Librarian’s Perspectives on Digital Literacy in Irish Third Level Education

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Abstract

Digital literacy has emerged as a key concept in recent years in Irish third level education. Calls by the Irish government to promote and expand digital literacy have been plentiful, with many academic institutions taking note. Digital literacy has been a fundamental aspect of librarianship for many years now, however, there has been little attention given to librarians on the subject by third level educational institutions in Ireland. As a result, librarians have had relatively little involvement in promoting digital literacy in contemporary Irish education. Therefore, this dissertation examines librarian’s perspectives on digital literacy in third level education in an Irish context. It investigates what digital literacy means to librarians, their opinions on how it should be instructed, the challenges digital literacy faces in third level institutions, and the potential opportunities afforded by the literacy for the field of librarianship. The findings of this dissertation surmise that whilst librarians have a firm grasp on the salient characteristics of digital literacy, and recognise the potential opportunities of the concept, instruction on the behalf of academic libraries is often fragmented and inconsistent. This is due to a number of challenges, such as institutional buy-in, and negative perceptions of librarians. The study concludes that digital literacy in third level education can be improved by librarians through increased collaboration with institutions, and a calculated, strategic plan for digital literacy instruction.
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Abbreviations Used

ARCL – Association of College and Research Libraries
ALA – American Library Association
CILIP – Chartered Institute of Library and Information Professionals
CRILT – Centre for Research and Innovation in Learning and Teaching
DCU – Dublin City University
DIT – Dublin Institute of Technology
DKIT – Dundalk Institute of Technology
GCD – Griffith College Dublin
LAI – Library Association of Ireland
NCI – National College of Ireland
NFETL – National Forum for the Enhancement of Teaching and Learning
NUIM – National University of Ireland, Maynooth
TCD – Trinity College Dublin
Chapter One: Introduction

1.1. Research Aims & Digital Literacy in Irish Higher Education

The aim of this research is to examine the state of digital literacy in Irish third level education from the perspective of academic librarians. According to Zwimpfer (2016), at its most basic level, “digital literacy is about a person’s confidence and ability to use digital devices and the internet to find, evaluate, create and communicate information”. Scholars have noted that digital literacy plays a crucial part in student’s abilities to perform well academically (Mckee-Waddell, 2015), with digital literacy having been deemed an essential life skill required to function and succeed in areas such as employment and civic involvement (Murray and Pérez, 2014). Educators have been tasked with the duty to teach students these abilities to traverse the digital realm in an efficient, responsible, and ethical manner (Bair and Stafford, 2016). However, as Murray and Pérez (2014) note, “at most universities, digital literacy is either taken for granted or assumed to be at an adequate level rather than being assessed, remediated, and amplified”. White et al. (2012, p.3) elaborate on this claim, explaining that digital literacies are commonly developed on a trial-and-error basis, with little, to no support or assistance from educational institutions.

In Ireland, these claims are similarly echoed, with the state of digital literacy at third level higher education described as being, “fragmented, piecemeal, and often unsustainable” (NFETL, 2014). Efforts by Ireland’s governing bodies (Department of Education, 2013; 2014, 2015) have not helped the situation. On the contrary, Oireachtas bodies have added an element of confusion and misunderstanding to the issue. Lord David
Puttnam, Ireland’s proclaimed “digital champion”, has gone so far as to exclaim that Ireland’s digital literacy is broken, and urgently needs fixing (Burke, 2013). As such, it is crucially important to understand the state of digital literacy in third level education so that improvements can be made.

Librarians play a crucial role in third level institutions as “stewards of digital literacies” (Rheingold, 2012), in that they are typically at the forefront of digital and information literacy instruction. However, Karnad (2013, p.4) notes that as technology expands in the academic environment, “students are able to bypass librarians altogether to access information, making the roles and responsibilities of the librarian murky, and without clear standards”. Furthermore, in Ireland, reports by the Oireachtas (Department of Education, 2013; 2014, 2015; Department of Communications, 2013) have ignored libraries in the statewide expansion of digital literacy, deciding to omit librarians in the promotion of the concept. On the contrary, critics have voiced that librarians have a key role to play in the promotion and expansion of digital literacy, not only in third level education, but civil society in general (Karklinš, 2011). Similarly, the ALA digital literacy taskforce notes librarians are extremely well positioned, “to teach the ethical and responsible use of information and communication technologies” (OITP Digital Literacy Task Force, 2013, p.8). As such, it is of paramount importance that librarians have an input in digital literacy instruction. Therefore, the aim of this dissertation is to investigate librarian’s attitudes towards digital literacy in higher education Ireland.

1.2. Digital Literacy Definitions
The earliest examinations of digital literacy define the concept as, “the ability to understand and use information in multiple formats from a wide variety of sources when it is presented via computers” (Gilster, 1997). Contemporary definitions offer a much more pragmatic approach, and include pertinent issues such as security and safety in digital environments, and the ethical and responsible use of digital technologies, primarily The Internet. The UK based company JISC describes digital literacy as, “the capabilities which fit an individual for living, learning and working in a digital society” (JISC, 2014). In compliance with JISC’s definition, Bali recalls that digital literacy is about much more than being able to operate digital technologies (2016). Rather, digital literacy is concerned with the ability to collaborate and communicate ethically and responsibly in the digital realm (Common Sense Media, 2009). JISC’s theoretical model of digital literacy expands on this attitude (see fig. 1), and is perhaps the most authoritative interpretation of the concept, emphasising factors such as career and identity management, digital scholarship, ICT proficiency, and information literacy. A digitally literate person is expected to be able to identify with all of these abilities and skills.
1.3. Contextualisation of Research

In an Irish context there has been relatively limited research carried out on digital literacy in third level education. Furthermore, research focusing on the link between libraries and digital literacy in third level education has been both insignificant and negligible. The researcher performed a comprehensive review of the literature to verify this. In the UK, which has a similar educational structure to Ireland, the literature suggests that librarians play a crucial role in the administration and promotion of digital literacy in third level education (Reading University, 2012; Cardiff University, 2013b; Smith and Thompson, 2015).
Therefore, it is reasonable to suggest that librarians in Irish third level education can play a similar role. As such, this research will explore librarian’s perspectives of digital literacy in several third level institutions to expand the literature on this topic. As Ireland’s educational structure is quite unique, there is a need to investigate all manner of third level institutions. These include, state-funded universities and technical institutions, semi-private institutions, and private colleges. The analysis of a varied mix of institutions will not only attempt to fill the gap in the literature regarding the state of digital literacy in Irish universities, but also the state of digital literacy in semi-private and private colleges, where the literature is also lacking.

1.4. Research Objectives and Questions

As previously mentioned, the span of research concerning librarian’s perspectives towards digital literacy at third level education has been minimal. Therefore, this dissertation will investigate librarian’s perspectives towards digital literacy in third level education. It will seek to uncover the attitudes, opinions, and views held by librarians with regards digital literacy. Whilst there is no formal hypothesis, this dissertation will serve as an exploratory study in order to find out “what is happening; to seek new insights; to ask questions, and to assess phenomena in a new light” (Robson, 2002, p.59). In other words this dissertation will look to portray “an accurate profile of persons, events, or situations” (Robson, 2002, p.59).

To expand upon the literature on this topic, this dissertation has four research objectives. Included also are the research questions that will be utilised to achieve these objectives:
1. To clarify librarian’s attitudes towards the ambiguous nature of digital literacy in higher education institutions.
   - How do librarians define “digital literacy”?
   - What are librarian’s opinions on digital literacy frameworks?
   - Are librarians suitably positioned to promote digital literacy?

2. To examine the current state of digital literacy instruction in higher education institutions.
   - Is there a formal strategy from libraries currently in place for digital literacy instruction?
   - Is there digital literacy instruction currently being delivered in third level institutions?
   - What key factors are covered in digital literacy instruction?

3. To identify the challenges in integrating digital literacy in higher education institutions.
   - Is there cooperation from faculty with regards digital literacy?
   - What effect do perceptions of librarians have on digital literacy?
   - Has the digital divide impacted digital literacy instruction?

4. To highlight the potential opportunities of digital literacy for librarians in higher education institutions.
• Does digital literacy have the potential to overtake information literacy in libraries?
• How is digital literacy redefining the roles of librarians?

1.5. Research Approach

The approach to this dissertation will employ several steps:

1. Introduce the concept of digital literacy and the aims of the dissertation, and the need for research to be undertaken in an Irish context.
2. Develop research objectives to investigate and satisfy the dissertation aims.
3. Perform a thorough and comprehensive literature review to identify the gaps in the research on the topic.
4. Compile suitable research questions that will help to explore the gap in the literature and satisfy the research objectives.
5. Choose a suitable methodology to explore the chosen research questions.
6. Select an appropriate list of interviewees for the dissertation and transcribe each interview for data collection purposes.
7. Analyse and interpret the findings of the data, and compare and contrast with the existing literature on the topic.
8. Offer a list of recommendations for future research on the topic.
1.6. Dissertation Structure

The dissertation will be divided into nine chapters in total. The first chapter, as has already been described, will introduce the concept of digital literacy and a statement of the problem in Ireland. It will then explain the research aims and objectives of the dissertation. Chapter two will discuss the methodology used in undertaking the research topic; its suitability and application. Chapter three will detail a comprehensive review of the literature on the research topic, subsequently highlighting the gaps in the literature that the dissertation intends to fill. Chapters four, five, six, and seven will detail the findings and analysis of the primary data collected. Each chapter will be mapped to its respective research objective so as to give a clear indication of what is being addressed. Chapter eight will surmise the findings and interpretation of the preceding four chapters, conclude the research, and subsequently offer a number of recommendations for future research. Chapter nine will serve as the reflective piece of the dissertation, detailing the experiences and lessons learned by the researcher through the dissertation process.
Chapter Two: Methodology

2.1. Introduction

McQueen and Knussen (2006) explain that, “research on any topic aims to describe a phenomenon or a process that has previously been inaccessible or only vaguely understood”. This chapter will cover all aspects of the chosen methodology for this proposed dissertation. Saunders et al. (2007) outline the systematic approach that must be followed when undertaking any type of research. Therefore, Saunders’ research onion (Fig. 2) will inform the overall methodology used to research this dissertation. The chosen methodology will be a qualitative, case study approach, based upon the fundamental ideas of phenomenology, interpretivism, and induction. This chapter will cover the following areas of the research design:

- Research philosophy.
- Research approach.
- Research strategy.
- Data collection methodology:
  - Data collection techniques, population sampling, data collection tools and data analysis.
- Research ethics.
- Methodology limitations.
2.2. Research Philosophy

Saunders *et al* (2007, p.102) note that the chosen research philosophy is determined by one’s particular view of the relationship between knowledge and the process by which it is developed. The chosen research philosophy will dictate the overall course, direction, and manner, of the chosen methodology for this dissertation. Consequently, this dissertation will borrow from elements of the philosophies of phenomenology and interpretivism. These two philosophies are most suitable for this dissertation as they are concerned with analysing people’s thoughts, feelings, attitudes, and opinions.
2.2.1. Phenomenology

The overarching philosophy for this dissertation will be rooted in the intellectual tradition of phenomenology. Holloway (2005, p.47) explains that the ultimate goal of phenomenological research is, “to understand the lived experience from the perspective of the respondent”. Saunders elaborates that phenomenology is concerned with the way in which we as humans make sense of the world around us (Saunders et al., 2007, p.107). This philosophy is also closely aligned with studying a small number of subjects to develop patterns and relationships of meaning (Creswell, 2003, p.15), which lends to the overall research design of this study.

2.2.2. Interpretivism

This dissertation will also employ an interpretivist approach, which is also most suitable in addressing the proposed research question. Interpretivism advocates that it is crucial to understand the differences between humans un our roles as “social actors”(Saunders et al., 2007, p.106). Scott and Morrison (2006, p.131) note that the researcher is constantly engaged in a process of re-describing and reconstructing interpretative processes, thus turning lay accounts into social scientific explanations of social phenomena. As this dissertation is looking to uncover and investigate perspectives, feelings, and attitudes, this philosophical approach is most suitable (Williamson, 2002, p.31).
2.3. Research Approach

The chosen research approach for this dissertation will be an *inductive* approach. As there is no formalised hypothesis, this approach will be most suitable and beneficial for this dissertation, as an inductive approach is based around collecting facts about activities, and then “combing, compressing, and synthesising those facts into a coherent theory” (Scott and Morrison, 2006, p.129). Saunders *et al.* (2007, p.118) elaborate, commenting that the resulting analysis of data can serve as the basis for the formulation of theory. As previously mentioned, this dissertation will be an *exploratory study*, hoping to find out “what is happening; to seek new insights; to ask questions, and to assess phenomena in a new light” (Robson, 2002, p.59). This fact means that an inductive approach is the most fitting, as there are no existing theories available from which to deduce hypotheses (Monette, *et al.*, 2013, p.35).

2.4. Research Strategy

A *qualitative* research strategy is the most suitable with regards the proposed dissertation topic for a number of reasons, as outlined by Hair *et al.* (2015):

- Because little is known about the research problems and opportunities.
- Previous research has only partially or incompletely explained the research question.
- Current knowledge involves subconscious, psychological, or cultural material that is not accessible using surveys and experiments.
• The primary purpose of the research is to propose new ideas and hypotheses that can possibly be tested with quantitative research.

2.4.1. Case Study

In line with this qualitative approach, this dissertation will employ the use of a case study strategy in order to collect the necessary primary data. A case study may be defined as, “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence” (Robson, 2002, p.178). It is an attempt to investigate the “naturally recurring situations in which variables are not, and cannot be controlled”(Scott and Morrison, 2006, p.17). The case study strategy has three major, defining characteristics. It is:

• Descriptive – It has richness and depth and is focused on contextual meaning.
• Heuristic – It illuminates and raises the possibility of new perception.
• Inductive – Hypotheses, relationships, and understanding emerge from the data and immersion.

(Hine and Carson, 2007, p.156)

Furthermore, this case study approach will incorporate multiple cases. The justification for the adoption of multiple cases focuses on the need to establish if the findings of the first case occur in other cases. Consequentially, this will bolster the research design as a more definitive, unambiguous, and conclusive approach.
2.4.2. Cross-Sectional

Saunders et al. (2007, p. 155) note that a cross-sectional approach is suitable when the researcher wants to capture a snapshot of a particular process as a particular time. Levin (2006) explains that a cross-sectional approach is validated when there is no formal hypothesis, but rather an attempt to capture the prevalence of the outcome of interest for a given population at a particular moment in time. Furthermore, Saunders et al. (2007, p. 155) note that a cross-sectional approach is typically used in a case study situation utilising interview data collection techniques. Therefore, a cross-sectional approach, as opposed to a longitudinal approach, is the most fitting for this dissertation.

2.5. Data Collection Methodology

2.5.1. Population Sampling

This dissertation will use an exploratory sample, due to the nature and scale of research being conducted. Denscombe (2014) writes that an exploratory sample is used “as a way of probing relatively unexplored topics and as a route to the discovery of new ideas or theories”. This dissertation will utilise non-probability sampling also, which is commonly associated with exploratory, or qualitative research. This is due to a number of facts, namely:
• Because it is not feasible to include a large number of examples in the study.

• There is not sufficient information about the research population to undertake probability sampling.

(Denscombe, 2014)

A purposive sampling frame will be employed, which will allow for the judgement to select cases that will best suited to satisfy the research aims (Saunders et al., 2007, p.230). A total of six librarians will constitute the population sample for this dissertation. These librarians will be chosen relative to their area of expertise, such as information skills librarians, and subject specialist librarians. The idea of this is to get a number of varied respondents from across the field of librarianship, which will result in richer primary data.

2.5.3. Data Collection Approach

Coupled with this case study approach, this dissertation will employ the use of semi-structured interviews, conducted in a face-to-face interview style, as the primary data collection technique. However, if necessary, phone interviews will also be utilised as a last resort. There are a number of reasons for utilising interviews as the primary data collection technique for this research study:

• Interviews enable participants to talk about their own experiences in their own words, resulting in the possible emergence of unexpected data, as opposed to questionnaires which offer a restricted series of questions.
• The interview method can be more insightful in that it provides “perceived casual
  inferences”, rather than the researchers point of view.

• Face-to-face interviews invites access to subtle nuances, allowing the researcher to
  assess the interviewee’s body language, facial expressions, and tone of voice.

(Gratton and Jones, 2004)

The fundamental goal of the semi-structured interview is to encourage the interview to
respond open-endedly, or to answer a question in his/her own terms (Scott and Morrison,
2006, p.133). The interviewee is given the opportunity, and encouraged, to talk freely about
events, behaviour, and beliefs in relation to the chosen research topic (Saunders et al.,
2007, p.312). The semi-structured interview is closely aligned with the research design on a
whole, and is the most effective way to gather the type of rich data necessary for this
dissertation topic. The use of probing questions, which are those that are worded like open
questions, but with a more specific focus and direction will also be utilised to draw out more
interesting responses from interviewees.

2.5.3. Primary Qualitative Data Collection

The primary qualitative data was collected via face-to-face interviews and phone interviews.
Interview candidates were emailed along with a synopsis of the research and what the
interview would entail. Each interview was fully recorded using an audio recorder app on
the researcher’s phone, to be transcribed and coded at a later date. The primary purpose
for the recording of interviews is to create evidence of reliable data, and also as a means to control bias (Saunders et al., 2007, p. 333). Interviewees were chosen relative to their institution, role in their respective library, and involvement in the field of research. Each interview lasted between approximately twenty to thirty minutes long. A list of eleven questions were issued to each interviewee. The nature of the semi-structured interview also allowed the researcher to draw out questions and responses in the moment, resulting in an open-ended discussion with respondents on the research topic.

2.5.4. Data Analysis

Scott and Morrison (2006) note that coding allows the researcher to sort and “break down” primary data, resulting in a “larger picture” of research evidence. For this proposed dissertation, coding was completed after primary data was collected. Saunders et al. (2007, p.415) note that this is necessary when the researcher is unclear of the likely responses, or if there are a large number of possible responses. Saunders et al. (2007, p.416) highlight a number of variables for establishing a codebook that will be used in the data analysis procedure for this research study:

- Establish broad groupings.
- Subdivide the broad groupings into increasingly specific subgroups.
- Allocate codes to all categories at the most precise level of detail required.
- Note the actual responses that are allocated to each category and produce a codebook.
Coding the primary data for this research topic will also provide evidence of the qualitative researcher’s audit trail (Scott and Morrison, 2006, p.33), and will demonstrate accountability and transparency for the primary data.

2.5.5. Population Sample

The participants chosen for the research design were selected with three factors in mind; their institution, their position in their respective institution’s library, their experience and involvement in the research field. Six librarians were chosen in total corresponding with these factors:

1. Isolde Harpur – Subject librarian in TCD
2. Jack Hyland – Subject Librarian in DCU
3. Roisin Guilfoyle – Information Skills librarian in DIT
4. Raquel Ruiz-Cecconello – Information Skills librarian in DKIT
5. Keith Brittle – Information Kills Librarian in NCI
6. Robert McKenna – Head Librarian in GCD

2.6. Research Ethics

There are a number of ethical considerations that must be adhered to in the research study. The overarching ethical concept in social science research is the balance between the
pursuit of truths and the rights of the subjects being investigated (Cohen and Manion, 1994, p.347). As such, there are three guiding ethical principles that will be respected in this dissertation. These are, respect for persons; beneficence; and justice (Wallace and Van Fleet, 2012, p.75). Applied to this research, these principles manifest themselves primarily in areas such as data collection and data analysis. With regards primary data collection, ethical principles such as privacy, anonymity, and confidentiality, will be respected, in accordance with the requests of the interviewees (Cohen and Manion, 1994, p.365). As such, interviewees were open and willing for their responses to be made known and public. With regards data analysis Wallace and Van Fleet (2012, p.85) note that the primary ethical concern here is dishonesty, which manifests itself the fabrication of data, falsification of data, and misrepresentation of the outcomes of analysis. Wallace and Fleet continue that falsification is the alteration of data to achieve a desired effect, and can include techniques such as “cooking” and “cherry picking” of data. These ethical guidelines will underpin all aspects of this proposed research study.

2.7. Limitations of Research

There are three primary limitations to the research design. The major limitation in the methodology of this research is with regards to population sampling. The nature of purposive sampling can be considered “inappropriate” and “speculative”, and issues arise over the “transferability of findings” to other research (Scott and Morrison, 2006, p.221). Whilst this is a limitation, the nature of this dissertation is such that future research can be carried out based on the research findings. The other main limitation of the research was the lack of responses from emails sent by the researcher. Many emails sent by the
researcher were not met with responses. Lastly, time was a major limitation of the research design, due to the fact that the researcher is employed full-time, and also due to the fact that many librarians are not available during the summer months.
Chapter Three: Literature Review

3.1. The Concept of Digital Literacy

3.1.1. Defining Digital Literacy

_Digital literacy is about mastering ideas, not keystrokes._

(Gilster, 1997, p.15)

There are numerous varying definitions of digital literacy, resulting in an ambiguous understanding of the term. Daly (2015, p. 2) notes that as digital literacy has emerged as a key concept in the 21st century, a singular definition has not always been clear. The ever-evolving nature of digital information means that definitions of digital literacy are constantly changing (JISC, 2014). Eshet-Alkalai (2004, p. 94) notes that the indistinct use of the term “digital literacy” leads to “misunderstandings, misconceptions, and poor communication among researchers”. He continues:

The literature is inconsistent in its use of the term “digital literacy”; some restrict the concept to the technical aspects of operating in digital environments, while others apply it in the context of cognitive and socio-emotional aspects of work in a computer environment (Eshet-Alkalai, 2004, p. 103).
Others see the ambiguities of the concept of digital literacy as one of its most salient and unique benefits. These ambiguities “encourage context-dependent interpretations that are socially negotiated” (Higher Education Academy, 2015). Newrly and Veugelers (2009) elaborate, explaining that digital literacy is not a static concept, but an ongoing process that changes with one’s own personal context. Belshaw (2012, p. 17) contends that the term “digital literacies” should be used, which encompasses other literacies such as traditional print literacy, computer literacy, and information literacy, so as to create a more universally applicable concept. As such, instructors and users can tailor their approach to digital literacy to satisfy their own unique needs.

Hague and Williamson (2009) remark that the digitally literate person is able to “read” and “write” in the digital spectrum. However, such a definition is an oversimplification, as digital literacy means much more than an ICT skillset (Nelson, Courier and Joseph, 2011). Martin and Grudziecki (2006) provide a more thorough definition:

Digital Literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others (Martin and Grudziecki, 2006, p. 255).

This definition is a fair representation of the overarching idea of digital literacy, but may appear somewhat abstract in an educational setting. Littlejohn, Beetham, and McGill (2012, p. 547) frame the idea of digital literacy within an educational context explaining that, “by ‘digital literacy’ we mean the capabilities required to thrive in and beyond education, in an
age when digital forms of information and communication predominate”. Reedy and Goodfellow (2012, p. 3) build upon this definition to include aspects such as, “communication, collaboration and teamwork, social awareness in the digital environment, understanding of e-safety, and creation of new information”. For the purposes of this dissertation, a working definition of digital literacy will be borrowed from the UK company JISC (2014) who explain that, “digital literacies are those capabilities which fit an individual for living, learning and working in a digital society”. A clearer understanding of this definition may be observed in conjunction with accompanying digital literacy models and frameworks.

3.1.2. Digital Literacy Frameworks

Similar to the vast number of definitions available, there are numerous theoretical frameworks and models to supplement the concept of digital literacy. CRILT (2009, p. 47) note that a framework is beneficial as it may be regarded as, “an extension of a definition into practice. It is a conceptual tool, a way of thinking about the consequences and application of ideas”. Daly (2015, p. 14) remarks that a framework acts as, “a thinking and framing tool to assist teachers in terms of individualised planning and the meeting of curricular targets as laid out in the curriculum”. The department of education of British Columbia (no date) further elaborates that a framework for digital literacy is highly beneficial because:

“It provides a clearer, more detailed sense of what digitally literate students should understand and be able to do at various levels of their development. The intent is to help educators integrate technology and digital literacy-related activities into their classroom
practice and to provide some basis for the development of assessment tools for the digital literacy competencies (British Columbia Department of Education, no date).

There are a number of key characteristics covered by a multitude of conceptual frameworks. Each framework emphasises the various key attributes of a digitally literate person. Tornero (2004) explains that there are four dimensions to digital literacy:

- **Operational**: The ability to use computers and communication technologies.
- **Semiotic**: The ability to use all the languages that converge in the new multimedia universe.
- **Cultural**: A new intellectual environment for the information society.
- **Civic**: A new repertoire of rights and duties relating to the new technological context.

These dimensions are elaborated upon by several other frameworks such as that of (Eshet-Alkalai 2004), Martin and Grudziecki (2006), van Deursen and van Dijk (2009), and Belshaw (2012). Ferrari (2012, p. 4) includes attributes that cover privacy and safety online, as well as ethics, responsibility in the online realm, and “netiquette”. This framework is more applicable to a third level education sphere. Similarly, Ng (2012, p. 1067) stresses the importance of the “socio-emotional” and “cognitive” elements of a digital literacy framework, which includes factors such as online etiquette, cyberspace safety, and social networking functional literacy (see fig. 3).
Ng’s model represents one of the first attempts to produce a framework that is more holistic in its application. This integrated approach has been adopted by the UK based company JISC, whose framework for digital literacy has been widely adopted by several higher education institutes (AllAboardHE, 2015). Their model (2015) emphasises digital identity and wellbeing as the overarching characteristic of digital literacy, encompassing other factors as illustrated in fig. 4:
For the purposes of this dissertation, the JISC digital literacy framework will be used as a theoretical medium for exploring librarian’s attitudes towards digital literacy.

3.1.2. The European Union

The EU has made a concentrated effort to find and expand digital literacy for some years now, adopting formal policies which outline recommended frameworks and strategies (The EU Commission, 2013). The EU has called for digital literacy to be embedded within
education in as early as primary level (Ala-Mutka, Punie and Redecker, 2008). The EU’s “Europe 2020 strategy” is the culmination of their efforts to achieve this objective (European Commission, 2010). However, critics have voiced that EU measures to promote digital literacy are unrealistic and unsustainable (Hanlon, 2015). Progress with regards digital literacy growth rates have been both underwhelming and unsatisfactory (EU Commission, 2014b). Critics have argued that political leaders within the EU are failing to give digital literacy the attention it needs and deserves (ECDL Foundation, 2012). As a result, numerous digital literacy frameworks implemented in higher education institutions within the EU have been largely ineffective (EU Commission, 2014a).

3.2. Digital Literacy in Libraries

3.2.1. Computer Literacy

Libraries have a rich history of involvement in the field of digital literacy. One of the precursors to the evolution of digital literacy is the concept of computer literacy. Computer literacy may be defined as, “the ability to use technology to improve learning, productivity, and performance, and use specific software applications for well defined tasks, such as word processing, e-mail, spreadsheets, and Internet searches” (Bers, 2010, p. 14). Lowell (1997) notes that the explosion of technology in everyday life and importance of computer literacy fundamentally altered the role of librarians, with Childers (2003) explaining that the demand for computer related training in libraries skyrocketed. Consequently, libraries have been determined as, “the ideal vehicle to provide access and support, and to foster the spread of vital new technological skills” (Lough, 2002, p. 1). The ACRL (2000, p. 3) claims that
computer literacy is concentrated with “the rote learning of specific hardware and software applications”, as opposed to utilisation of technology and computers for problem-solving or critical thinking. These cognitive, and altogether more sophisticated skillsets have helped to give way to the development of another key concept closely associated with digital literacy; information literacy.

3.2.2. Information Literacy

Information literacy may be described as the ability to, “know when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner” (CILIP, 2013). The ACRL issues a more thorough definition of the concept:

Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning (ACRL, 2015).

Definitions of information literacy have been formally recognised and adopted at a national level by countries such as the United States, Australia, New Zealand, and the United Kingdom (Fieldhouse and Nicholas, 2008, p. 52). In the academic realm, information literacy has been seen as a crucially important tool for libraries and users. Information Literacy instruction, “encourages deep, rather than surface learning, and has the ability to transform dependent learners into independent, self-directed, lifelong learners” (Bruce, 2004).

Furthermore, information literacy has been shown to boost the confidence of learners. A
study involving library users who received information literacy instruction showed a 50% increase in proficiency in areas such as evaluating journal articles, identifying a search strategy, and selecting reliable search results (Zhang, Goodman and Shiyi, 2015, p. 943).

However, in recent years, information literacy has come under criticism for its somewhat rigid and isolated pedagogical practices (Špiranec and Banek Zorica, 2010, p. 143), and also its overall failure to embed and ingrain itself in third level institutions around the world (Cowan, 2014, p. 24). Bawden (2001) notes that the concepts of computer literacy and information literacy are interrelated, but distinct of one another, explaining that information literacy is concerned with content and communication, whereas computer literacy is concerned with an understanding of the technology infrastructure. The emergence of the concept of “information literacy 2.0” has also suggested that traditional information literacy is waning in libraries. Tuominen (2007) claims that as new technologies introduce themselves, new literacies are needed to allow users to effectively use these technologies. Ward (2001) suggests that information literacy must become more student-orientated, with instruction that allows students to solve real-life problems in authentic learning environments. Furthermore, Saunders (2008) notes that librarians must collaborate with faculty and course leaders in education to redesign information literacy instruction with the ever-changing technological landscape.

3.2.3. Public Libraries

Real, Bertot and Jaeger (2014) remark that since the mid ninety’s, public libraries have been key contributors to the access of internet-based facilities, as well as champions for providing
the support and training needed to navigate these technologies. The rapid growth and prevalence of technology in public libraries has coerced these public institutions into action. Hobbs (2010, p. 25) correctly analyses why public libraries were spurred into action with digital literacy initiative explaining, “generally, neither children nor adults acquire critical thinking skills about mass media, popular culture or digital media just by using technology tools themselves”. Therefore, as the literature suggests, the burden to provide this support and training has fallen naturally to public libraries. In the United States, one of the leading purveyors of digital literacy in the library community, there have been numerous programs established with digital literacy as a key, if not the key component (Visser, 2013, p. 107), with over ninety percent of public libraries offering instruction of some sort (iPac, 2016). Visser articulates why public libraries are flourishing in digital literacy instruction:

Libraries in communities across the country provide the public with a “triple play” of resources: (1) facilities and physical access to technology infrastructure; (2) a wealth of electronic content; and (3) staffing by information professionals trained to help people to find and use the information most relevant to their needs (Visser, 2013, p. 108).

3.3. Digital Literacy in Higher Education

3.3.1. The Digital Divide

Radovanović, Hogan and Lalić (2015) define the digital divide as a divide not only in access to digital technologies, but a divide in terms of digital literacy skills. Ritzhaupt et al. (2013) elaborate, commentating that the perpetuation of the “digital divide” has also had a wholly
negative impact on digital literacy in third level education. For example, as Braverman (2016) explains, the advent and prevalence of technology in academia has served to exacerbate the digital divide. Margaryan, Littlejohn and Vojt (2011) concur, clarifying that whilst students do have a basic knowledge of technologies, they do not know how to utilise these technologies to support their studies in an efficient and responsible manner. Jeffrey et al (2011) note that student’s overconfidence and over-estimation in using technology severely hinders their development of digital literacy skills. Malloy and Murphy (2009) concur with this theory, commenting that student’s “perceived mastery” of technology has a negative impact on their willingness to improve their digital literacy skillset. However, Thorne-Wallington (2013) contests that calculated digital literacy instruction in higher education can help to close the gap created by the digital divide. In this regard, Dolničar, Prevodnik and Vehovar (2014) elaborate that empowering stakeholders in the digital realm, or improving their digital literacy, can help to shrink the digital divide.

3.3.2. Integrating Digital Literacy

The integration of digital literacy in third level higher education is a key consideration in much of the literature. Voogt and Knezek (2013) note that whilst the integration of digital technologies in third level higher education is considered crucially important, leadership and instruction of these technologies is not always forthcoming. Julien, Tan and Merillat (2013) duly note that cooperation and buy-in from third level institutions, on an organisational and faculty level, is not ample enough. Murray and Pérez (2014) echo this claim, contending that higher education has not fully embraced digital literacy as a core, fundamental literacy, on par with traditional literacies such as reading and writing. They continue; “Awareness of the
growing importance of digital literacy in today’s workplace coexists paradoxically with apparent foot-dragging on the part of many universities in assessment and amplification of these important competencies” (Murray and Pérez, 2014). Littlejohn, Beetham and Mcgill (2012), in line with this reasoning, articulate that third level educational institutions need to place greater emphasis on digital literacy, so as to allow students to thrive in the digital frontier. Mapstone, Buitendijk and Wiberg (2014) note the pitfalls of a reliance on technology without digital literacy training, “A major risk for universities is that they become strategically led by what digital technology can do, rather than requiring digital technology to enhance their educational and research missions within a defined academic strategy”. Kavanagh and O’Rourke (2016) surmise that digital literacy is crucially important for not only the academic and professional advancement of students, but also for their safety in the digital environment.

Another significant challenge, Schmidt (2012) notes that negative perceptions of digital literacy by faculty and students can have a detrimental impact on the integration of digital literacy. DaCosta (2010) warns that, in the same way that higher education faculty have struggled to embrace information literacy, digital literacy is also experiencing similar problems. Nilsen (2012) contends that a fundamental reason for this is the unwillingness of faculty to allow space in student’s academic timetables for digital literacy instruction. Nawaz and Kundi (2010) illustrate that the digital literacy skillsets of students in third level education are being undermined as faculty and academicians are not involved in, nor willing to embrace digital literacy training themselves. Furthermore, perceptions of librarians as “bookish, boring, and quiet” (Majid and Haider, 2008) can result in students not seeking out the help of librarians, even if they drastically require it (Kolowich, 2011).
3.3.3. Digital Literacy Projects

Despite the fact that the literature points out the struggles of integrating digital literacy in higher education (Murray and Pérez, 2014; Voogt and Knezek, 2013), there have been a number of highly successful initiatives undertaken and fulfilled by third level institutions, most notably in the Australia, the United States, and the United Kingdom. Deakin University, in Australia, has successfully launched a unique digital literacy strategy, which covers the salient characteristics of the concept by way of a competent framework, designed by the institution in collaboration with their library (Deakin University, 2015). In the US, Georgia State University (Martinez, 2015), University of Illinois (2008), and Rasmussen Colleges (2015) have all invested heavily in developing digital literacy in their respective institutions. Penn State University have adopted a unique attempt to promote and invigorate digital literacy instruction by embracing the use of digital badges. Digital badges are “virtual representations of a specific skill, ability, accomplishment or competency” (Penn State University Library, no date).

In the UK, there has been similar efforts to integrate digital literacy frameworks into higher education curriculums. The University of Reading has pursued a culture of “digital adoption” in the institute (JISC, 2011), employing a digital literacy framework designed for use by both students and staff (Reading University, 2011). The University of Cardiff has undertaken a digital literacy program also. The “Digidol” project (Cardiff University, 2013c) provides a digital literacy framework not only for graduate students (Cardiff University, 2013b), but also for subject librarians within the institution (Cardiff University, 2013a). Projects similar
to these have also begun in Leeds Metropolitan University (Smith and Thompson, 2015), University of Bath (2011), and The Open University (Reedy and Goodfellow, 2012). As the literature illustrates, digital literacy is clearly an important topic for higher level education. The dedication of resources and manpower to expanding digital literacy suggests that the concept is an important one for third level institutes. Furthermore, creativity, collaboration, and cooperation, are also perquisite requirements for the expansion and success of digital literacy in third level education. Allen et al (2012) espouse that universities take advantage of technologies such as social media to usher creative and collaborative efforts in digital literacy. Wood, Griffiths and Kutar (2015) demonstrate how creative utilisation of digital technologies in course work can foster sound digital literacy practices.

3.3.4. Librarians as Teachers

The explosion and prevalence of digital technologies has afforded new opportunities for the field of librarianship, not least in the area of digital literacy instruction, as Kenton and Blummer (2010) point out. However, Kenton and Blummer do not address the crucial importance of librarians in the field of digital literacy instruction. Sanborn’s insight (2015) is interesting, as she sees the role of the librarian as one of instruction, teaching, and guidance. Burke and Tumbleson (2016) agree with this claim, voicing that librarians have the opportunity to become educators, collaborating with faculty to shape curriculum design. Similarly, and especially with regards information and digital literacy, Bean and Thomas (2010) see the role of librarians as a sort of fusion between that of the traditional librarian and the instructional teacher. Sproles and Detmering (2015) agree, explaining that librarians have become central to the educational missions of their institutions. Martin and Roberts
(2015) note that librarians are in the best position to “teach students the specific set of literacy skills they need to navigate the digital environment”. As the literature illuminates, librarians are in a privileged position to engage with students, taking up the role of the teacher to deliver digital literacy instruction.

3.4. Digital Literacy in Ireland

The literature details that over the last decade or so, there has been quite a push for digital literacy expansion in Ireland. The Irish government has funded numerous reports on the promotion and expansion of digital literacy within Irish society. However, these efforts have been highly unimaginative and uninspiring, whilst also failing to mention the roles of libraries in digital literacy. For example, the Department of Communications, Enery and Natural Resources’ report on a proposed national digital strategy (2013) briefly mentions digital literacy in its thirty-nine page memorandum. A report by the Department of Education (2013) seems to confuse and blur the understanding of digital literacy, frequently equivocating the concept to computer literacy. Furthermore, the report does not include one single reference to librarians or librarianship whatsoever. Another report published two years later by the Irish Department of Education (2015) does clarify a distinct definition and the characteristics related to a digital literacy framework, but again does not include any mention of librarians playing a part in digital literacy promotion, instruction, or expansion.

The absence of librarians and a the lack of a fundamental grasp of the concept of digital literacy is a recurring theme in the literature of the Department of Education’s reports (2014). Furthermore, and perhaps worringly, the Oireachtas seems pleased with the direction with which digital literacy is headed in Ireland, noting that, “professional
development for teachers is going hand-in-hand with the roll out of technology nationally, and that there was a willingness among educators to embrace change in this area” (Oireachtas, 2013). Clearly, the literature suggests that the Irish government do not see librarians as candidates for the instruction and promotion of digital literacy.

The literature outside that of government bodies has been kinder to librarians with regards digital literacy. One report by AllAboardHE (2015) details a thorough and comprehensive review of the state of digital literacy in Irish education. It advocates for a nationally adopted framework in which educators, teachers, and librarians can collaborate to promote digital literacy in higher education. However, Kavanagh and O’Rourke (2016) note that the digital literacy of young people in Ireland’s education system is not at the same level as that of the majority of their European counterparts. The literature informs that digital literacy is a consideration for third level institutions (University College Dublin, no date; University of Limerick, no date), however, there does not seem to be any collaboration with libraries in this regard. It is evident that there are however information literacy frameworks in place in various institutions in Ireland, such as NUIM library (no date), but these frameworks do not mention digital literacy in any capacity.
Chapter Four: Conceptualising Digital Literacy

Research objective: To clarify librarian’s attitudes towards the ambiguous nature of digital literacy in higher education institutions.

4.1. Introduction and Research Questions

This chapter will investigate librarian’s attitudes towards digital literacy as a concept, and determine how the concept digital literacy may be applied in the context of an academic library. The key questions that will be explored are as follows:

- How do librarians define “digital literacy”?
- What are librarian’s opinions on digital literacy frameworks?
- Are librarians suitably positioned to promote digital literacy?

Primary Research Findings

4.2. Defining Digital Literacy

As the literature suggests, defining digital literacy in a library context is a difficult proposition. When asked to define what digital literacy means, answers from interviewees were mixed and somewhat inconclusive. Jack Hyland, the business faculty librarian at DCU, iterated that, “digital literacy is not something you learn and that’s it; its something you’re
always working on, and developing”. Jack also supplied a very assured and comprehensive definition of the concept:

“My interpretation would be something that would include information literacy, but also include things in the digital realm such as savviness of social media, understanding your digital footprint, an understanding of the technologies, and issues such as data protection and privacy”

Roisin Guilfoyle, from DIT, seemed to agree with Jack, offering a similar explanation and emphasising ideas such as one’s digital profile:

“It’s very much about your digital profile, how you behave in a digital environment... your digital profile is incredibly important, as well as your ability to search and use the information you find”

Raquel Ruiz-Cecconello from DKIT library highlighted somewhat similar issues, but did not address the salient qualities of digital identity, rather, defining it as “digital information literacy”:

“Digital information literacy is about teaching students how to deal with online information and find and evaluate the information they are looking for”

Isolde Harpur, subject librarian for English and linguistics in TCD, illustrated a similar point, mentioning that digital literacy remains quite close to information literacy:
“I would still struggle with it; in some cases, I feel it’s been used to replace what we call information skills or library skills training. There was a point where it was all about information skills training, and now it’s digital literacy”

Keith Brittle, from NCI, mentioned that defining digital literacy can be problematic and at times, significantly unhelpful in a library environment:

“I’m a little bit iffy of definitions, I think it pushes people into fancy, theoretical lands that I don’t relate to my workplace. Digital literacy is not always called digital literacy; things can get lost in the midst of what people are talking about”

Similarly, Robert McKenna, head librarian at GCD, questioned the relevancy and utility of defining the concept, arguing that definitions can prove to be very problematic pedagogically:

“You can’t define it because I don’t believe it’s a thing; it’s relative to the context you’re using it at a particular point of time. It’s more existential than functional, I like to think of it as a process of having the opportunity and tools to do something, it’s about the self in this world that is frequently digitally mediated”

4.2. Digital Literacy Frameworks
Similar to responses on definitions of digital literacy, responses to the usefulness and application of digital literacy frameworks were varied, with almost all respondents questioning the practicality of such abstract guides. The researcher posed the question of the validity and usefulness of theoretical frameworks. Jack explained that a digital literacy framework “needs to be a lot less rigid” than previous information literacy frameworks. Roisin from DIT library emphasised that frameworks, whilst having beneficial qualities, must be tailored to the bespoke needs of the institution, otherwise it loses relevancy and utility:

“Digital literacy is as individual as you are, colleges will have profiles and demographics they have to suit, frameworks are good; oceans of paper, triangles and think-tanks are less good... we have all sorts (of demographics) in the library, some of it we need to come up with ourselves”

Keith Brittle offered a similar explanation, remarking that a digital literacy framework was not in use in NCI library for practicality’s sake. He comments; “I supply what I believe is the need”. When further questioned by the researcher if a digital literacy framework constituted information literacy skills with ICT proficiency, he answered in the affirmative. Isolde remarked that a framework, whilst having beneficial qualities, can become quite redundant in practical terms:

“We did at one point have lots of material written up, and we had one of the frameworks, the 7 pillars, and we tried to write our literature around that, but to be honest it wasn’t really brought in. Things are moving so swiftly that you can leave the frameworks behind
you. Increased collaboration has always been important here in trinity, and were doing it in ways that aren’t dictated by a framework”

Isolde continued to explain that another disadvantage to a digital literacy framework is it does not always allow for collaboration from all stakeholders; “Increased collaboration has always been important here in trinity, and we were doing it in ways that aren’t dictated by a framework”. Robert, from GCD commented, “I think you have to have some sort of framework for what you’re doing, I think it’s a useful way of thinking about it”. Raquel from DKIT did not mention a digital literacy framework in place whatsoever.

4.3. Promoting Digital Literacy

When asked if librarians were most suitably positioned to promote digital literacy, all interviewees overwhelmingly answered in the affirmative. Jack Hyland agreed that librarians were suitably positioned to champion digital literacy but warned that it was important for librarians to “not kill it by attempting to own it”. Keith Brittle explained that digital literacy instruction is something that naturally falls to librarians:

“I think so yes, because it is directly related to what librarians have been doing, I don’t see it as something that falls to someone else”

Roisin Guilfoyle echoed a similar sentiment:
“Not only do we have a role, we have a central role, because we’re neutral, because we are not teachers, people you have to call ‘Ms. or Mr’. telling you how it is, we are a safe neutral space”

Robert McKenna also agreed with the statement, and stressed the practicality and universality of digital literacy:

“I do think we have a role, and we can help and assist with faculty and collaborate, and we can take advantage of being exposed to many disciplines, so you can take the experience of one person and bring it to another”

Raquel also seemed to agree that librarians were the most suitable candidates to champion digital literacy but raised issues about factors such as the internet and the availability of information online:

“With everything online, what can we do that’s different from Google… it’s about being the human side of Google”

Isolde Harpur remarked that the promotion of digital literacy in third level education is aided by having a “library champion” in different departments throughout an institution:

“Throughout the years I’ve seen what works is having a library champion in departments, and through personal relations you can get an hour here and there. We did have success for one or two years but as people move on from departments you lose your contact, so it can be quite difficult to keep it going”
The researcher also enquired about perceptions of librarians, not only those of staff and students in third level institutions, but of government bodies promoting digital literacy.

Roisin Guilfoyle offered an explanation:

“They (department of education) have a different agenda; they sacked their librarians. I would think on some lines not mentioning librarians is about not having any librarians as much as not understanding the work that we do, which is incredible”

Raquel, from DKIT library, further elaborated on this point, inferring that outside perceptions of librarians:

“After reading all these government documents, the difference between reality and theory is very big. They may mention us but the reality is not like that”

Analysis and Conclusions

Most respondents felt that conceptualising digital literacy within the context of an academic library is a difficult proposition (Daly, 2015; JISC, 2014), as all interviewees supplied completely different, and somewhat contrasting views. This overall lack of clarity suggests that digital literacy is still an unfamiliar concept to librarians. The uncertainty over what the term actually means results in different levels of engagement with the salient characteristics of digital literacy (Eshet-Alkalai, 2004). For example, some librarians thought of digital literacy as a mere extension of information literacy with proficient computer skills, whereas other interviewees highlighted key digital literacy characteristics such as digital identity,
collaboration, and security and safety online. The continued emphasis of “information literacy” by the majority of interviewees suggests that librarians are not altogether comfortable with discussing digital literacy, instead choosing to refrain to what is familiar to their field; that of information literacy. More familiarity with a definition of digital literacy could perhaps inform librarians of what should, and what should not be covered in digital literacy instruction.

On the other hand, not confining digital literacy to a fixed definition may be seen as one of the concept’s fundamental advantages over information literacy. As the literature clearly indicates (Higher Education Academy, 2015; Newrly and Veugelers, 2009; Belshaw, 2012), respondents felt that the freedom to define digital literacy, depending on the context and needs of the user is one of the salient benefits of the literacy. This was validated by interviewees Robert McKenna and Keith Brittle. This freedom must be seen as a positive for libraries to shape the concept as the see fit, in a way that they never could do with information or computer literacy.

Responses to the utility and practicality of frameworks were somewhat mixed, suggesting that the literature may need to be revised, especially within the field of librarianship (CRILT, 2009; Daly, 2015). Contrary to the literature, librarians are not keen on the idea of a rigid framework that would limit the potential and possibilities of digital literacy (Ferrari, 2012). Rather, it is clear that libraries must tailor their own, unique, bespoke framework, in line with their respective institution’s aims and objectives. This would only serve to add relevancy to the library within the broader academic structure, and increase faculty and institutional cooperation. Furthermore, as the literature suggests, the need for a nationally
adopted framework (AllAboardHE, 2015), is not applicable, nor suitable, for librarians in the field. Rather, these efforts by private and government bodies are seen by librarians as futile and altogether pointless.

All interviewees concurred that librarians were suitably positioned, and adequately trained, to champion digital literacy in third level higher education (Rheingold, 2012). Contrary to the literature (Department of Education 2013; 2014; 2015; Department of Communications, Energy and Natural Resources, 2013), respondents felt that librarians were the most natural and suitable choice to champion the nationwide delivery of digital literacy to third level institutions. Whilst the subjectivity of respondents may be called into question in this regard, the willingness of all interviewees to position themselves as the focal for the promotion of digital literacy suggests that librarians are the most natural fit.
Chapter Five: Digital Literacy Instruction

Research objective: To examine the current state of digital literacy instruction in higher education institutions.

5.1. Introduction and Research Questions

This chapter will identify the current state of digital literacy instruction in third level academic libraries. It will analyse if there is a focused attempt by academic libraries to deliver digital literacy instruction to both students and staff. Consequently, this chapter will uncover if there is digital literacy instruction currently taking place, the manner in which this instruction is delivered, and the institutional buy in to instruction. The research questions to this chapter are as follows:

- Is there a formal strategy from libraries currently in place for digital literacy instruction?
- Is there digital literacy instruction currently being delivered in third level institutions?
- What key factors are covered in digital literacy instruction?

Primary Research Findings
5.2. Digital Literacy Strategies

The researcher enquired if there was any type of formal strategy or policy in place for libraries. All interviewees remarked that there was no formal, calculated policy from libraries in place to support digital literacy instruction. Jack Hyland, Robert McKenna, and Keith Brittle all noted that a digital literacy policy was non-existent in their respective libraries. However, Jack did note that any sort of potential strategy would have to be more inclusive of its users:

“Digital literacy instruction in the future has to be more collaborative with users”

Raquel noted that DKIT library has a policy in place to support information literacy instruction, but not with digital literacy instruction. She elaborates that the policy of DKIT library is “to prepare them (students) for the transition to third level education”. Roisin Guilfoyle from DIT library offered the most positive remark with regards policy implementation:

“There isn’t a policy, there’s the beginning of that, and advice for students. Where we’re at is almost on the cusp of where that (policy implementation) is”

Isolde Harpur felt that while a strategy may be problematic, due to the ever-changing nature of the digital landscape, it does provide valuable, quantifiable evidence:
“If ever you were to have an audit or answer particular questions it would be helpful to have that as a basis”

5.3. Digital Literacy Instruction

Despite the fact that instruction is not established or guided by a formal policy, all of the interviewees inferred that some sort of instruction was carried out at various level. This ranged from informal, ad hoc meetings, to embedded instruction. However, the majority of interviewees did not define their instruction as digital literacy instruction, but rather information literacy instruction. Isolde Harpur iterated that instruction at TCD revolved around one-shot classes:

“We have drop in sessions called library hits, they would be drop in sessions in which students and staff are invited. In terms of the library hits program we’re advancing that (digital literacy) every year”

Jack Hyland articulated that instruction in DCU library was concerned more with information literacy, or library skills, as opposed to digital literacy:

“I do information literacy training, which would come under digital literacy, but I wouldn’t call it as such. The majority of what I do are one shot classes, front loaded towards the start of the semester, generally more library skills, teaching the nuts and bolts of libraries”
Jack also mentioned that most of these library classes were carried out online, on student’s virtual learning pages, whilst there were also sessions carried out in the library itself. Roisin from DIT expressed that digital literacy instruction was not happening, but the beginnings of such instruction were emerging:

“We recently put together a website for research skills, and that will grow, and I hope to develop information on digital literacy, on your digital profile over the coming years”

Roisin further elaborated that she would not call her instruction digital literacy instruction, as she did not cover enough in sessions to justify calling it that. Robert McKenna from GCD details his typical approach to digital literacy instruction, eluding to the fact that collaboration between instructor and user is essential to digital literacy instruction:

“What we had to do on this topic was take case studies and work up the room, you could argue it is artificial because I will prompt them with ideas if they haven’t come up with stuff. People are smart, its just a matter of allowing them space to make explicit what they already know”

Robert was also the only interviewee who offered an insight on assessment with regards digital literacy instruction:

“Assessment should be an authentic activity. Part of the learning is how to engage with technology, which is part of the authentic activity. What I work at is authentic assessment; it’s not a dummy assignment”
Both Raquel and Keith mentioned that instruction in their respective institutions was carried out by the library via an online medium, utilising online video demonstrations, reusable learning objects, and practical tutorials.

5.4. Characteristics of Digital Literacy Instruction

The researcher asked what were some of the key characteristics of digital literacy covered in a typical instruction session. The responses were somewhat mixed. Roisin Guilfoyle and Robert McKenna both mentioned the issue of curating the user’s digital identity. Roisin explained the importance of this concept in digital literacy instruction:

“I think it will be very important to tell generations coming up, the notion of safety and of their digital identity. We want to keep students safe in that (digital environment)”

Roisin continued to elaborate that one of the ways this idea was explored is by encouraging students to blog about their experiences with academic life, so as to raise and nurture their digital identity. Robert McKenna also expressed a similar attitude with regards curating one’s digital identity, pointing out that, “I think we (librarians) have a huge onus to teach civil discourse and empathy in a digital environment”. He continues to mention how this concept is explored:
“I did a lot of work on this, with lecturers, and making them do a project involving digital literacies for education, for pedagogical processes, so that they could become, and identify themselves as a technology enhanced teacher”

Isolde articulated that instruction in TCD does touch on certain of aspects of digital literacy:

“For sometime we would have been teaching things like savvy internet searching, searching beyond google, copyright, things outside the library walls. We have dipped our toe in with stuff like that, with safety and stuff like that, we have sessions on stuff like evaluating websites, and what would come into that is stuff like not being foolish online”

On the contrary, Jack, Raquel, and Keith articulated that they did not cover factors such as security and safety online, or digital identity. Raquel illustrated that DKIT’s instruction was focused more on “information literacy in general”. Keith Brittle also highlighted that these issues were not addressed at NCI; “our focus is on the academic side of things and course specific information, we don’t move into the area of security”.

Analysis and Conclusions

It is clear that digital literacy instruction in Irish third level institutions is not at the same level as other countries such as the United States, Australia, or the United Kingdom (Deakin University, 2015; Martinez, 2015; Smith and Thompson, 2015; Reedy and Goodfellow, 2012). The lack of a clear mandate from libraries and institutions suggests an overall lack of understanding of the relevance and importance of digital literacy in third level higher
education. The absence of any sort of strategy from libraries to embed, promote, and instruct digital literacy directly contributes to irregular and inadequate instruction. It is apparent that efforts which would encourage collaboration and creativity (Allen et al. 2012; Wood, Griffiths and Kutar, 2015) are not currently prioritised in Irish third level higher education. Without any sort of strategic initiative, libraries will have an unbalanced and erratic approach to digital literacy instruction, which will likely be ineffective and destined for failure.

Furthermore, it is apparent that librarians are merely delivering information literacy, as opposed to digital literacy instruction. Contrary to the literature (Špiranec and Banek Zorica, 2010; Cowan, 2014) information literacy still has a part to play in librarianship, and in some cases, takes precedence over digital literacy. This is evidence of librarian’s unfamiliarity with the concept of digital literacy, and their continued reliance and conviction with information literacy. However, the findings illustrate that librarians do understand the salient characteristics of digital literacy that should be covered in instruction. As reviewed in the literature (Ng, 2012; JISC, 2015) factors such as digital identity, online safety, e-security, and responsibility in the online environment were mentioned by various interviewees, suggesting that librarians have a grasp of what is necessary to be included in potential digital literacy instruction. Similarly, as the literature demonstrates (Allen et al, 2012), instruction must be more collaborative and inclusive of all stakeholders is a positive realisation on the behalf of librarians. The rigidness of information literacy instruction, which is seen as one of the literacy’s fundamental flaws, seems like it will not be repeated, at least by librarians, with potential future digital literacy instruction.
Chapter Six: Challenges Facing Digital Literacy

Research objective: To identify the challenges in integrating digital literacy in higher education institutions.

6.1. Introduction and Research Questions

This chapter will highlight some of the key challenges facing digital literacy at third level higher education. It will investigate the common barriers met by librarians with regards digital literacy practices and offer potential solutions for overcoming these challenges. The research questions that will be explored are as follows:

• Is there cooperation from faculty with regards digital literacy?
• What effect do perceptions of librarians have on digital literacy?
• Has the digital divide impacted digital literacy instruction?

Primary Research Findings

6.2. Faculty Cooperation

The researcher enquired if cooperation with faculty regarding digital literacy instruction was forthcoming, and also if there was a feeling of buy-in from institutions as a whole. The overwhelming response was that cooperation, collaboration, and feedback from lecturers
and staff was oftentimes sparse, and on the whole, unforthcoming. Roisin from DIT library illustrated the varying levels of faculty cooperation at that particular institute:

“There are some who think the library has no place in teaching. I could describe the type that could be into the library, but it’s a specific demographic, some faculties are very keen, some who are younger, who are more willing to change; people who are much more rigid tend to view us as not having much to offer”

Jack Hyland, business librarian at DCU, recalled a similar experience, highlighting the unwillingness of lecturers to collaborate with the library regarding digital literacy instruction:

“It’s not something I’ve pushed, and anytime I have broached it, it has fallen on deaf ears a bit with faculty; they’re more interested in the nuts and bolts of having students find the information they need for their course. They’re (lecturers) are not looking for a partner in their teaching”.

Raquel, from DKIT library, shared a similar explanation regarding faculty buy-in, mentioning that the library was not in a position to fully embed or implement digital literacy instruction in the institution, and that lecturers had been “fighting with us for the last five to ten years”:

“We have a program that we offer to the lecturers and then they decide if they want to book a session with us, but we still don’t have the power to be included. Lecturers don’t see us as
something essential, but then they demand a lot from students. Sometimes lecturers just see us as a space for books”

Keith Brittle noted that digital literacy was not a pressing concern for many lecturers in NCI, remarking that, “lecturers themselves don’t want to get involved in that side of things”. However, he did note that he himself, and the library in general, were in constant contact with faculty:

There’s quite a bit of buy in from faculty. They can see the benefits of having someone come in and have that talk with students. I’m in contact with every lecturer in the college, maintaining regular contact with what we (the library) do”

Isolde Harpur mentioned that faculty cooperation was also an issue in TCD, due to time constraints and breakdowns in communication with lecturers:

Departments can be very slow to give over timetable space. There is a crowded timetable for students, lecturers are under pressure as it is, so they don’t want to give over timetable space to anyone else. The lecturers don’t know the library as well as they think. Even if academic staff can’t make the time, they should promote our services to students, and help the students find us”

Robert McKenna explained that in Griffith College, digital literacy instruction was met with faculty cooperation primarily because of the fact that staff members were being assessed as
part of a masters course in training and education. However, similar to the other
interviewees, he noted that faculty buy-in was reserved:

“Staff are becoming more capable themselves at this; I can think of several people who do
this in their own subject, it’s kind of informal, they’re the lecturers in the graduate business
school, or the media school, who teach that stuff, and they don’t want us in, they have their
way of doing it”

6.3. Perceptions of Librarians

The researcher questioned all the interviewees if perceptions of librarians had an impact on
digital literacy instruction and implementation. The researcher approached this question
from two angles; perceptions of students, and perceptions of staff. Almost all interviewees
agreed that perceptions of librarians had some sort of impact. Keith Brittle reflected on
some of these negative perceptions:

“Despite progress and changing times, the word ‘librarian’ has connotations to certain
people, they can’t match digital with the word ‘library’ or ‘librarian. It is principally librarians
involved in the promotion of digital literacy; maybe in people’s minds it’s not a match at the
moment because they are still hanging onto some archaic caricature of what ‘libraries’ and
‘librarians’ are”

Jack Hyland offered a similar viewpoint, contemplating that, “there has to be an awareness
on their part of where it (the library) comes in, and aware of what the library can provide,
even if they don’t know what digital literacy is”. Isolde Harpur echoed something similar, explaining, “It’s a common thing, people are shy about approaching librarians. Not all students know what a library is for”.

6.4. Impact of the Digital Divide

The researcher questioned if the concept of the digital divide, or users who consider themselves technologically capable, had an impact on implementing and instructing digital literacy. Robert McKenna remarked that undergraduate students when first entering higher education are not digitally literate:

“In terms of a student there’s the functionality to learn, to become a college student. The interacting of technology with education is not something that they know when they come into college”

Keith Brittle also examined student’s unwillingness to seek help and instruction from the library with regards digital literacy:

“The main challenge is getting people to realise the help is there. People don’t seek help. I still haven’t got to the bottom of that. People are intimidated by the library desk, and intimidated about asking for help”
Roisin Guilfoyle commented in a similar vein, speculating that students, of all demographics, believe themselves to be technologically sophisticated enough that they disregard digital literacy altogether:

“Students who think of themselves as very tech savvy, and unfortunately they’re not, they’re usually ‘Snapchat savvy’, but they don’t even understand how Google works. Young people don’t want to be told how to do it, and older people who think they know how to do it; you are always trying to pitch to your demographic”

Isolde Harpur concurred with this feeling, mentioning how students coming from secondary level to third level education think they are digitally literate, and that this belief can be detrimental to their academic wellbeing:

“The transition from second level to third level is a very difficult one and some people don’t make it. There is a perception that students know it all but they don’t, they know about their phones”

Analysis and Conclusions

The findings clearly demonstrate that there are numerous challenges and obstacles in the way of digital literacy in higher education institutes. Whilst the challenges recorded in these findings are common for several areas of librarianship, they will likely be exacerbated by the prevalence of digital technologies in todays libraries. As the literature accurately identifies (Schmidt, 2012; Nilsen, 2012; Julien, Tan and Merillat, 2013; Murray and Pérez, 2014), the
biggest challenge librarians currently face is institutional buy-in to digital literacy. It is apparent that in all six institutions that the researcher visited there was a clear lack of interest, cooperation, and discourse, from the majority of faculty. The were several reasons for this. One of the main reasons, contrary to the literature (Voogt and Knezek, 2013), is that lecturers prefer to work independently of librarians, either choosing to cover aspects of digital literacy themselves, or disuse the concept altogether. The researcher surmised that lecturers do not want a partner in their teaching. Another reason for lack of faculty cooperation is that lecturers do not see the library as an essential, or necessary mechanism for the instruction of digital literacy. This was mentioned by several interviewees, suggesting that lecturers do not see the library as having a part to play in digital literacy. Also, the researcher gathered that the interviewees felt that there was a division between the library and the rest of the institution. Whilst this was never explicitly stated in the interviews, the overwhelming feeling was that librarians and lecturers operated independently of one another in third level institutions, making integration of digital literacy incredibly difficult.

Similarly, outdated and erroneous perceptions of librarians by library users has a profoundly negative impact on the integration of digital literacy in higher education institutions. In agreement with the literature (Majid and Haider, 2008), students and staff merely see libraries as a place that lends books and little else. Again, this challenge is not unique to digital literacy, as these perceptions have had damaging effects on several aspects of librarianship. However, these perceptions could result in libraries losing precedence in championing digital literacy. As the literature suggests (Department of Education 2013; 2014; 2015; Department of Communications, Energy and Natural Resources, 2013), stakeholders outside of libraries do not see librarians as the natural stewards of digital
literacy. Therefore, it is of paramount importance that librarians eradicate these perceptions of themselves if digital literacy is to flourish in libraries and third level education in general.

Lastly, as the literature portrays (Kolowich, 2011), it is also apparent that library users consider themselves proficient enough with digital technologies that they do not seek the help of librarians. The literature correctly illustrates that this digital divide, or gap in library users’ digital literacy capabilities, represents a significant problem for libraries (Malloy and Murphy, 2009; Jeffrey et al, 2011). Librarians need to counteract this problem by making users understand that they are not realising their full capabilities regarding digital technologies. Librarians need to increase awareness of the possibilities of digital literacy so that library users can reap the benefits and capitalise on their information needs.

Chapter Seven: Digital Literacy as a Change Agent

Research objective: To highlight the potential opportunities of digital literacy for librarians in higher education institutions.

7.1. Introduction and Research Questions

This chapter will examine the potential opportunities afforded by integrating digital literacy in third level education. This will be primarily explored by questioning if the concept of
digital literacy has the capacity to act as a catalyst in changing the roles of librarians. It will investigate if the potential benefits of digital literacy can present opportunities for librarians to prove their validity in an academic environment. The research questions are as follows:

- Does digital literacy have the potential to overtake information literacy in libraries?
- How is digital literacy redefining the roles of librarians?

### 7.2. From Information Literacy to Digital Literacy

The researcher examined if digital literacy has the potential to overtake information literacy as the primary critical literacy of academic environments. Keith Brittle agreed that digital literacy would eventually render information literacy obsolete due to the ever-evolving nature of digital technologies:

> “Yes I think it’s almost inevitable, you can’t talk about IL now without computers, and that’s fundamentally transformed library instruction. (It will be) either a total transition towards digital literacy, informed by the historical bedrock of information literacy, or a mix of both I think”

Jack Hyland concurred with this statement, referring to the concept as “information literacy 2.0”, and suggesting that digital literacy will eventually overtake information literacy due to the latter’s rigid pedagogical approach:
“A problem with information literacy is it’s too rigid from a librarians point of view, and we need to break away from that. We need to take the riskier approach of looking outside to other literacies, as information literacy doesn’t gel well with pedagogical theory. We need to get away from information literacy and focus more on knowledge creation”

Jack further elaborated on the possibility of digital literacy displacing information literacy as the primary critical literacy in libraries:

“Information literacy isn’t a great, catchy, attractive title, and that’s part of the reason it is being swallowed up by digital literacy; the word ‘digital’ is just more attractive”

Robert McKenna reflected this perspective, explaining that information literacy is “the exact opposite of what it should be”. He continues, commenting that information literacy is not collaborative, but rather confined by its rigidity, and by its nature does not allow for self-directed, independent thought:

“When broken down these things don’t have to be digital, but holistic life skill. It doesn’t matter if they (users) can use the technology if the power relationship remains asymmetric to the extent that they can’t be autonomous”

Isolde Harpur somewhat agreed with the statement, but mentioned that information literacy still has a part to play in libraries, alongside digital literacy:
“I see digital literacy as the natural successor of information literacy, its built on the foundations of information literacy. Things are going out of the library domain and we are partnering up with other people on digital literacy, so we’re leaving behind some of the things that we would have been more focused on (in information literacy)”

7.3. The Changing Role of Librarians

The researcher enquired if digital literacy has the potential to redefine the role of librarians. The researcher questioned all interviewees if librarians were now beginning to be seen as teachers, with regards to digital literacy. Keith Brittle agreed with the question, stating:

“Some librarians find the idea of being a teacher abhorrent. Going forward it should almost be a prerequisite. More and more the role of a librarian is part-teacher; my job description is much more teacher than librarian”

Keith continued to explain how librarians have come to be known as experts, with regards the instruction of digital literacy:

“There’s a movement in the job description of what a librarian does, that incorporates digital literacy. I see the evidence of that in the work I do, when you get into lectures and dealing with students, you’re instantly referred to as the expert”.
Isolde Harpur strongly agreed with the statement, remarking that digital literacy could act as a catalyst in not only transforming librarians into teachers, but wider players in academic environments:

“Some barriers are coming down; some edges are being blurred. For a long time, we’ve been teachers, we want to be seen as people who can partner with academics and deliver content to students”

Robert McKenna remarked that, “librarians should be teachers, part of the function of a library is teaching”, and Jack Hyland also agreed with the statement, but highlighted that “librarians undersell themselves as instructors as opposed to teachers”. Raquel from DKIT somewhat agreed with the statement, commenting that while the role of librarians is indeed changing, the idea of being a teacher is not always welcomed by librarians in the field:

“The role of librarians is changing. (People) still have the idea that we lend books and that’s it. Some librarians will say I’m not a teacher or lecturer and I’m not going to do that. Overall It’s about creating meaning; I’m not going to give you the answer but we will sit here together and have a conversation”

On a closing note, the researcher also asked interviewees if there were any other opportunities afforded by digital literacy that librarians could grasp. Roisin Guilfoyle suggested that digital literacy presented librarians with the perfect opportunity to add
relevancy and significance to their respective fields by “selling” the idea of the library.

Raquel felt the same way, remarking:

“It’s a kind of transition, we have to sell ourselves more. There are different roles, not just one. We can do so many things that we don’t know yet, and we have to really change our way of thinking as librarians”

Finally, Keith Brittle contended that digital literacy would assist in progressing libraries and advancing the roles of librarians in academic environments. He also mentioned the notion of “selling the library”, adding that, “(digital literacy) will help us get the message out there, and make us less sedentary, and more active and mixing with the institution you’re in”.

Analysis and Conclusions

As the literature points out (Kenton and Blummer, 2010), the findings demonstrate that digital literacy has the capacity to redefine the roles of librarians, and expand the field of librarianship as a whole. All respondents felt that digital literacy is the next, logical step in carrying on from information literacy as the primary critical literacy in librarianship. Whilst this transition has not yet happened, the findings suggest that going forward, due to the ever-evolving nature of digital technologies, digital literacy will begin to expand as a key literacy in the field of librarianship. However, respondents did not agree that digital literacy would make information literacy a redundant concept in contemporary library environments (Tuominen, 2007; Ward, 2001). Rather, respondents felt that the shift from information literacy to digital literacy may be seen as a chance for librarians to create a
critical literacy more compliant with sounder pedagogical practices. Most interviewees agreed that whilst information literacy has not essentially failed as a concept in higher education, digital literacy represented a chance to capitalise where information literacy could not. The overwhelming feeling was that digital literacy was a fresh slate for librarianship, and afforded librarians with the change to redefine themselves.

Furthermore, the findings suggest that the role of librarians is being redefined to incorporate elements of teaching and instruction at various levels. As the literature assesses (Sanborn, 2015; Bean and Thomas, 2010; Sproles and Detmering, 2015; Martin and Roberts, 2015), digital literacy has the potential to act as a catalyst in this regard. As librarians have embraced information literacy, they have seen their roles evolve to include strands of teaching. Digital literacy has a great power to further shape librarian’s roles as teachers, due to the pervasiveness and importance of digital technologies in people’s lives. The important question for librarians is whether they should choose to embrace these new roles. Whilst most of the interviewees alluded to the fact that they would welcome teaching or instructor roles, they questioned if their colleagues would feel the same way. What is clear though, is that digital literacy is beginning to raise questions over what it means to be a librarian in contemporary times.

Chapter Eight: Conclusions and Recommendations

8.1. Summary of Research Questions and Answers
This chapter will surmise the dissertations research objectives and the findings of the research. It will then present conclusions on these findings and offer recommendations for future research.

Research Objective One: Conceptualising Digital Literacy

- Q. How do librarians define “digital literacy”?
  - Librarians have not reached a consensus regarding definitions of digital literacy. Most definitions involve elements of digital literacy, but others see the term as a combination of information and computer literacy.

- Q. What are librarian’s opinions on digital literacy frameworks?
  - Librarians see frameworks as a potential drawback to digital literacy. They view frameworks as a possible constraint on the benefits of digital literacy.

- Are librarians suitably positioned to promote digital literacy?
  - Librarians see themselves as the natural candidates to promote digital literacy in third level education, despite reports from the Oireachtas.

Research Objective Two: Digital Literacy Instruction

- Q. Is there a formal strategy from libraries currently in place for digital literacy instruction?
  - There are no formal policies in place by libraries in third level institutions for digital literacy instruction whatsoever. However, librarians do feel a strategy has benefits for measuring progress and success of programs.
• Q. Is there digital literacy instruction currently being delivered in third level institutions?
  ▪ There is some instruction taking place, however, most instruction could be described as information literacy, as opposed to digital literacy instruction. Digital literacy instruction is mostly carried out as an adjunct to information literacy instruction.

• Q. What key factors are covered in digital literacy instruction?
  ▪ The key factors regarding digital literacy covered are security, safety, and responsibility in the digital environment, and curating one’s digital identity and digital footprint.

Research Objective Three: Digital Literacy Challenges

• Q. Is there cooperation from faculty with regards digital literacy?
  ▪ There is little to no cooperation or buy-in from faculty with regards digital literacy.

• Q. What effect do perceptions of librarians have on digital literacy?
  ▪ Overall, perceptions of librarians have a damaging effect on the promotion and instruction of digital literacy. Many people still see librarians as outdated and irrelevant.

• Q. Has the digital divide impacted digital literacy instruction?
  ▪ The digital divide has made the promotion and implementation of digital literacy difficult due to the fact that many library users feel that they are proficient enough with the technologies associated with digital literacy.
Research Objective Four: Digital Literacy as a Change Agent

- Does digital literacy have the potential to overtake information literacy in libraries?
  - Yes. According to librarians, digital literacy will be the primary critical literacy utilised in third level higher education.

- How is digital literacy redefining the roles of librarians?
  - Librarians are being asked to undertake roles akin to teachers and lecturers.
    Although some librarians are not comfortable with this fact, digital literacy is acting as a catalyst to make it so.

8.2. Research limitations and Future Research

The primary limitation of this research was discussing a concept that many librarians were seemingly uncomfortable and unfamiliar with. As the concept of digital literacy is only beginning to emerge in third level academic institutions, and is also relatively new to librarians in an Irish context, eliciting information on the topic was difficult. Therefore, interviewees were at times not talking specifically about digital literacy, but information literacy. Whilst this resulted in problems with data collection, the fact that librarians reverted to talking about information literacy is a finding in itself. Another limitation was the relatively low population sample who were interviewed for the primary data collection. As this dissertation is based on qualitative research, the researcher was limited in the amount of data that could be collected. Therefore, it is recommended that this research be utilised as a foundation for future research, and possibility triangulated with librarians from third
level institutes not covered in this dissertation. Finally, it is important to note that the findings of this dissertation represent only a snapshot of the broader research problem, and that more analysis is needed over time.

8.3. Recommendations

This dissertation is intended to serve as a snapshot of the current state of digital literacy in third level higher education institutions, from the perspective of librarians. It has added to, and also enhanced, the relatively low amount of literature on the topic of digital literacy in an Irish context. By analysing and illuminating the current state of digital literacy in third level higher education, this research has highlighted the potential benefits, challenges, and opportunities afforded by the concept. Although there is a general awareness that digital literacy is an important topic, it’s clear that much work is needed to be done on successfully integrating digital literacy into academic libraries, and third level institutions on the whole. Below are a number of recommendations from the researcher that will help to promote digital literacy in higher education.

8.3.1. Increased Collaboration

There needs to be a concerted effort from libraries to engage in increased collaboration with higher education institutions to promote the expansion and integration of digital literacy. It is evident from the research findings that faculty buy-in and cooperation from all stakeholders must be realised so as to successfully integrate digital literacy as a core literacy in third level higher education. Therefore, librarians must pursue a campaign of
unprecedented collaboration with all institutional stakeholders in their promotion, application, and expansion of digital literacy in higher education. For example, in DkIT, there is no collaboration between the library and the digital humanities masters course. A scenario such as this would represent a perfect opportunity for collaboration between libraries and academic departments. On an institutional level, efforts for collaboration could include:

• Attempts by the library to deliver digital literacy instruction that has been tailored to a specific department’s needs. This would allow faculty to see the benefits of digital literacy as programmes could be matched what a student in a particular school does and doesn’t need to know with regards digital literacy.

• Efforts to employ digital literacy as a credit bearing, elective module, to encourage buy-in from students.

• A focus group organised by the library with members of different faculties, to assess institutional awareness and enthusiasm towards digital literacy.

Furthermore, increased collaboration may open up the possibilities of embedding digital literacy instruction in course modules or the curriculum on a whole. Developing mutually beneficial partnerships between libraries and faculty could have massive benefits for librarians. Utilising digital literacy to forge these partnerships seems to be an obvious, and prosperous, avenue. On a national level, efforts by the LAI to engage the higher education authorities to recognise digital literacy as a creditable and necessary skillset, and also engage with the Department of Education to lobby on behalf of librarians would be realistic and achievable attempts by librarians to get their spoke in with digital literacy.
8.3.2. Developing a Digital Literacy Strategy

A calculated effort at developing a strategy by libraries would be highly beneficial in promoting and integrating digital literacy in higher education. The establishment of such a strategy would assist in providing libraries with a chance to define their scope of digital literacy. It would give libraries a chance to map their strategy with that of their respective institutions, which would create a synergy between library and institution. A strategy could include factors such as:

- A digital literacy framework, tailored to the bespoke requirements of the respective institution, and mapped to the institutions overall aims and goals.
- Methods of instruction, to ensure that the delivery of digital literacy is carried out on a continually consistent level.
- The training of library staff so that the salient characteristics of digital literacy are being covered and delivered to library users.
- Modes and results of assessments, so that the library has quantifiable evidence to demonstrate the importance and benefits of digital literacy to all institutional stakeholders.

All this would assist in measuring the impact of digital literacy in higher education institutions, providing libraries with quantifiable evidence to demonstrate to stakeholders the benefits and successes of digital literacy instruction. Consequently, a calculated digital
literacy strategy would help to secure the relevancy of libraries within third level higher education, increasing the chances of funding for future digital literacy projects.
Chapter Nine: Learner Reflections

9.1. Introduction and Researcher Background

This chapter will serve as the reflective portion of the dissertation. As this chapter is dedicated towards the researcher’s personal experiences, it will be written in the first person. My background prior to enrolling in this course was strictly from an arts perspective. I completed a masters programme in American History two years prior. This gave me some prior knowledge and experience on independent research, which informed my undertaking of the dissertation and the course as a whole. I had no experience from working or researching in a library environment prior to enrolling in the course.

9.2. Choosing a Research Topic

Choosing a topic that was interesting enough to maintain my focus and enthusiasm, but also relevant enough to the field of librarianship, was perhaps the most difficult part of the research process for me. My experiences throughout each of the modules undertaken in the course helped in introducing me to a field that I previously had no fundamental knowledge of. However, none of the courses on the programme, despite that fact that I found each interesting in their own way, captivated my interest enough to warrant researching a dissertation on. Whilst I was extremely interested and engaged in the Information Organisation module, I felt that research on this topic was adequately covered by the literature. Instead, my dissertation topic was chosen from my past experiences as a student.
I have always been interested in utilising digital technologies to guide and inform my studies. Linking the field of librarianship to this interest piqued my enthusiasm to pursue it as a dissertation topic. I sought the advice and guidance from several lecturers on the course with regards this topic and was assured that it had the possibility to be not only relevant to contemporary library studies, but informative and interesting to the field also.

9.3. The Literature Review

As I had previous experience writing a dissertation at a masters level, I was already familiarised with the literature review process. The teaching librarian module and both of the research methods modules were very helpful and informative in assisting me to reinvigorate and refine my approach to undertaking the literature review for my dissertation. I found the literature review process both informative and enjoyable in that it afforded me the proposition to work on my own. The ability to work independently appeals to my learning style. The nature of library science is such that researching literature is quite accessible, given that the majority of journals are open access. Furthermore, performing a literature review on a topic which I was mostly unfamiliar with represented a challenge that I immensely enjoyed.

9.4. Carrying Out Primary Research

Obtaining data for primary research purposes was perhaps the part of the dissertation and overall learning experience that I enjoyed the most. Compared to my research in the field of humanities, which was concerned with analysing primary documents and other historical
materials, the experience of carrying out primary research for this particular dissertation was an entirely new undertaking for me. The library management module was an enormous help for me in this regard, as it was my first foray into interviewing librarians in an academic environment. The personal and professional development module and research methods modules also helped me to hone and practice my skills as an interviewer. In terms of conducting the interviews, I now feel more comfortable and competent in directing and engaging in face-to-face interviews. I feel that the techniques that I have learned in this regard can be transferred to other aspects of my professional and academic life.

9.5. Writing the Dissertation

In terms of writing the dissertation, I feel that my past experiences as a researcher, and the modules undertaken in the masters programme drastically improved me as a writer. Every module in the programme required a high standard of academic writing, compounded by self-directed, independent research. Again, the teaching librarian and research methods module helped me in developing my skillset as a writer. All modules encouraged me to explore and develop my academic writing as creatively as I possibly could, whilst maintaining a high level of critical and interpretative thinking.

9.6. Challenges

As previously mentioned, securing interviewees for primary data collection purposes was difficult, due to response rates and time constraints. However, I have learned that engaging in this part of the research process earlier would have made the experience a lot less
stressful. As a learner, I find that I typically work at a quicker rate when working to
deadlines. However, the intensity and workload of this masters programme, compounded
by the fact that I also work full-time, resulted in me having to improve my time
management skills so that I could complete my academic assignments on time and to the
highest possible standard that I could achieve.

9.7. The Reflective Learning Practice

Kolb (1984) explains that it is not sufficient to merely experience as part of learning. On the
contrary, there are a number of key steps, as demonstrated in his learning cycle (See fig);

- **Concrete Experience** - a new experience of situation is encountered, or a
  reinterpretation of existing experience.
- **Reflective Observation** - of the new experience. Of particular importance are any
  inconsistencies between experience and understanding.
- **Abstract Conceptualization** - Reflection gives rise to a new idea, or a modification of
  an existing abstract concept.
- **Active Experimentation** - the learner applies them to the world around them to see
  what results.

(McLeod, 2013)

Kolb couples this line of thinking with his theory on different types of learners, and identifies
four different learning styles (see fig); a convergent, divergent, assimilative, and
accommodative learning style. Sternberg and Zhang (2011) explain Kolb’s four types of
learners; The divergent learning style is most closely identified with learners who are imaginative, they value brainstorming and the generation of ideas. The assimilating learner is best at understanding a wide spectrum of information and abstract ideas and putting it into a logical and concise form. The convergent learner is most suited at problem solving and dealing with technical tasks as opposed to social or interpersonal issues. Lastly the accommodating learner are known for their “hands on” approach, and involving themselves in new and challenging experiences. Honey and Mumford expand upon Kolb’s work (see fig. 5) to include learning styles such as the activist, the theorist, the pragmatist, and the reflector. The reflector learning style can be characterised as follows:

_These people learn by observing and thinking about what happened. They may avoid leaping in and prefer to watch from the sidelines. Prefer to stand back and view experiences from a number of different perspectives, collecting data and taking the time to work towards an appropriate conclusion._

(Mobbs, no date)
9.8. My Learning Type

On completion of this dissertation and MSc programme, I can surmise that my learning type is a mix between an accommodative (Kolb) and pragmatist (Honey and Mumford). This dissertation learning experience introduced me to “hands on” research, and how to apply my research to practical, real-world environments. The research methods module helped me to conclude that qualitative research is my preferred methodology for conducting research. This, coupled with the fact that I enjoy working independently, has made me a
better researcher, and academic writer. I now feel more comfortable in conducting research in a scientific manner, using the skills that I have learned throughout the MSc programme.
Reference List


British Columbia Department of Education (no date) Digital literacy. Available at: http://www2.gov.bc.ca/gov/content/education-training/k-12/teach/teaching-tools/digital-literacy.


Cardiff University (2013b) Developing learning literacies in a Cardiff graduate. Available at: http://digidol.cardiff.ac.uk/files/2013/05/Graduate-Final.pdf.


Penn State University Library (no date) Information literacy badges at Penn State. Available at: http://sites.psu.edu/informationliteracybadges/digital-badges/ (Accessed: 4 August 2016).


Reading University (2011) *Digital literacies and work placements*. Available at: http://blogs.reading.ac.uk/digitallyready/files/2012/10/WRPL.jpg.


## Appendices

### Interview Questions

<table>
<thead>
<tr>
<th>Themes</th>
<th>Questions</th>
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| Chapter 4: Concepts of digital literacy | • How would you define digital literacy?  
• What are your opinions on digital literacy frameworks?  
• Are librarians suitably positioned to promote digital literacy in third level institutions  |
| Chapter 5: Digital literacy instruction | • Is there a strategy in place for digital literacy instruction in your institution?  
• How is digital literacy instruction delivered/carried out?  
• What do you feel are the salient characteristics that must be covered in digital literacy instruction? |
| Chapter 6: Challenges facing digital literacy | • Is there cooperation/buy-in from faculty with regards digital literacy?  
• Do negative perceptions of librarians impact digital literacy?  
• Has the digital divide impacted digital literacy? |
| Chapter 7: Opportunities of digital literacy | • Has there been a shift from information literacy to digital literacy?  
• Does digital literacy have the capacity to transform the roles of librarians? |