching through institutional pages of academics or researchers who show evidence of using social software. Evaluators may also be recruited among colleagues, acquaintances, and through academic-oriented social software platforms (e.g. Academia.edu, Cloudworks).

In addition, I aim to present my work at conferences and workshops. These events will be an opportunity to ask more academic and research bloggers to evaluate the guidelines. I plan to include evaluators who would be academics and researchers who are not using blogs and social software but are considering using such tools. They may benefit from the recommendations of the guidelines.

Further work in the area may be useful to monitor the development of this new genre of writing by academics and researchers.

8.2.2. Possible further work in the area

It may be useful to empirically investigate, through longitudinal or cross-sectional studies, differences and similarities in professional advancement, personal development and impact between educators, researchers or other professionals who used social software for most of their working life, and those who made little use of it.

Weller (2011a) proposed a survey asking for opinions on whether in the next decade, digital scholarship in open journals, blogs and social software will achieve the same status of recognition as traditional scholarship. As of September 2011, the majority (64.3%) disagreed with the proposition. However, I found it difficult to decide whether to agree or to disagree, because the proposition may be comparing two different types of scholarship, where each of them has a role to play.

The findings in my research suggest that the two forms of publishing have differences but can complement each other. The digital scholarship achieved through blogs and social software is the one that focuses on the research *process* and on an increased public engagement, rather than on the rigour of the *output* of the peer-reviewed journal paper including open access journals.

In terms of measuring impact of research and academic work conveyed through social software, further research is needed to identify effective and standardised ways of measuring impact quantitatively and qualitatively, with a view of developing guidelines to influence policy-makers and educational practitioners. The ultimate aim would be to identify ways to recognise the role of social software in facilitating impact, promotion or funding opportunities.

In terms of public engagement, further research is needed to investigate the extent to which research findings disseminated through social software can help to inform and even engage different categories of people in informal learning activities, such as young vs. older people. For example, young people actively engage with social software and social networking platforms for leisure purposes. There is evidence that online networking communities can help foster informal learning activities (e.g. Cuthell, 2002). Uses of digital media to disseminate research work, with their more informal and sometimes amusing tone, might help to attract the interest of groups of people, such as teenagers and young adults, who would not usually read academic work through formal outputs, and encourage them to engage in academic debates.

Further work in the area of social software use in education, academia, research and the profession will help to gain a better understanding of this phenomenon and to take measures to maximise the personal and professional benefits to the individual and to society.

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GLOSSARY

Asynchronous communication: online interaction taking place independent of local time of users. Examples of asynchronous communication are online discussion forums, emails and mailing lists.

Blog (Web log): online diary or journal, with individual entries published in reverse chronological order. Blogs also have variations in the way they are used. Audiologs are blogs containing digital audio material such as **podcasts** attached to entries. V-logs or videologs contain visual material i.e. **vodcasts**. Mobile-blogs or moblogs are blogs accessed through portable mobile devices such as mobile phones.

Blog hosting websites: websites offering space within their server, either for free or for a fee, where registered users can create and maintain their own blogs. Examples of blog hosting websites are Blogger (http://www.blogger.com) and Wordpress (http://wordpress.com).

Blogger: a person who keeps and writes on a blog.

Blogroll: lists of links to other blogs shown on the sidebar of a blog and recommended by the blogger.

Blogosphere: the 'world' of the blogs and their connections.

Chat: see **Instant Messaging**

Digital scholarship: a form of scholarship which makes use of interpretive methods for research, teaching and learning through the use of digital resources and tools.

Discussion forum: interaction spaces hosted by a web interface, in which messages, sent by different individual users, are organised in threads/discussions and thread/discussion titles. Forums are accessible to a community of users registered on that forum or website hosting the forum.

E-learning (electronic-learning): often associated with distance learning, involves computer based education, either at home, school or workplace. Sometimes interaction occurs only with a machine.

Emotional icon or emoticon: symbols, often a combination of punctuation marks, conveying and reproducing emotional expressions, such as a smile :-) or a sad face :-(

E-portfolio: a collection of a user's evidence held electronically, such as reflections, interpretations, findings, publications. It can be used as evidence of achievement in educational and academic settings.

Forum moderator/administrator: ensures netiquette is maintained among users within a public interaction space, such as a forum. Moderators have access to more actions than users: they can edit or delete other users' posts. Administrators have more powers than moderators: they can delete/edit whole discussions, the whole forum and ban or grant access to users.

Free source software: software which can be used and modified without copyright restrictions. In most cases its use is free of charge.

Hyperlink: a reference to an electronic document which links to the same or another source, clicking on the hyperlink sends the user to that document.

Instant messaging: real-time text communication between two or more users, within a virtual chat room. Instant messaging software may also include audio/video facilities.

Microblogging: exchange of small pieces of content, e.g. links or short sentences (e.g. Twitter). It is used to broadcast information more quickly than through blogging.

Netiquette: short for 'network etiquette', it is a list of online manners and social and behavioural conventions which should be followed when interacting online.

Open source software: software designed and developed in 'peer production', from communities of individuals working together.

Podcast: digital audio files, downloadable from the internet. They can either be individual recordings or extracts from a radio broadcast. A common format/extension used for this file is MP3.

Portable Document Format (PDF): format which reproduces a written document in its entirety, including templates, pictures and graphic. It may be used to reproduce magazines, books and other documents with a high degree of graphical content.

Search engine: or web search engine, is a system which retrieves data stored in the World Wide Web, e.g. websites, documents or images uploaded on a website, etc. The most popular search engine as of September 2011 is Google (http://www.google.com).

Social bookmarking: a tool that allows the internet user to organise and store website bookmarks, using **tags** to categorise them. Bookmarks can be viewed by the user only or shared within an online community of users, hence being 'social'.

Social networking website: a web-based service which allow users to create a profile within a platform. Users have their own space where they update personal information. They interact with other users, including 'friends' who can access their profile information, by chatting, messaging, blogging, etc. Examples of social networking websites are Facebook (http://www.facebook.com) and Linkedin (http://www.linkedin.com).

Social software: often referred to as **Web 2.0**, consists of online applications which facilitate participatory sharing, communication and social interaction. Content in social software applications is user-generated i.e. created, used and shared by users. Blogs, social bookmarking, social networking websites and wikis are examples of social software tools.

Synchronous communication: online interaction taking place in real time between users. Examples of synchronous communication are audio/video conferencing and instant messaging.

Tag: a keyword associated with a category of information (e.g. bloggers creating different labels according to the content of their entries) which can be entered on a search engine to find information immediately, without resorting to manual search.

Virtual Learning Environment (VLE): software system used to support teaching and learning. It aims to reproduce the facilities of classroom teaching, enabling private and open discussion between students and educators in discussion forums, blogs, chat rooms, it may include repositories of online educational resources, etc.

Vodcast or video podcast: digital video clips downloadable online and accessible offline, stored on a computer hard disk or portable player.

VoIP (Voice over Internet Protocol): communication service which transmits voice and other multimedia content through internet protocol networks. Skype (http://www.skype.com) is a well-known VoIP provider.

Web 2.0: see **Social Software**.

Web log: see **Blog**.

Wiki: Hawaiian word meaning 'quick', it is an application which allows users to create and edit webpages. No knowledge of HTML programming language is needed. Hyperlinks to other websites or wiki pages can also be added.

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THE APPENDICES

Appendix 1: Invitation letter or email

Below is a copy of the letter or email sent to academic and research bloggers to recruit participants:

Dear XXX,

My name is Tania Heap and I am a doctoral student and an associate lecturer at The Open University, UK. I came across your blog and have been reading it for some time. I am investigating the blogging practices of researchers and academics and am looking for participants for my project.

As an experienced academic blogger, would you like to help me as a participant?

Volunteers take part in an interview of two stages: one open-ended question by email and a semi-structured interview, either by telephone at my expense or Skype, which should take approximately 30 minutes.

If you wish to know more about this study I am happy to answer your questions. I will also email you a Project Information Sheet with further details.

Thanks for reading this. I look forward to hearing from you. If you prefer not to be involved there is no problem!

Best wishes,

Tania Heap

Appendix 2: Project Information Sheet

Below is the Project Information Sheet, containing further details on what my research was about. It was sent to the bloggers who replied to the email (Appendix 1) and expressed an interest in participating.

My name is Tania Heap, I am a doctoral student and an associate lecturer at The Open University, UK. As part of my research project, I am investigating the use of blogs in higher education and research.

What is the project about?
Blogging is a widespread phenomenon in the World Wide Web. Blogs are used as a communication tool in various contexts. The aim of this study is to investigate blogging in academia and research: why educators and researchers engage in blogging, the problems they face, the contribution of blogging to their .

Whom am I looking for?
I am looking for educators in higher education and/or researchers, including research students and professionals involved in research projects. Volunteers must have experience using blogs to support their work or research.

How can you help?
If you agree to take part in the study, I will email you a pre-interview information request sheet, to provide me with some background information (e.g. length of time blogging). I will need to read through your blog and will ask you to take part in an interview of two stages: 1) answering one broad question by email, about your experience with blogging, then 2) an individual interview online (e.g. on Skype) or by telephone, which should take approximately 30 minutes.

What will I do with your information?
Data recorded will be stored on my computer in an encrypted folder. Data will be used for research purposes only and will not be disclosed to third parties, in accordance with the UK Data Protection Act. The empirical study will be incorporated in my thesis. Extracts of the thesis (anonymised responses to interview, blog entries) may be used for publication, but your identity will remain confidential.
If you decide to take part, I will ask you to read and sign the accompanying Consent Form. You can withdraw from the study at any time without penalty. No travel or postage costs will be incurred because the study will be carried out on the Internet or by telephone at my expense. You may also request a copy of the results, which I will email to you, once the project is completed.
The project was approved by the Human Participants and Materials Ethical Committee at the OU, ref. no. 669.

Want to know more? How can you contact me?
If you wish to take part in the study or have any questions please feel free to contact me,

Tania Heap, at the following email address: <<.....>>. If you wish to talk to someone else about the project you can contact my main supervisor Dr Shailey Minocha at <<.....>>

I look forward to hearing from you. Thanks for reading!

Appendix 3: Consent Form

Both the Project Information Sheet (Appendix 2) and the Consent Form were sent by email to volunteers once they replied to the initial email (Appendix 1) and expressed an interest in participating:

I have read and understood the accompanying Project Information Sheet regarding the research project "Using Blogs in Higher Education and Research Projects". I have had the right to ask questions about this study. I have had the research aims explained to me. I have been informed that I can withdraw from the study at any point without penalty. I have been assured that blog and interview data will be anonymised and my confidentiality will be protected. I have also been informed that the interview recordings will be stored on the researcher's computer in an encrypted folder, as explained in the accompanying Project Information Sheet.

I give consent for the information I provide to be used for educational or research purposes only, including publication. I understand that if I have any queries or problems I should contact:

Tania Heap, EdD research student at The Open University, UK, email: <<.....>>

If I wish to talk to someone else about this research I can contact my Main Supervisor Dr Shailey Minocha, Department of Computing, The Open University, UK, email: <<.....>>

I agree to take part in this study.

Name: …...............

Date: …..................

Please return your signed Consent Form to me by email at <<.....>> as an attachment.
Thank you very much for contributing to this study!

Appendix 4: Participants' profiles

The table below displays the profiles of the participants recruited, their gender, affiliation, role, subject specialism and frequency of posting in their blogs:

Participant no. and gender	Affiliation	Role	Subject expertise	Frequency of blog posting*
P 1 male	UK University	Research student	Educational technology / Business / Special educational needs	Moderate
P 2 female	US university	Educator	Instructional design, elearning	high/moderate
P 3 male	UK/Mexican/Finnish Universities	Research student	Educational technology, modern languages	High
P 4 female	UK University	Researcher	Educational technology, virtual heritage	High
P 5 male	UK/Spanish/Ethiopian universities	Researcher	IT programming, elearning, travel	High
P 6 male	UK University	Researcher and educator	Educational technology	High
P 7 female	UK University	Researcher and educator	Psychology, education, cognitive neuroscience	High
P 8 male	Swiss university	Educator and Researcher	Communication, eLearning	High
P 9 female	Two UK universities	Educator and research student	Educational technology	High
P 10 female	UK university	Educator	Languages	Moderate
P 11 male	Independent consultant in Switzerland	Researcher	Educational technology	High
P 12 female	UK university	Research student	Educational Technology, HCI, psychology	moderate
P 13 female	UK university	Educator and researcher	Feminism, gender studies, technology	moderate
P 14 male	UK university	Educator and researcher	Educational Technology	high
P 15 female	UK university	Educator and researcher	Elearning, Chemistry	low/moderate
P 16 male	UK university	Educator and research student	English literature, Creative Writing, Education	high
P 17	UK university	Researcher	Counselling Psychology	low

female				
P 18 male	UK university	Educator	Computing	moderate
P 19 female	UK university	Educator and researcher	Physics, Mathematics/Science Education, e-assessment	high
P 20 female	UK and US universities + freelance	Educator and researcher	Children's literature, creative writing, publishing	moderate
P 21 male	Pontifical University in Italy	Educator and HE manager/executive	Philosophy, Theology, Social Ethics, Political Science, Communication	high
P 22 female	UK university	Educator and researcher	Islam and Environmental Studies	high
P 23 male	Japanese university	Educator and researcher	Phenomenological and Philosophical Psychology, Cognitive Science	moderate
P 24 male	Belgian university	Educator and researcher	Theatre History, Digital History, Philosophy of Art	moderate
P 25 male	Canadian and UK universities	Research student	History and Digital Humanities	high
P 26 female	UK university	Educator and researcher	Literature and Education	high

* frequency of posting ranges from high (more than 12 blog posts in the last six months of blogging), moderate (between 6 and 12 posts), low (below 6 posts).

Appendix 5: Pre-interview questionnaire

This is the pre-interview questionnaire which was emailed to participants once they had signed the consent form:

Thanks again for contributing to my EdD project. Before we begin with the unstructured interview, I would be grateful if you could provide me with information about your experience as a blogger. Please complete the table below:

What is your role (educator, researcher, both, other)? *If you keep two or more blogs for your different roles please indicate it*	
Did you have any previous experience with blogs, before using them as part of your work?	
Which subjects/disciplines are you specialised in?	
How long have you been blogging in your role?	
Do you use other social software tools alongside blogging (e.g. Twitter, social bookmarking, forums, photo-sharing tools such as Flickr)?	
URL address of your blog(s):	

Appendix 6: Unstructured interview by email

This unstructured interview template was emailed to the participants alongside the pre-interview questionnaire. Most participants completed and returned both pre-interview questionnaire and the unstructured interview response in the same email:

<u>Please tell me about your experience with blogging: how do you feel the blog helps you in your role?</u>

I am interested in any activities you carry out on your blog, what made you start blogging, the positive and negative experiences. Then we can expand on these at the semi-structured interview.

Appendix 7: Semi-structured interview template

This is the semi-structured interview template. Not all the questions were asked. Some questions were added or adapted according to the information collected from the other artefacts such as the blog content, pre-interview questionnaire, and the unstructured interview.

Research Question #1:

Why do academics and researchers engage in blogging?

Generic questions:

Did you have experience with blogs, prior to blogging in your current academic role?
What made you start blogging in your current role?
Do you keep a blog by your own initiative or is it part of the expected duties in your role?
What changes in the way you blog have you experienced since starting?
If part of your expected duties, are the activities you carry out on the blog suggested by your line managers, or module developers, or is there some freedom in the way you manage your blog?
What kind of activities do you carry out on your blog as part of your role?
What kind of activities do you do at the start, during and at the end of the module or programme you teach?
How do you use the blog to keep yourself updated with the latest developments in your field?
How do you use your blog as a tool for your research project?
What kind of activities do you do at the start, during and at the end of your research project?
Do you use other social software tools alongside blogging? Why?

Research Question #2:

How does blogging contribute to academics' and researchers' learning in the profession?

Audience and comments:
• Do you have an audience? • Whom do you aim your blog at? • Do you have a large or small audience? • Are the activities you perform on your blog influenced by the demands of your audience? • Besides the audience, are there other factors that influence the way you blog?

- Does it matter to you whether other people comment on your blog posts?
- Why?
- How do you make use of the comments?
- What kind of comments do you find most useful?

Impact:

- Do you use the blog as a tool to collect or analyse your data?
- Are you using the blog to create a portfolio of your research?
- Are you using the blog for the purpose of 'publicising' so as to create an 'impact'?
- If yes, can you give me an example?

Academic and public engagement:

- Do you disseminate knowledge and findings through your blog?
- Do you read your students' blogs, your colleagues' blogs or both?
- Do you use blogs to facilitate a relationship with your students and/or colleagues?
- Do you give feedback to students through blogging?
- How do you communicate with other researchers and your academic community through blogging?
- Do you think universities should take an active role in promoting the use of blogs?
- How do you engage with the public?

Skills development:

- What do you feel you have achieved since you started keeping a blog to support your work?
- Since blogs were invented and introduced, how has your role changed?
- Have the activities you perform as part of your role changed, compared to pre-blog times?
- What kind of teaching activities are most effective in a blog?
- What kind of learning outcomes can be achieved through blogging and how does your role as an educator and blogger contribute to this?
- Would you recommend the use of blogs as a teaching or research tool?
- How does the blog support your research project?
- Do you care about the presentation and style of your postings?
- Do you care about preserving content, so that you can access it, say, in ten year's time?

Research Question #3:

What challenges do academics and researchers face with blogging?

Audience and comments:
• Can you think of an example when your relationship with the audience became problematic? • How did you resolve this? • Does it happen that you are worried of your audience's opinions about what you write? • Were there any other problems or concerns regarding your audience? • Were any of the comments unhelpful? • Has it happened that you sought comments but did not get them? • Did you overcome these issues? How?

Impact:
• See also questions in 'skills development' • Why do you think that blogs cannot make an impact in your field or community? • Why do you think that blogs cannot make an impact in your career?

Academic and public engagement:
• Have you experienced problems in communicating your work through the blog? • Have you experienced problems in disseminating your findings through the blog? • Have you had any problems with colleagues as a result of your blogging? • How did you resolve this?

Skills development:
• Are there any activities or aspects of blogging in the context of your work which do not convince you, in terms of their usefulness? • Did you find that the blog was unsuitable to perform certain tasks or achieve certain goals? • Did you use other tools to compensate for the inadequacy of blogging? Which ones? • Did you find that some blogging tasks were too demanding, compared to your initial expectations?

Are there any other problems you experienced with blogging?
How did you overcome these problems?

Towards the end of the interview:

Is there anything else you wish to add about your experience using blogs?

Appendix 8: Post-interview validation questionnaire

This is the validation questionnaire sent to the participants a few days after the semi-structured interview. An initial analysis of the data collected was carried out by the researcher (me). The questionnaire was used to check for agreement between the interpretations of the researcher and those of the participant.

Thanks again for taking the time to help me in my doctoral project. Your contribution is valuable! There is just one short task left to carry out.

Below are a number of activities, experiences and issues that may apply to students, educators or researchers who blog. I am using these tables to check that I understood your experience as a blogger in your role.

I read and listened to the information you provided in the two interviews and I identified activities and issues that may apply to you. I would be grateful if you could confirm that the information identified is accurate and reflects your experience. If not, please edit accordingly:

Reasons for blogging:	Does it apply to you? (type Yes or No)
As a teaching tool, in addition to the module book	
For reflection	
Other reasons you can think of?	

Contribution of blogging to learning in the profession:	Does it apply to you? (Yes or No)
Blogging encourages social interaction and support	
It helps teachers to develop ideas for their practice	
Other activities developed through blogging?	

Challenges/problems:	Does it apply to you? (Yes or No)
It can be time-consuming	
Other challenges you identified?	

Appendix 9: List of artefacts collected

Below is the list of artefacts collected for each participant:

Participant no.	Pre-interview table	Unstructured interview	Blog analysis (text and/or images)	Semi-structured interview
1	X	X	X	X
2	X	X	X	X
3	X	X	X	X
4	X	X	X	X
5	X	X	X	X
6	X	X	X	X
7	X	X	X	X
8	*	---	X	X
9	X	X	X	X
10	*	X	X	X
11	X	X	X	X
12	X	X	X	X
13	X	X	X	X
14	*	---	X	X
15	X	X	X	X
16	X	X	X	X
17	X	X	X	X
18	X	X	X	X
19	X	X	X	X
20	X	X	X	X
21	X	X	X	X
22	X	---	X	X
23	X	X	X	X
24	*	X	X	(brief exchange by email only)
25	X	X	X	X
26	X	X	X	X

*the researcher filled in the data where information was collected from other data sets

Appendix 10: Illustrating data analysis

Each box illustrates how each analytical method was applied to an extract of raw data:

Box 1: Applying descriptive phenomenological analysis

Unstructured interview response of a research student (P3):

"Please tell me about your experience with blogging: how do you feel the blog helps you in your role?"

I see my blog as my personal research diary. I make it public for two reasons: (a) I want to experiment writing a diary online (it's a first for me); and (b) I want to experiment with it being public. I try not to let the fact that it's public influence me (although I can't help think of the audience who might read it when it comes to protecting participant data, for instance). In a way, I'm forcing myself to expose my work in a way that I wouldn't normally choose to do were the tools not there, available, to do that. I think this helps me in moving my research forward, especially in terms of understanding the 'me as a researcher' bit of it.

The other intention of making it public is to have feedback from people, more interaction with others who might have thoughts on what I do (to feel less lonely?). Unfortunately, that hasn't worked the way I would like it too, so I guess that's one of the negative sides of my blogging.

I must admit that there's a therapeutic aspect to my blog. I mention frustrations to let off steam, and happy things to reinforce positive aspects and motivate myself.

Writing in the blog also forces me not to forget that I'm doing a doctorate and that I must keep working on it (it's like waking up the voice of my conscience about it).

Finally, and this has definitely been very positive, I use the blog to record events and feelings related to my research. This is a way of keeping a record of incidents, which helps me when I need to refer to them in my thesis.

Meaning-unit analysis:

Original text	**Description by meaning-unit (less idiosyncratic)**	**Psychological significance (the essence of it)**
(1) I see my blog as my personal research diary. I make it public for two reasons: (a) I want to experiment writing a diary online (it's a first for me); and (b) I want to experiment with it being public.	For P3, the blog is a personal space to support his work but also public, he deliberately wants a public diary because it's a new experience for him	(1) + (2) + (3) P3 begins to blog for a need to have a personal and a public space to support his research. He is new to presenting work to an audience and he perceives this to be an experiment. This novelty provokes some fears and anxiety about the audience, but he perceives this effort as being beneficial in his development as
(2) I try not to let the fact that it's public influence me (although I can't help think of	Despite his intentions of staying detached from the audience's influence, he recognises that the	

the audience who might read it when it comes to protecting participant data, for instance).	readers may play a significant role in the way he blogs	a researcher in the longer term.
(3) In a way, I'm forcing myself to expose my work in a way that I wouldn't normally choose to do were the tools not there, available, to do that. I think this helps me in moving my research forward, especially in terms of understanding the 'me as a researcher' bit of it.	He is reluctant to present his work publicly, but he tries to as he feels the blog may be beneficial in the development of his research project and of being a researcher	
(4) The other intention of making it public is to have feedback from people, more interaction with others who might have thoughts on what I do (to feel less lonely?).	He identifies a second reason for 'forcing' himself to present his work publicly: he feels lonely in his research journey and considers important to exchange ideas on his research with other people.	At the start he thought that the blog could help him to get out of the isolation he experienced as a researcher.
(5) Unfortunately, that hasn't worked the way I would like it too, so I guess that's one of the negative sides of my blogging.	However, he is disappointed in that interaction didn't happen in the way he hoped	The social interaction he expected through blogging didn't happen and he highlights this as one disappointing aspect of his experience
(6) I must admit that there's a therapeutic aspect to my blog. I mention frustrations to let off steam, and happy things to reinforce positive aspects and motivate myself.	He recognises one positive aspect of blogging: it has a therapeutic effect. Blogging about the good and the bad in his research experience helps him work out his frustrations.	P3 identifies a positive aspect in his experience as a research blogger. The therapeutic effect he sees of blogging helps to maintain his motivation.
(7) Writing in the blog also forces me not to forget that I'm doing a doctorate and that I must keep working on it (it's like waking up the voice of my conscience about it).	Blogging also has a reinforcement aspect: it increases his motivation and maintains a self-discipline.	Another positive aspect is that blogging has a reinforcement effect: it helps P3 to main his self-discipline
(8) Finally, and this has definitely been very positive, I use the blog to record events and feelings related to my research. This is a way of keeping a record of incidents, which helps me when I need to refer to them in my thesis.	The most positive aspect he recognises in his blogging experience is that the research process he documents on his blog will help him in his thesis writing	A third very positive aspect of blogging is that he recognises it will also help him in his thesis writing.

Individual structural description:

#1 Why do educators and researchers engage in blogging?

P3 begins to blog because he wants to have a personal and a public space to support his research.

He is new to presenting work to an audience, and so for him this is an experiment at writing and thinking ideas on a public forum. This lack of familiarity costs him effort because this 'experiment' provokes some fears and anxiety about writing in front of an audience, but he perceives this effort as worthwhile because he feels that blogging can be beneficial in his development as a researcher. He also feels isolated in his experience as a researcher and hopes that blogging will help him to get out of such social isolation

#2 The contribution of blogging to educators' and researchers' learning in the profession?

P3 identified three positive aspects in his experience as a research blogger. The therapeutic effect he sees of blogging helps to maintain his motivation. It also has a reinforcement effect: it helps to maintain his self-discipline and finally he recognises it will also help him in his thesis writing.

#3 The challenges of blogging for educators and researchers

One challenge he experienced at the beginning was the fear and anxiety about writing in a public forum, being new to blogging. Later, despite his initial hopes, the social interaction he expected through blogging didn't take place and he was disappointed about this aspect.

Box 2: applying discourse analysis (ethnography of communication)

P7's blog

Components of communication:

Genre	personal blog
Participant	female educator and researcher
Message form	textual verbal, occasional visual verbal, British-English
Setting	online, participant's personal blog
Topic	written thoughts on her experience as an educator
Key	serious but mostly informal
Act sequence	in monological form, but the blogger often encourages opinions and feedback, most posts do not follow a fixed/recurring structure, but quotations and hyperlinks to external resources are used to support arguments made
Rules of interaction	interaction is evident within the posts, containing requests for contributions, and in the high number of comments mostly consisting of two-way exchanges with the author and readers
Norms of interpretation	author's control of personal content, author's knowledge of content blogged which varies but mostly about one broad topic (i.e. HE teaching)

Analysis:

P7's blog is characterised by long posts which appear well-thought, with her claims being supported by evidence, but unlike most publications in academic journals, her posts are written in first person, the evidence used usually comes from other blogs or online non-peer-reviewed resources, and she regularly addresses an audience, imaginary or otherwise (e.g. *It Gets Better: how vocational educators can stay sane and relevant in H.E.* 1/11/2010, a post explicitly targeted at one group of readers, HE educators, in which she lists suggestions in the form of guidelines for a better experience of the profession,). Perhaps not surprisingly, one of her first blog posts is about relating to an audience, although focused on physical settings.

The main participant in the blog is the author, with regular reference to an audience or contribution from readers through comments. The language written is UK English, discursive, occasionally using informal expressions. The key is serious but not as rigorous and formal as in traditional peer-reviewed academic publications. The expressions used across the blog are sometimes informal/colloquial and friendly, as noted by the use of exclamations, occasional irony, rhetorical questions, actual questions directed to an audience. Interaction is evident and an explicit goal in her posts. As for norms of interpretation, the amount of the author's knowledge of the topics she discusses varies, with very occasional reference to her main subject specialism which she has advanced knowledge of (i.e. cognitive psychology), although almost all postings focus on issues related to her second interest i.e. HE education. Here she draws from both personal knowledge (direct experience) and outside knowledge (other people's blogs, online resources).

Box 3: applying saliency analysis on visual blog data

Extract of analysis of P12's and P14's blog

P14's blog:

Description of visual data (equivalent to transcription of written data)

June 2010:
10 visual media embedded in blog posts, of which three are pictures/images, one diagram and six vodcasts.

Datum 1: picture illustrating content described in the post, explicitly addressed at the audience
Datum 2: video of author interviewing his line managers and colleagues about issues related to his research interests. The blog post in which the video is embedded gives a brief summary of the content of the video
Datum 3: series of screenshots in the same post depicting the agenda of conferences running on consecutive days. Information directed at readers
Datum 4: graph illustrating the description of an event reported on the blog post
Data 5-9: vodcasts showing different contributions to an online academic conference, the blog post gives a written caption of what each video shows
Datum 10: tag-cloud illustrating the adjectives given by participants to a survey to describe their impressions of a conference, the written part of the blog post described in detail the results of the survey

July 2010
15 visual media embedded in blog posts, one slidecast, six pictures/images and seven diagrams/charts/graphs

Datum 1: slidecast illustrating an online seminar on the blogger's research interest. The blog post which embeds it provides a description of what the slidecast is about.
Datum 2: photograph which illustrates a metaphor described in the blog post about money and funding in HE i.e. the picture of a cup of coffee illustrating ideas about projects for the price of a coffee
Datum 3: picture which is not strongly related to the content of the blog post i.e. a picture of a building, probably the university building, embedded in a post about online conferences
Datum 4: picture of a tag-cloud illustrating the adjectives given by participants to a questionnaire about their impressions of a conference, the written part of the blog post described in more detail

the results of the survey
Data 5-12: charts/diagrams/graph illustrating the further results of the questionnaire. The blog post briefly describes what was the aim of the questionnaire.
Data 13-14: photographs which illustrate a metaphor described in the blog post about barriers to learning environments i.e. the picture of a weed illustrating weeds as such barriers
Datum 15: picture used to illustrate a metaphor in the blog post i.e. a picture of the bread section in a supermarket to illustrate the argument that open access is not like stealing bread

P12's blog:

March to November 2010: 11 examples of visual media, of which two are vodcasts, eight are photographs and one is a cartooned image

Datum 1: photo of blogger making a presentation at a conference, described in the blog post
Datum 2: cartooned image of a videogame relevant to the blogger's research project
Datum 3: photo capturing a moment of an exhibition / non-academic conference, focused on the blogger's field of research, the exhibition is described in detail in the post
Datum 4: video capturing a moment of the exhibition
Datum 5: blogger playing a game at the exhibition
Data 6-7: photos of moments of a seminar the blogger attended, the post describes the seminar in chronological detail
Data 8-10: three photographs capturing moments of a festival the blogger attended, focused on the blogger's research interest
Datum 11: a trailer of a new game announced at said festival and described in the post

Coding and analysis:

Code	Important and recurrent	Important but not recurrent	Not important but recurrent	Not important and not recurrent
Images appear regularly e.g. in nearly every post			X (P12 and P14)	
Images are relevant to textual content	X (P12 and P14)			
Images are not or barely related to textual content		X (P12 and P14)		
Images supply additional information	X (P14)	X (P12)		
Images reiterate textual information	X (P12)	X (P14)		
Images illustrate metaphors discussed in text			X (P14)	X (P12)
Images are not explicitly directed to readers		X (P14)		
Images are directed to readers	X (P12)			

	Recurrent theme	Salient code
The relevance of images to textual content	x	x
Images used to provide additional information,	x	x

supporting textual content		
Images used to reiterate/echo written information	x	x
Images used to illustrate metaphors described in blog posts		x
Images targeted at readers of the blog	x	x
Images are not explicitly addressed to readers		x

Both P12 and P14 make use of visual media on their blogs albeit in different ways. Both bloggers use images which are relevant to the issues discussed on their blog posts. The visual media may have different functions: they can be used to illustrate and break up long pieces of textual description of an issue or event associated with the blogger's research interest; they may reiterate or reinforce aspects discussed in the blog post, the images may even supply additional information introduced in the blog post.
However, P12's use of image is mainly to reiterate what is described in the blog post whereas P14 mostly uses images to provide additional information. P14 occasionally reiterates the information supplied in the text but he does so when he uses metaphors to describe issues related to his field of research: the images illustrate such metaphors although are not essential to the meaning of the blog post. P12's blog is more descriptive and does not make use of metaphors. The images in P12's blog are not essential to understanding the content and meaning of her blog posts. However, being her posts long, they help break large pieces of text.
P14 in most cases explicitly addresses readers when he is putting an image, and he describes it beforehand. It gives the impression that the images are there to aid the readers' understanding. P12 does not always introduce and describe the images, these are often placed in between a description of an event or issue pertinent to the image, but never explicitly addresses an audience.

Box 4: applying inductive thematic analysis

Interview transcript	Coding (the segments in bold are concepts/ low-level themes summarising the codes)
R: Has it ever happened to you that your relationship with other people, your line managers, colleagues, supervisors, became problematic as a result of your blogging? P16: no there's nothing I'm doing in it at this stage that would I think lead to antagonism. I suppose the obvious thing would be, I **cannot** [P6's emphasis] write about my day job, you know, in the blog, because in a way I keep those identities separate anyway by choice because you know it's at a business school, it's, yeah I can see that if I strained into that territory then I could end up saying some, I might cause antagonism and really, you know, just to making it strictly (focused) onto the reading that I'm currently doing to underpin	**Care in maintaining a reputation (of self, others, workplace)** making attempts not to write about issues which lead to negative reaction inability to blog about day job issues separating the researcher identity from the employee identity danger of causing negative reaction if otherwise blogging only about the research project caring about a safe online environment for the research project

this phase of my doctorate, I think I keep it in a safe space there. I'm...even when I think an article is not particularly good I'm not going to post up the 'don't waste your time with this it's rubbish' I'm more likely not to bother blog on it in the first place	refraining from writing negative reviews of papers (again for not causing antagonism)

The highlighted words in the box are quotations used in the analysis chapters to support a theme or sub-theme/concept. Different colours were used to highlight each theme and concept (with a legend at the beginning of the document) and these were then grouped under the research question they addressed.

Here salmon was used to identify quotations related to the them of 'maintaining a reputation'. Highlighting helped me to better locate the themes from my very large document containing the transcriptions of the semi-structured interviews. It also helped me to save time when searching for the relevant quotations illustrating the themes to be included in the thesis.

Appendix 11: Snapshots of supervisory meetings in SecondLife

Snapshots of meetings with main supervisor in SecondLife. Supervisory meetings were usually held every fortnight and on Friday evenings.