

City University London

An examination into the ways that academic libraries can use social media to support information literacy teaching.

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January 2017

Submitted in partial fulfillment of the requirements for the degree of MSc in Library Science

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Abstract

This research provides an evaluation into the relevance of social media tools as a means of supporting the provision of information literacy in academic libraries. It uses the information literacy framework *A New Curriculum for Information Literacy (ANCIL)* developed by Secker and Coonan in 2011 as the basis for examination and draws upon examples and studies from academic research, higher education institutions, and social media platforms. Social media is prevalent within many areas of modern life, particularly amongst younger generations. Therefore, it is important to consider whether it can be an active element to the development of information literacy skills. Typically academic libraries have used social media for marketing purposes rather than to provide study support or as information resources in their own right. This research seeks to highlight that social media platforms can be a valuable tool in developing information literacy skills in university level students. The conclusions drawn from the research provide clear recommendations for academic libraries to utilise social media to further their delivery of information literacy.

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Introduction

In this dissertation I will be examining the ways that social media tools can be used to inform and develop the teaching of information literacy skills in academic libraries. The main analysis for my dissertation will be guided by the information literacy framework *A New Curriculum for Information Literacy (ANCIL)*. This new standard for information literacy was developed by Jane Secker and Emma Coonan in 2011 and aimed to provide a transitional framework for information literacy within an academic setting. I will use the natural structure of this information literacy framework to structure my discussion, alongside examples from higher education institutions and studies from within the academic literature. The social media platforms that I will be focusing on will be Twitter, Facebook and Instagram. I believe that these platforms all offer the opportunity to demonstrate important transferable skills to students, and are widely used by academic libraries and their users. There has been much written about these platforms as marketing tools for academic libraries. However despite the prevalence of material discussing their usefulness and relevance as a marketing tool, there has been relatively little investigation into social media as a tool for information literacy.

The concept of information literacy was first introduced by Zurkowski in 1974. He wrote that: "People trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems" (Zurkowski, 1974, p. 6). Anyone who was not able to satisfy Zurkowski's definition of information literacy was classed as information illiterate, which he estimated was around five-sixths of the US population at the time of writing. Writing in 1974, Zurkowski (p. 23) felt that there was already an "age of information overabundance" and that information users needed practical tools to help them navigate the ever-expanding information climate. His paper advocated for a national initiative to create information literate citizens across all areas of society, and that these skills should not be limited to just the intellectual elite. Zurkowski does not specify that an information literacy program should be linked to any particular system, institution or educational standard, and understands that information is in itself dynamic, and linked to needs which may change in the future. It is also important to note that Zurkowski addressed the role of 'information banks', emerging electronic databases, as contributing to the need to increase information literacy alongside such information technological advances. These technological advances have continued to contribute to the excesses of information experienced today.

As technologies have developed, ideas of what it means to be information literate have evolved, and in 1997 Gilster introduced an alternative concept: digital literacy. In a similar way to Zurkowski, Gilster did not provide a list of skills which would make a user digitally literate, but rather discussed the ideas and awareness which a user may develop. Gilster focused on situating digital literacy skills within a real life context that went beyond formal education - in a similar to the ANCIL framework. Digital literacies employ some of the same ideas as traditional information literacy yet focus more on the ways that users interact with and understand digital systems and environments - such as search engines or the internet - rather than an evaluation of information (Fieldhouse and Nicholas, 2008). The rise of digital and electronic resources within education has led to information and digital literacies becoming entangled and in some cases used interchangeably - it is difficult to discuss information literacy without making reference to digital technologies. Yet, I feel it is important to note the distinctions between these two concepts and my discussion and analysis will draw upon ideas from both areas of research.

Since Zurkowski's introduction of the term information literacy the concept has been explored and redefined by numerous academics, professional associations and institutions - focusing on different styles of information literacy, different user groups, and different experiences. The development of the web in the 1990s has increasingly moved social, cultural and academic life online. In this regard we can see web-based services - and particularly social media - as disruptive technologies which have fundamentally altered the ways that we conduct everyday life. Relationships are formed on dating sites, food and clothing are purchased online and TV and films are streamed directly to mobile devices. Traditional information sources have found new homes in electronic journals and online databases - creating an almost infinite number of information sources. As a result, the skills that need to be developed in order to find, access, use and evaluate information have evolved dramatically from those required for printed materials.

Information literacy skills are taught by most academic libraries, often alongside the practicalities of navigating online library catalogues and discovery tools. Yet as Secker and Coonan (2013, p. xv) explain information literacy goes far beyond being taught how to find a book. Information literacy skills allow people to 'use information to transform their circumstances, create new knowledge and reach their full potential.' This moves information literacy far beyond the setting of an academic library and places it firmly within everyday life and lifelong learning. Developing practical information literacy skills are more important than ever in a society in which government, economic and educational spheres are driven by

information and knowledge. This has prompted the description of modern life existing as an information society - rather than as one fuelled by industry, as in previous generations (Webster, 2005).

Aims and Objectives

The aim of my dissertation is to examine the current and potential use of social media by academic libraries for the purposes of information literacy teaching and skills development. This analysis will be undertaken alongside an existing information literacy framework so as to produce relevant and practical applications for academic libraries who are seeking to make their information literacy provisions more relevant, engaging and useful to their students. My dissertation will seek to address the following research questions:

- Can social media tools help in the teaching of information literacy skills?
- How can academic libraries use social media platforms to support their existing information literacy provisions?
- Can social media help to situate information literacy beyond the higher education setting?
- Should academic libraries teach students to use social media tools as information resources, alongside books and journals?

These questions will guide my research and enable me to draw clear conclusions as to the relevance of social media within information literacy.

I will begin by conducting a literature review which will examine several key areas related to my research in order to better situate this within the current academic literature. I will start by exploring the concept of digital citizens, and how these ideas can help to inform the provision of information literacy by libraries within a higher education setting. This will then move on to a review of traditional approaches to information literacy, exploring definitions and frameworks developed by academics in this field of study. I feel that this will be useful to contrast with my more detailed exploration of the ANCIL framework. My literature review will conclude with an appraisal of the ways in which academic libraries have typically interacted with social media platforms. This will provide a context to the skills and expertise which library and information professionals have developed in this area, and which can be taken forward with regards to using these tools for information literacy teaching.

I will then conduct a close examination of ANCIL as a framework for information literacy, and explore the ways that social media can help to support and situate the concepts developed by this approach. I have chosen to look at ANCIL in particular as I believe it provides a more useful and relevant framework than perhaps the SCOUNL Seven Pillars or the ACRL Framework for Information Literacy, particularly in regards to a higher education setting. This is due to its

transitional nature more closely replicating an academic journey than a series of static standards or skills. ANCIL provides a flexible framework that relates information literacy skills more naturally to a student's academic, social and professional life. Thus it seems particularly well suited to a close analysis in relation to social media. ANCIL is built from ten strands which provide a clear structure for the main body of my research. I will examine each strand in turn demonstrating how social media tools can support, inform or communicate key concepts of information literacy. This will be supported by academic literature, examples of studies undertaken by higher education institutions and current practices within the Library and Information Science profession.

Literature Review

My literature review explores three key aspects related to my research: the role of digital citizens, the history and development of information literacy, and the ways that academic libraries have used social media tools. These three areas provide a useful background to my research highlighting the need for academic libraries to create digitally competent citizens through effective information literacy programmes. The final section of my literature review collates evidence of the approaches taken by higher education libraries towards social media use. This emphasises the gap in the academic literature regarding social media use and information literacy which will be addressed through my research.

To conduct my literature review I began by using the Summon search facility on the City University Library website. I initially used books and ebooks to gain a broader overview of each topic. Once I had identified particular areas within each topic that I wanted to explore further I began more precise searching using databases such as LISTA and ScienceDirect. Some examples of my search strategies are below:

“information litera*” AND (social media OR twitter OR facebook)
(social media OR twitter OR facebook) AND (learning OR teaching)
“digital citizen*” AND “information literacy”

Due to the high volume of materials available on those topics I have not sought to conduct a systematic review but to provide sources which inform and situate my own research within the wider academic climate. As my analysis is focused on social media - a relatively new area of research - I chose to focus my literature review on more recent materials. Therefore I limited the majority of my searches to information resources published within the last ten years. The exceptions to this were when providing a historical context to a topic, for example in the section on information literacy.

I also drew on more informal sources of information such as blogs, written by academic and practitioners within Library and Information Science. I identified these via the academic literature and also through my attendance at professional conferences - such as LILAC (Librarians Information Literacy Annual Conference) and the UKSG 2016 Annual Conference.

Digital Citizens

It is easy to assume that students arrive at University as information literate citizens, particularly in regards to digital information. Information is instantly accessible partly due to the rise in the use of smartphones, and tablet devices; Statista (2016) estimate there to be 42.4 million users of smart devices in the United Kingdom in 2016. Alongside this investments in information infrastructures have lead to mobile and broadband services becoming more reliable, accessible and affordable. Therefore, users can connect to the web almost anywhere in the UK and have the ability to search, create and share information instantaneously on a global level. This is particularly helped by social media networks. However, it is often the case that despite developing information skills in their personal lives, students find it difficult to translate these skills to a more formal setting - particularly that of academic study. It is therefore increasingly important for academic institutions to invest in developing information literacy skills with their students to prepare them for life and work after University. The information revolution continues to disrupt and drive changes in the way that we work, in much the same way as the industrial revolution of the nineteenth century. The skills which are needed to thrive within an information society are vastly different to those required by previous generations - now one must truly become a digital citizen.

Yet ideas of what it really means to be digitally literate are complicated. Secker and Coonan (2013, p. xvi) argue that “young people are increasingly unable to carry out independent research, reluctant to argue and to challenge big idea... instead they readily copy and paste ideas rather than read and critique them”. They suggest that the role of the academic librarian should be to develop students who are driven to independent thought and to critically evaluate the knowledge of others. Academic libraries provide students with access to a wealth of information, and as such they should advise on how best to use this information in a meaningful way that takes them beyond their academic degree. Scheaffer and Little (2014, p. 409) agree and believe that in the age of information overload librarians need to be able to help students make ‘informed online decisions’, particularly in relation to their own online presence and online responsibilities. These ideas go beyond traditional notions of information literacy and institutional systems to provide skills for lifelong literacy.

Many have perceived there to be a digital divide between younger generations who have grown up with digital technologies and older generations who have had to adapt and learn to use these tools. It is often presumed that those starting University are at the forefront of the digital generation, and as such have often been referred to as ‘digital natives’. The term ‘digital

native' was coined by Prensky (2001) as a way of referring to the emerging generation who were growing up with their 'entire lives' informed and influenced by digital technologies. Although now heavily criticised, he argued that the presence of digital technologies from such an early stage in their lives has led to students processing information in a different way to previous generations. He goes so far as to suggest that their brains may have been altered by their digital upbringing and thus the traditional models of education are no longer as relevant, or even accessible for these students. In contrast, Prensky terms those generations who have had to adapt and learn digital skills later in life as 'digital immigrants'. According to Prensky, the divide between immigrant and native had the potential to undermine elements of the education system as the digital skills of the student surpassed those of the teacher. However as technologies developed and the permeation of digital technologies within society was revealed, Prensky (2009) revised his terminology to an idea of digital wisdom. Rather than a focus on two distinctly different generational sets, he presents the digital human. The digital human is not solely driven by learning how to use digital technologies, but also to understand the moral and ethical implications associated with them, and to use these for reflection, development and ultimately, wisdom.

Jones and Shao's (2011) report for the Higher Education Academy provides a useful overview of the literature surrounding the terminology of 'digital native'. Their report refutes some perceptions that all students are arriving at University with a consistently high level of digital skills due to their early immersion to digital technologies, drawing on a comprehensive review of literature and global empirical studies of academic institutions. Likewise, the findings of Jones et al (2010) indicate that the 'net generation' is not a comparable set of students who are unitedly demanding changes to the use of technology in education. They recommend that institutions who wish to adjust their teaching will need to look carefully at the students that they have recruited in order to tailor their services accordingly - for example, taking care not to exclude international students who may not be familiar with UK or Western centric tools. This geographical variation is also an important consideration for social media, as some platforms may not be so easily available to international students.

However, as Jones and Shao (2011) are keen to stress, terms such as digital native can be misleading as they emphasise that the divide is a generational gap rather than related to social, economic, or geographic factors - which are equally likely to contribute to inconsistencies in digital abilities. A higher education institution with a diverse population of students would be remiss to assume that all of their students have comprehensive knowledge of digital technology tools. The digital divide is concerned with the inequality of access to digital infrastructures such

as internet networks and also to digital equipment, such as computers, smartphones and tablets. This may be due to social and economic poverty or due to geographic location - for example rural areas may not have such stable networks as larger cities.

The development of digital citizens is an important consideration for academic institutions who need to ensure that their students are fully prepared for life after university. Academic libraries are well placed to develop these skills alongside more traditional ideas of information literacy. However, they should take care not to overlook the information skills that students have naturally developed through their own experiences of searching, creating and sharing information online - particularly on social media platforms. These informal skills can help to situate and support the progress of more formal information literacy skills.

Information Literacy and Digital Literacy

Information literacy is a popular topic in library and information science studies. A search on the Library, Information Science and Technology Abstracts (LISTA) database returned 4906 items classified with a subject of “information literacy” [search conducted on 15/12/2016]. Information literacy is explained by the Alexandria Proclamation (International Federation of Library Associations, 2005) as the way to “empower people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion of all nations.” It is important to note that in this definition information literacy is perceived as a fundamental right when situated in a ‘digital world’ - tying the ideas of information and digital literacies neatly together.

The SCONUL Seven Pillars of Information Literacy were introduced as a model in 1999 (SCONUL, 1999). This is one of the most well-known information literacy standards in the UK and the original briefing paper suggested that there were seven key areas which should be addressed to make one information literate:

- The ability to recognise a need for information
- The ability to distinguish ways in which the information ‘gap’ may be addressed
- The ability to construct strategies for locating information
- The ability to locate and access information
- The ability to compare and evaluate information obtained from different sources
- The ability to organise, apply and communicate information to others in ways appropriate to the situation

- The ability to synthesise and build upon existing information, contributing to the creation of new knowledge (SCONUL, 1999, p. 6)

These seven concepts form the core of most information literacy frameworks and standards. Critics of the SCONUL Seven Pillars have argued that the model was too focused on acquiring specific skills within a library setting, rather than on the process of contextual learning (Godwin, 2012; Johnston and Webber, 2003; Markless and Sreatfield, 2007). Therefore, in 2011 SCONUL reviewed their model to adapt it to a more modern understanding of information literacy - although the underlying values remained largely unchanged. In order to update the model, SCONUL created 'lenses' which could be applied to the seven pillars to "enable the model to be applied in specific situations" (SCONUL, 2011, p. 3). Additionally, as Mackay and and Jacobson (2014, p. 116) discuss, the 2011 review sought to remove some of the "library-centric focus" and make the model more inclusive of alternate forms of information found outside of a traditional library setting.

Another popular information literacy framework is the Association of College and Research Libraries (ACRL) *Framework for Information Literacy*, published in 2016. This supersedes the *Information Literacy Competency Standards for Higher Education*, originally published in 2000 and rescinded in June 2016. Similarly to the SCONUL seven pillars, the original information literacy standards created by the ACRL focused on five standards by which students were deemed to be information literate - Johnston and Webber (2003, p. 337) state that this approach risks merely becoming a box-ticking exercise. In contrast, the new framework focuses more on what it truly means to be information literate, rather than offering a prescribed set of standards which one must adhere to. The framework is formed of six conceptual frames:

- Authority is constructed and contextual
- Information creation as a process
- Information has value
- Research as inquiry
- Scholarship as conversation
- Searching as strategic exploration (ACRL, 2016)

These six frames offer a view of information literacy which is more closely tied to constructivist thinking and metaliteracy, whereby the student's learning is informed and structured by their own experiences and interests. ACRL hope that their revised framework will support students through their academic education and into their professional life - much like the ANCIL framework (ACRL, 2016).

The shift from print to digital sources of information has disrupted traditional information literacy skills within the academic sector. Students must navigate library discovery systems, online databases and millions of journal articles, all with different interfaces and login routes. Yet, this is not too dissimilar to the ways that students find everyday information outside of their studies. Every website has a different design, for example Amazon looks different to John Lewis, yet there are often constants that we can identify across them which help to navigate them more quickly and easily. The login button will usually be in the top right area of the website, a search box will be central and towards the top, and filters are typically on the left hand side. However, whilst these tools are used confidently in social spaces, when they are transferred to a Library setting they are immediately overlooked. As Wilkinson (2012) states:

“university students are surprisingly adept at finding information... from using Wikipedia to learn about their favourite pop-singer’s time in primary school, to finding health information in Yahoo! Answers, to evaluating mobile phones on Amazon users reviews, students appeal to a range of Web 2.0 information resources in their personal lives. Yet these same students are perplexed by Library resources. Keywords? Abstracts? Boolean searching? Why does it have to be so *hard*?”

By using examples which are more situated within their personal lives we can help students to bridge the gap between academic and social information skills to create a truly information literate citizen.

Godwin (2012) explains that information literacy is too often closely aligned with institutional systems, and will focus on teaching students how to use these Library systems to find information to aid their studies rather than developing skills which can be transferred outside of a specific academic setting. Similarly, Godwin believes that by strictly following frameworks or structures - such as the SCONUL Seven Pillars - academic libraries risk their information literacy provisions becoming inflexible and unadaptive to student needs, particularly as technologies continue to advance. Wilder (2005) also discusses the problems of tying information literacy to Library systems and discovery tools. He considers that academic libraries approach information literacy as a means of countering the information overload that has emerged alongside the rise in electronic resources. Yet Wilder argues that IL doesn’t provide students with solutions to this problem, it tries to push students towards specific databases that librarians have deemed to be important - thus removing students from the search and

decision process. Wilder believes that librarians should use their role to further the education of students from a curriculum standpoint, helping to develop their subject knowledge. I feel that social media could help to play an important role in achieving Wilder's aims in a less formal and more collaborative setting.

Some institutions and academics have sought to counter reservations and reluctance from students and academics about information literacy skills teaching by employing elements of the flipped classroom. Flipped classrooms draw upon technologies such as videos and online learning environments to allow students to have researched ideas before a classroom based session to allow more time to be spent on discussion and interactive exercises (Allen, 2016; Blair, Maharaj and Primus, 2016; Schmidt and Ralph, 2016). There has been a huge increase in the number of mobile apps dedicated to supporting this style of learning, such as quiz apps Kahoot!, and Poll Everywhere. These tools are particularly useful at encouraging student engagement with a topic through quick anonymous answers, presented in visual ways for easy analysis.

Similarly, the gamification of information literacy allows librarians to present more creative ways to develop crucial skills (Boyle, 2012). Gamification is defined by Deterding, Dixon, Khaled and Nacke (2011, p. 9) as being "the use of game design elements in non-game contexts". Advocates of gamification have found that introducing rewards and achievements - such as badges - within information literacy provision and as part of the wider library environment encouraged interaction and interest amongst students (Walsh, 2014; Smith and Baker, 2011; Laubersheimer, Ryan and Champaign, 2016). A more active and creative approach to student learning has clear benefits and enhances retention beyond the teaching session (Doshi, 2006).

Social Media in the Academic Library

The Oxford English Dictionary defines social media platforms as the 'websites and applications' which facilitate the making and sharing of online content (OED Online, 2016). Potter (2012) gives a similar explanation, terming social media to describe any platform on which users can share content. It is this collaborative functionality which appeals to the users of social media. On social media anyone can be an information creator and content that was once produced using technical software is now easily created and made instantly available. For example, videos can be created using a variety of free and paid for apps on mobile devices and shared immediately on platforms such as YouTube, Vine or Instagram. It is important for libraries to

utilise the various formats available to them in order to use social media in the same way as their users are employing them. As Soloman (2013, p.6) explains, users both expect and want to see library social media accounts 'act like real people, talk like real people'. They should be more informal than their official communication channels, and should not be trying too hard to pursue an institutional message or voice which may seem inauthentic and unsuitable on such platforms.

The most popular social media platforms used by academic libraries and their users are Facebook and Twitter (Baggett & Williams, 2012; Brookbank, 2015; Chu and Du, 2013). Duggan, Ellison, Lampe, Lenhart and Madden (2015) found that 71% of internet users considered themselves to be Facebook users, and 23% Twitter users. However, Facebook has far higher usage amongst older users than other social media networks. Despite retaining the crown as the most widely used social media platform, Facebook usage has not seen the same significant growth in users as other channels. Between 2012-2014 the number of Instagram users doubled, while Facebook usage grew just 4% (Duggan et al, 2015).

Facebook is a natural choice of social media tool for academic libraries to adopt, as it has its roots firmly in the world of academia. It began in 2004 as a networking tool for students at Harvard University, but was soon expanded to the wider Boston area, and other universities (MarketLine, 2012). In 2006 it was announced that Facebook would be available for anyone with an email address who was over the age of 13 (Facebook, 2006). Facebook does not impose a restrictive limit to the length of user posts allowing much longer messages than on some other platforms. Users can post statuses to share information with their friends, comment on the posts of others and share posts. In 2008 Facebook launched an instant messaging service, Facebook Chat (Logan, 2008). This allowed users to interact in a more instantaneous and private way.

Twitter was launched in 2006 as a news sharing site and as of October 2016 boasts 313 million active monthly users (Twitter, 'Company', 2016). Twitter users can share short messages, up to 140 characters, with their followers and can share other media formats - videos, photos. In addition to the unique character limit, Twitter also saw the organic introduction of hashtags by its users (Scott, 2015). In 2007, Twitter user Chris Messina (2007) suggested that the Twitter community could use the # symbol to tag messages so that other users could 'eavesdrop' on conversations. In 2009 Twitter began to hyperlink hashtags so that users could search for commonly shared topics - and those most popular hashtags began to feature as trending topics

(Rao, 2009). Hashtags have since migrated on to other social media platforms, such as Instagram and Facebook.

Abbott, Donaghey, Hare and Hopkins (2013) explain Instagram has become increasingly popular amongst university aged social media users. Instagram is one of the newer forms of social media adopted by academic libraries. It was launched in 2010 for Apple device users and in 2012 for Android devices. Instagram describes itself as a “fun and quirky way to share your life with friends through a series of pictures” (Instagram, 2016a). Brookbank (2015) found that students were more likely to follow or engage with their academic library on platforms such as Instagram or Twitter, rather than on Facebook. Duggan et al (2015) found that during 2014 53% of internet users aged between 18-29 were using Instagram. As Anderson (2016) states, academic libraries have begun to see the benefits of using Instagram. It is quick and easy to share visual content with followers, with no character limit and with the opportunity to use hashtags. Those libraries who are using Instagram are embracing hashtags - a search for #librariesofinstagram has 85,077 posts, as of 31/10/2016 (Instagram, 2016b).

Potter (2012) states a simple purpose for libraries to use social media platforms: their patrons are using them. Duggan and Brenner (2012) estimate that 83% of those using social media platforms are aged between 18-29. Therefore, it seems a relatively straight-forward notion that institutions should want to connect with their users on the platforms that they are using, rather than to miss out on these important communication channels. It is important for libraries to see what their users are posting about institutions on these platforms as a means of collecting unofficial, more organic feedback which they have not been encouraged or prompted to complete. Social media allows libraries to connect with their users in a more informal context, and to encourage conversations between staff and patrons which are not always possible through more traditional routes of communications for libraries - such as physical posters, or displays. However, Levesque (2016) and Soloman (2013) both emphasise that user engagement is key to success with social media, and that content should be guided by users. Furthermore, libraries should be open to conversations on social media, even if these are sometimes negative - it is often the case that people will contact an institution far more readily to complain than to praise. These conversations can help to shape services provided and guide institutional policies, with direct input from their users.

It is undeniable that academic libraries have now embraced social media. A Taylor and Francis Group White Paper (2014) found that around 70% of the libraries they surveyed were currently using at least one form of social media, with 13% stating that they were planning to begin using

such tools. The study found that libraries are overwhelming using social media platforms for promoting services, events and resources that the Library offers. By contrast the use of social media as a teaching resource or as a research tool was deemed by librarians to be much less important. This may be because it is simply easier to use social media alongside traditional marketing tools, rather than to try and embed it within teaching or research resources. Yet, the priorities of academic library social media may need to be revised as academic social networking tools, such as ResearchGate and Academia.edu continue to grow and attract new users within the academic community.

However, there are limitations to what academic libraries can achieve on social media. While we may assume that the majority of students are using some form of social media, this is certainly not the case and it is important not to exclude students who are not using such tools. Some special considerations may need to be given to international students, who may perhaps be more familiar with alternative social media networks. Saw, Abbott, Donaghey and McDonald (2013) found that there was variation amongst international students in the social media platforms that they were using for social and academic purposes. They found that Chinese students were using the platform Renren as much as they were using Facebook. Some social media platforms are considered to have more of a Western focus, and in fact may not be accessible to international students when they return home. For example, Twitter and Facebook are not currently accessible in North Korea, China and Iran (Bamman, O'Connor and Smith., 2012).

Main Analysis: A New Curriculum for Information Literacy (ANCIL)

A New Curriculum for Information Literacy (ANCIL) was developed by Coonan and Secker in 2011. This method was designed to be a “practical curriculum for information literacy that would meet the needs of undergraduate students entering higher education over the next five years” (Secker and Coonan , 2013). ANCIL was conceived to be adapted to individual education settings, and less prescriptive than other information literacy frameworks, particularly in reference to digital technologies - and this makes it well suited to support via social media. An important difference between ANCIL and other information literacy frameworks or standards is that it is not a vague theoretical concept or definition, nor merely a prescribed set of skills, but one that is easily applicable to real educational settings with clearly transferable skills. As part of their ANCIL research, Coonan and Secker present a new interpretation of the term ‘information literacy’:

“Information literacy is a continuum of skills, behaviours, approaches, and values that it is so deeply entwined with the use of information as to be a fundamental part of learning, scholarship and research. It is the defining characteristics of the discerning scholar, the informed and judicious citizen and the autonomous learner”. (Coonan and Secker, 2012a)

This new definition offers a similar sentiment to the Alexandria Proclamation regarding the inherent importance of information literacy skills. ANCIL is made up of ten strands which together forms a curriculum for information literacy in academic libraries. The focus on transferable skills to be carried beyond university are well suited to undergraduate students. ANCIL aims to support them from their start of their academic journey until their move into post-university life. However, some strands of ANCIL are also designed to support researchers and academic staff who may need to develop or adjust the information literacy skills they have already obtained.

Strand One focuses on the “transition from school to higher education” (Pavey, 2013). Whilst this transition is frequently addressed by universities in a very general sense - usually in terms of moving away from home and family - it is not often the focus of information literacy. Yet, situating the expectations of study at university level in comparison to previous experiences is a

natural way to explain the progressions required to students. Coonan and Secker (2012b, p.175) highlight that the move from school to university coincides with the “journey from dependent to autonomous learning”. At school or college students will have had high contact hours and much more academic support, and as such the transition to university, with far less contact time with tutors may require adjustment and work. Some A Level courses are now going further to prepare students for the style of studying which they will encounter at university. Courses such as the Extended Project Qualification by AQA have a much stronger emphasis on independent research than traditional A Level courses. In order to complete such projects students will have had to develop research skills which include those we consider to be information literacy skills.

ANCIL provides progression through the ten strands, and thus Strand Two builds upon the transitional aspects of Strand One, focusing on the need to become an independent learner when working at University level. This notion of “learning to learn” (Coonan and Secker, 2012b) is addressed by academic libraries, and study skills teams, particularly targeted at first-year undergraduate students. Many libraries provide guides and/or workshops on different aspects of ‘learning’ in higher education, for example reading and writing effectively, conducting literature reviews, taking notes, reflective writing.

Yet, it is easy, and crucially, inexpensive to support the development of these skills with social media, particularly with regards to reflective learning. Academic blogs can be an effective and informal way for students to actively reflect on their learning whilst developing their writing skills. Hall and Davison (2007) found that blogs provided students with a space to share their ideas and support through peer-feedback. Chan and Cmor (2009) piloted a study in which the Library used blogs as a means of developing information literacy skills with a cohort of students over the course of a module. The Library posed weekly research skills questions to the students which were then answered through the blog. They found that this approach was deemed beneficial by the students, and the tutor perceived that the assignments for the module were of a higher-quality than in previous years. In contrast a pilot study conducted by Coulter and Draper (2006) found that students were unmotivated to use or engage with a blog that was maintained solely by the Library, without faculty support. Unlike Hall and Davison, the study by Coulter and Draper relied on students actively contributing to the blog, and generating content themselves, rather than as a response to a specific topic or question. It is interesting to note within Coulter and Draper’s study that several students who had not used the blog still thought that it looked like it may be useful to them - perhaps implying that the blog was not entirely redundant but needed better promotion or integration. These studies emphasise that academic

libraries are keen to engage with new methods of supporting information literacy, yet are often limited by time constraints which usually allow them a 'one-shot' approach to teaching information literacy. Hall and Davison were fortunate to have departmental support across a whole module which allowed for sustained interaction and engagement from the students, which certainly would have helped with the transition to higher education, and the development of skills which students would be able to take forward throughout their academic careers.

An additional technique which helps to foster independent learning is the concept of flipped education. In this model class time is used to "clarify questions, rather than deliver new material" (Loo et al., 2016). Thus students seek out new knowledge in their own time and then use timetabled classes to engage with these new ideas in a supported setting. Loo et al explored this pattern of teaching in regards to information literacy instruction. As information literacy is often delivered as a "one-shot" approach, they found that ensuring that students had a "baseline" of knowledge prior to the session allowed for greater discussions and engagement with key ideas during the session (Loo et al., 2016, p 278). Additionally, they found that they were able to cover an increased amount of content by using the flipped education approach as the time that students were occupied with information literacy ideas and discussion was greater, despite no increase in class time. As part of this study they also explored the flipped education approach in a purely virtual environment. Again, this was found to be relatively successful. Students were presented with materials to read and watch before completing assignments to test their knowledge which were graded immediately as part of their virtual learning environment. They then had the option to go to drop-ins with a librarian if they had further questions. This online flipped education could be supported further by utilising social media tools such as blogs to promote discussion of the study materials and allow students to share questions with both librarians and peers. Flipped education approaches are likely to continue to be developed for information literacy instruction as librarians seek to use their classroom time most efficiently.

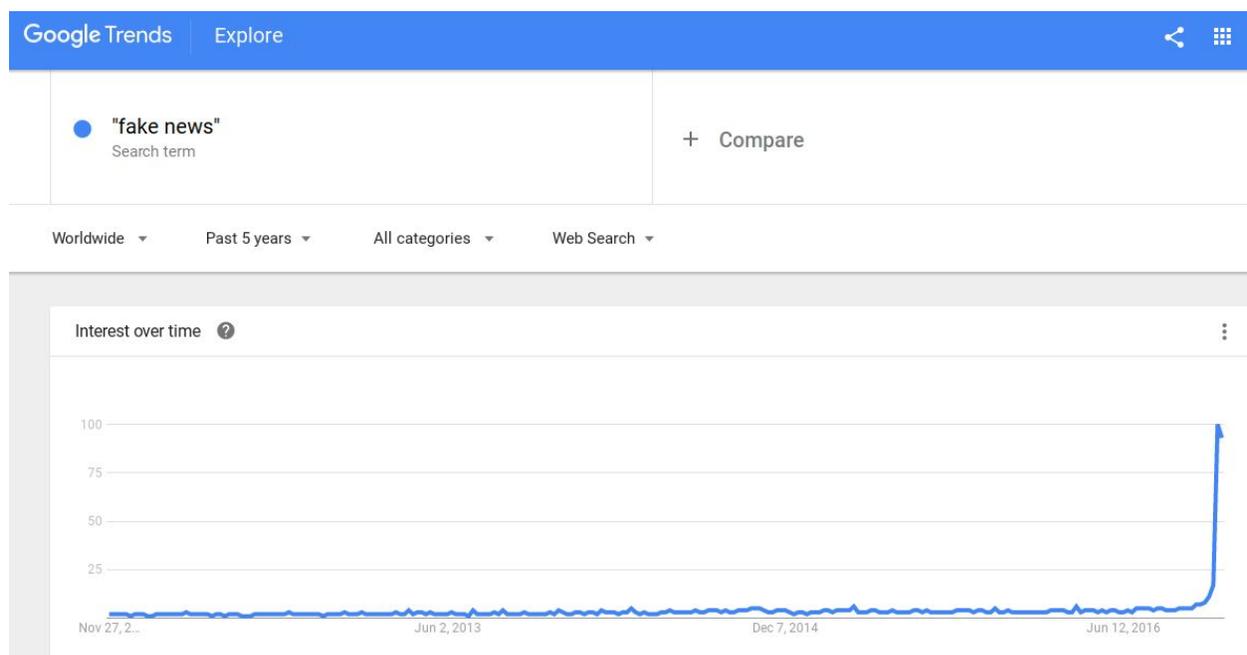
The third strand of ANCIL moves beyond the transition to university and encourages the development of academic literacies. Librarians endeavour to create independent learners by providing students with the skills to use library catalogues and discovery tools to enable them to locate information on their own to support their studies. However as MacMillan and MacKenzie (2012) discuss, students are not always equipped to use academic information effectively. Their research found that students were not able to read and evaluate scholarly sources to fully support their academic work. They sought to change this through the

development of a specific teaching session on reading for undergraduate students in addition to more typical information literacy sessions. These sessions focused on understanding the structure of an academic article, and how best to evaluate them. The academic skills required to assess a scholarly work can be supported by the social media tools which students may be using in a non-academic setting. Users of social media are faced with huge amounts of information as soon as they log on to a social network via timelines, feeds or recent posts. The skills needed to navigate this expanse of information can be directly related to those of an academic setting. It is important for social media users to be able to skim through posts, taking in only the most important/relevant information - perhaps only the posts of close friends, or those they deem to be important accounts. This ability to quickly filter through a large volume of information is useful when navigating long pieces of academic writing, particularly when working to a deadline. This skill which is naturally developed by social media users can easily be made relevant to an academic context.

However, the increasingly fast pace of life in the digital age has led to questions surrounding the attention span of younger generations, and whether social media has negatively affected this. If one were to walk around an academic library it would be common to see laptop screens jumping between half-written essays, social media platforms and a host of other webpages, whilst users simultaneously check their phones and listen to music. This seemingly distracted multitasking has been referred to as the “iDisorder”, which is perceived in similar terms to ADHD (Rosen, Cheever and Carrier, 2012). Many studies have found that multitasking whilst studying has negative effects on productivity, focus and performance (Karpinski et al, 2013; Carrier et al, 2015; Rosen, Carrier and Cheever, 2013). These findings emphasise that perhaps libraries need to encourage effective study practices as part of academic literacy sessions. Some libraries and university wellbeing centres have undertaken similar campaigns via social media, using hashtags such as #studyhealthy or #studysmart to encourage healthy approaches to studying - such as taking regular breaks and staying hydrated. It is important for academic libraries not to view social media as a negative distraction to traditional information literacies. Instead they should seek to utilise such popular tools to their advantage, and educate on how best to interact with them.

The ability to distinguish between good and poor quality information is at the heart of academic and information literacy, and a skill that is crucial to a student’s academic success. Social media platforms enable users to evaluate the information that they are presented with, and easily allows them to critique or argue its validity on a public platform. However the open sharing of information on social media allows almost anyone to be an information creator and publisher.

Unlike traditional academic or media publishing avenues there are no checks taken to authenticate information posted on social media leading to false or misleading information being shared. This is compounded by the homogenous visual effect of social media streams or feeds which prevent the user from being able to draw an obvious distinction between legitimate sources of information and inaccurate sources. The World Economic Forum (2013) highlighted that the rapid sharing of misinformation on social media sites was a global threat akin to terrorism. In the immediate aftermath of the 2016 American election the concept of fake news has firmly entered the global public sphere. The Google Trends chart below shows a sudden spike in interest at the time of the US election.



Data source: Google Trends (www.google.com/trends) [accessed 26/11/2016]

Similarly, the popular viral news sharing site BuzzFeed created several content pieces which aimed to highlight the difficulties in spotting fake news stories. These were accompanied by practical advice on how to identify articles on social media which may be providing incorrect or inaccurate information (Silverman, 2016). Despite the clickbait-esque title - 'These six easy steps will help you spot fake news every time' - these tips are closely aligned with the principles advocated through information literacy - for example, checking the website URL. The prominence of 'fake news' in mainstream media in recent months provides a more accessible way to educate students on this area of information evaluation. By using examples from social

media platforms with which they are familiar, we can encourage students to question information which they may perceive to be trivial but can expose deeper and more problematic trends.

Fake news and misinformation in mainstream media can help to support the teaching of academic skills and evaluating academic research. Students may often believe all academic sources to be of the same quality, and assume all the information they provide to be correct. Yet, it is important for students to understand that even academic information can be flawed. By introducing the two topics together, academic librarians can seek to develop students who will evaluate and think critically about all forms of information - not just facebook posts which are obviously designed to be clickbait. For example, Lockwood (2016) found that academic articles which used typical clickbait techniques, such as positive framing and emotional arousal tended to have higher Altmetric scores. This supposed increase in engagement with an article may lead a student to perceive it to contain more valid information, rather than simply having a better or more catchy title.

Social media sites such as Facebook and Twitter have sought to address the problems of 'fake' news being shared so rapidly on their platforms. Facebook founder Mark Zuckerberg posted a statement on his own Facebook page outlining the seven ways that the company would seek to combat misinformation (Zuckerberg, 2016). Whilst this is important it needs to happen alongside the encouraged development of academic literacy skills. The advocacy around academic literacy should promote the scrutiny of both academic and social sources of information. In an academic setting a student would perhaps be encouraged to look at the author of a piece of work and question their credentials - academic affiliation, qualifications, previous publications. This may highlight a potential bias or a conflict of interest which could affect or skew the information that is being presented. This should be replicated in a social setting, looking at an author's bio or the content of their previous posts before assuming their information to be true or impartial. Brookfield (2015) emphasises that social media is crucial to enhancing critical thinking skills amongst a digital generation faced with an excess of information. Social media and academic practice can help to inform each other to develop ideas of academic literacy. The ability to identify fake news and inaccurate academic information is an important skill to develop, and one that is crucial beyond a University degree.

Strands four and five of ANCIL are closely interlinked, focusing on the information landscape and resource discovery. I will thus discuss them together as I believe that they inform and support each other. The fourth strand of ANCIL "mapping and evaluating the information

landscape” aims to help students to find suitable materials to support their academic assignments (Secker and Coonan, 2013, p. 41). Strand five takes the idea of resource discovery slightly further to focus on subject specific resources for students. The notion of teaching students how to use discovery tools to locate relevant information is often perceived to be at the heart of information literacy. Yet sometimes this merely becomes an instructional session on how to use a Library catalogue or discovery system without discussing the wider ideas of information literacy. ANCIL seeks to rectify this disconnect identified by Wilder (2005) between information literacy frameworks and the reality of academic study. Instead he argues that librarians should focus their efforts on supporting the development of subject knowledge (Godwin, 2012). This support could take many forms, for example undertaking more advanced information literacy sessions, that go far beyond specific catalogues or discovery systems.

Librarians can use social media to provide additional support and recommendations to their students. Many academic courses or modules have Facebook or Twitter accounts to be used as a platform for students and tutors to discuss information and ideas. This collaborative learning style can be taken further to utilise social media functionality, such as hashtags. This can be an easy method for students or module leaders to share resources and to collate them under one heading. There are several successful examples of such hashtags. The Library and Information Science postgraduate course at City, University of London uses #citylis to promote and discuss the course itself and to share relevant news stories, information resources or events. Within #citylis there are further module specific hashtags which use the module code, for example #INM341. The open sharing on social media platforms allows academic librarians who also use social media to follow and monitor them as a form of support - answering questions, suggesting relevant sources of information or promoting new acquisitions or subscriptions. This may be posting directly to a facebook page or by using a hashtag as part of a tweet. Librarian support through these informal channels helps to promote two way communications and to establish a connection between the Library and specific cohorts of students. Walsh (2012, pp. 99-100) supports this by stating that Twitter can provide a space for librarians to “listen in and gain extra information about the learners’ needs and your performance. It can be used to pull together discussions into one place...”. Social media is an important tool for librarians to take learning outside of traditional environments and allow for more relaxed conversations to take place.

There are several examples of academic librarians using social media to directly communicate with the students and staff of their departments. The liaison librarian team at Brunel University Library each have a Twitter account - eight in total: @PHLLibrn_Brunel, @ECandMLibrarian,

@MACELibrn, @LifeSciLibrn, @BSSLibrarian, @HSSCLibrarian, @BBSLibrarian, @ArtsLibrarian. These are professional twitter accounts set up specifically to support their liaison role. They are used to give details of drop-ins sessions and workshops, promote services which are offered and to share relevant subject information. Each account is linked to from the Subject Guides as one of the ways for students to contact their subject librarian. These accounts don't have huge numbers of followers but have relatively respectable numbers - ranging from 137 followers to 417 followers (as of 07/12/2016). Tweets from the subject librarian accounts are often retweeted and shared on the main Brunel Library Twitter feed. These accounts provide subject librarians with a more informal channel with which to engage their students with subject knowledge, new library resources and ideas of information literacy. In contrast, other academic librarians choose to use their personal social media account in a professional capacity. Whilst this may be easier than running two separate accounts, there is a risk of losing the professional element. Similarly, it would be difficult to use the social media platform to curate and share knowledge for a particular subject area. However, in spite of this students are often more keen to engage with library social media when there is a human personality to it.

Those librarians who are using social media - either individually or as an institution - may wish to adopt certain elements of mass communications, for example Ask Me Anything sessions, or interactive Twitter chats using hashtags - such as the popular #libchat for library and information professionals. These can be a useful means of structuring a discussion on a particular topic, or posing questions for a group of students to answer. This could be easily employed as part of information literacy instruction sessions. These may work best at particular times of the academic year when students are likely to have questions or be using the physical or electronic library resources. The most obvious examples would be during Freshers Weeks and Reading Weeks. During these times librarians could perhaps use their social media channels to pose questions or discussions, for example asking returning students to share tips with freshers, or asking students to share their study advice. This can help students to support each other, whilst being facilitated by the Library.

Subject headings have long been used to group resources into relevant topic areas. However the idea of controlled vocabularies is not always fully understood by students or other library users. As Spidal and Cummings (2014) discuss subject searching tools, such as Library of Congress Subject Headings (LCSH) are often under-utilised, particularly by undergraduate students. They undertook a study of how LCSH were being taught to students as part of information literacy programs. They found that 33% of respondents to their survey never or rarely taught LCSH, and many of these respondents felt that searching for information by

keyword searching was more important. This is particularly interesting to explore as many social media platforms use hashtags as a form of subject heading - although these do not use a controlled vocabulary. Despite this, it may be more successful to introduce ideas of subject searching and LCSH through comparisons with hashtags. This may help to situate what is sometimes perceived as library jargon within a more familiar setting. Alfonzo (2014, p. 19) argues that hashtags can be “a librarian’s ‘in’ when teaching information classification and advanced digital search concepts”. She found that using hashtags as examples to support information literacy teaching provided a valuable sense of familiarity for her students. Alfonzo was able to better engage her students with subject searching, and demonstrate the positives and negatives around this searching style in a way that they were more comfortable with. Subject searching can be a difficult topic with which to engage students, who are used to the immediacy of keyword searching. Therefore using social media tools to better situate this topic may have a positive impact on teaching and engagement.

Increasingly students may also be viewing social media platforms as sources of information. Firstly, students may use their social media accounts to follow people or organisations related to their subject or academic discipline. This can be a useful way for students to stay updated with news or advancements within their field. This can be the first steps towards having a professional digital identity - something which may be increasingly important as they enter the job market at the end of their studies. Academic librarians can support this sense of subject specific resource discovery - which is crucial to ANCIL’s fifth strand - whilst also seeking to educate their students on curating their online presence.

Secondly, students may use social media as direct information sources to support their academic work. Kim, Sin and Tsai (2014) undertook a survey to identify which social media platforms students were using as sources of information. Their study found that 95% of their respondents used social networking sites - which they classed as Facebook, LinkedIn and MySpace) - whilst only 25% were using microblogs such as Twitter. Kim, Sin and Tsai are also keen to emphasise that information literacy instruction should take into account the natural research behaviours of students and help to advise on how best to use tools such as social networks, rather than exclude instruction on such areas. It can be easy to overlook social media as a legitimate source of information, and instead try to direct students back to journals and databases. Information literacy instruction should seek to bridge this gap and emphasise that both are valid - provided they have been evaluated effectively.

Kim and Sin (2016) carried out an additional survey two years later which sought to compare the ways in which students and librarians used social media platforms to seek and evaluate information. Their findings again highlighted the need for information literacy instruction sessions to move beyond teaching students how to find and access online journals, or navigate library catalogues. Instead, they found that information literacy tuition should directly address the reasons why students use social media tools as part of their research and help them to make the most of the information that they find, “to help students address potential weaknesses in their current social media information-seeking behaviour” (Kim and Sin, 2016 p. 80). Students will often use social media in their personal lives and thus may naturally turn to it for information in their academic lives also. It is important for librarians involved with information literacy to ensure that students are aware of the need to fully evaluate these sources of information in the same way that they would traditional academic sources.

Kwanya, Stilwell and Underwood (2015, p. 85) identify an important aspect of social media platforms which must be taken into consideration when using tools such as Twitter and Facebook as information sources: the notion of the “echo chamber”. This idea is concerned with the way that content is recommended to users based on their existing likes, views and shares. Bozdag (2013, p. 209) defines this as a “gatekeeper bias” through which the algorithms used by sites such as Facebook filter content to align news and information with the user's own interests. Thus users can encounter information in a virtual vacuum. This poses the risk that users may only encounter information which supports their viewpoint, and remain unaware of alternate outlooks. The information vacuum can hinder the development of new ideas and students should be made aware of the bias that can be present on social media sites and other online platforms.

Many researchers now see Twitter as a legitimate and useful platform for data analysis. Zimmer and Proferes (2014, p. 250) describe Twitter as “a valuable resource for tapping into the zeitgeist of the internet, its users and often beyond.” Social media platforms can allow researchers to gain important insights into popular culture and collective thoughts. This is particularly helpful with regards to cultural events, and understanding how these are viewed or interpreted by ordinary people, rather than just the academic community. Users are able to use Twitter’s API to analyse trends and usage which can allow conclusions to be drawn on a large scale. For example, Procter, Vis and Voss (2013) analysed Twitter data in the aftermath of the London riots in the summer of 2011. This allowed them to explore the content of tweets during this period, follow rumours and false stories, and understand public perceptions.

The use of social media tools as sources of information is now firmly ingrained within the academic landscape. This is made particularly obvious when looking at referencing styles. Many of these were created and designed around printed materials and have had to adapt as information has moved online. Most referencing styles now give explicit instructions on citing from social media platforms, such as Twitter, Facebook and Blogs. Academic librarians have traditionally offered support to their students on referencing and citations, and therefore need to be able to continue this support through non-traditional information sources - for example, on quoting hashtags, or referencing a comment posted on Facebook. It is therefore important that librarians, as well as students, are able to map the current information landscape so as to support their students adequately.

The sixth strand of ANCIL explores the management of information. Information management has become even more crucial as students have access to almost unlimited amounts of information. Tilley (2013) evaluated the needs of students in managing the information which they find. She found that one of the main priorities for students was the “need to save and manage time and effort” (Tilley, 2013 p. 69). This study examined teaching Zotero to postgraduate students. Some reference and research management tools have utilised elements of social media - particularly in sharing and discussing information. Professional social networking tools are now commonly used by researchers and students. These tools, such as Academia.edu, Mendeley and ResearchGate, seek to connect researchers, showcase their academic work and encourage research collaborations. The cultivation of online professional profiles is a priority for users of academic social networks, as indicated by Williams and Woodacre (2016). Ovidia (2014, p 167) emphasises that social networking can develop a “certain responsiveness and informality that is not possible with the formal publishing process”. This can help to form deeper connections between researchers, their work and their academic communities which are important for collaborations and impact factor.

One particular element of managing information for students and researchers which academic libraries can help to support is keeping up to date with “current awareness” in a chosen field (Coonan and Secker, 2012 p. 184). This ties the fifth and sixth strands of ANCIL neatly together - subject specific resource discovery and current awareness. Social media tools can play a helpful role in keeping up to date with research interests in addition to more traditional avenues - such as database alerts and RSS feeds. As increasing numbers of academics are using social media researchers are able to follow particular academics or institutions. This allows a more personal

insight into their ongoing research, and perhaps provides more frequent updates than traditional journal publishing.

The seventh strand of ANCIL explores the ethics of information. The open sharing of information on social media platforms requires a special education on ethics and privacy. Academic libraries have often helped to educate students in traditional elements of information ethics, such as referencing, plagiarism and copyright. However, as information sources have evolved the ethics associated with them need to shift, particularly to include ideas of privacy. Students who use social media platforms to collect data to support their research must be careful to ensure that the information is collected in an ethical way. Social media sites allow users to apply strict privacy setting to their profiles. Students must be aware of this right to privacy when collecting data from social media sites. As with traditional sources of information, authors or creators of information on social media should be attributed and referenced. Similarly, any personal or confidential information should be made unidentifiable - through the redaction of screen names or profile pictures.

The ethics of information particularly come into discussion surrounding the mining of social media data. Sukchotrat and Sukchotrat in the *Encyclopedia of Research Design* (2010) define data mining as “the process of extracting useful information from large data sets”. Social media users produce masses of data which can be mined to allow researchers to draw conclusions on specific topics or popular thought. Despite the open sharing of information on social media, some users may be unaware that their tweets and profile information can be harvested in this way. Twitter data can easily be collected into data sets for text analysis using the Twitter API and Python. There are many pre-prepared, open sources tools which can assist with accessing Twitter data. Additionally, tools such as Hawksey’s TAGS (<https://tags.hawksey.info/>) allow users to collect and archive Twitter data from which they can conduct text analysis’ and create data visualisations to expose trends, themes and patterns. These tools are increasingly important in social and cultural research, and may be a part of information literacy in the future. Therefore, it is important for librarians to ensure that their users understand that the information that they share and store on social media can be utilised in this way.

Academic libraries may also wish to address students own online behaviours and presence in order to create informed digital citizens. Some social media users are especially open about what they share on their social media platforms - photos of their food, posts about going out, and tagging locations they’ve visited. Yet it is important to educate users on who can see these posts and the implications that they may have in life after university. Parker (2013) discusses

the Digital Footprint project developed at Sheffield University. This project seeks to promote responsible use of social media and “what their profile and data says about them” to any future employers, funders or academic institutes (Parker, 2013 p 91). It is important for students to understand what information about them is openly available online, and to be able to curate this information in a way that is acceptable to any potential employers or companies. This is often referred to as creating a personal brand or personal marketing - by tailoring the information that is openly shared to a particular intended audience. This can serve to highlight or emphasise certain qualities or skills. It is crucial for students to explore what information about them is openly available and to take steps to ensure that only information that they perceive to be appropriate is out there. This may be achieved through updating privacy settings, reviewing followers or friends, or by deleting inappropriate content. Projects such as Digital Footprint can be an important way for academic institutions to introduce such ideas to students, particularly those beginning to think about future employment.

An additional aspect of information ethics which is beginning to be discussed by some academic libraries is that of information privilege. Booth (2014) explains that information privilege “situates information literacy in a sociocultural context of justice and access”. Information privilege has become more pronounced in the digital age, where almost all users with internet access can find records for information sources - although full access will often be paywalled - while in previous years of printed information, even the records were difficult to obtain. Whilst the open access movement has taken steps to promote open sharing of academic information, this is certainly not a resolved issue. As Booth discusses, students within academic institutions are not often aware of information privilege, or the true cost of information resources. Academic libraries subscribe to huge packages of online content and students can simply enter a username and password to gain access to a wealth of online information. Booth advocates demonstrating information privilege as part of information literacy instruction as a means of educating students about the wider information landscape. She found that through this approach students were much more responsive and appreciative of the information which they had access to. The open nature of the web and social media platforms, combined with institutional access to millions of online resources can often fool students into thinking that everyone would be able to have such access. Booth challenges her students to contribute to a fairer world of information access by reviewing and editing Wikipedia articles - which can sometimes be the only source of information for students from globally impoverished areas.

However, information privilege and the ethics of information affect the wider academic community. Social media sites are designed for the creation and instant sharing of information.

This is at odds with traditional academic publishing whereby information sources are kept behind paywalls and only accessible to those who subscribe via their institution or on an individual basis. Yet many have sought to redress the imbalance of access to information by utilising the functionality of social media platforms. Academic users of Twitter have used the hashtag #ICanHazPDF to ask the academic community for help in locating and accessing journal articles which are behind paywalls. As Liu (2013) explains:

“the process is simple: requesters tweet a link to the paywalled article along with the #icanhazpdf hashtag. Other users then respond by retrieving the PDF through their own institutional access and emailing the file to the requester. Once the PDF has been received, the requester deletes his or her original tweet.”

This practice is undoubtedly unethical, and in violation with the usage agreements from journal publishers - highlighted by the deletion of the original tweet once a request has been satisfied. Liu (2013) found that there were an average of 3.6 #icanhazpdf requests per day in 2012, yet data indicated that this was gradually increasing. This is confirmed by Gardner and Gardner (2015) who found that 824 requests for materials were made using the hashtag #icanhazpdf between April and August 2014. This is an average of 6.7 requests per day.

The use of Twitter to circumvent publishers paywalls presents a useful means of examining how the ethics of information can be challenged by social media. There is an interesting argument to be had over whether it is more unethical to only provide access to information to those with the money to pay for it, or to illegally share information resources with unauthorised users. These ethical issues which are now firmly placed within the social media domain can provide helpful discussion points for academic libraries and their students in relation to information literacy and information access.

The eighth and ninth strands of ANCIL are closely linked. Strand eight explores the presentation and communication of knowledge; strand nine focuses on synthesizing and creating new knowledge (Coonan, 2013). Communication is at the heart of social media, and thus can be a powerful tool to inform and develop this strand of information literacy. Social media users engage with other users and information constantly when online - liking and sharing posts, adding comments, following new users and simply by scrolling through timelines or feeds. However, the volume of content on social media platforms means that users might think more carefully about the way in which they are creating a post in order to best communicate to their intended audience to ensure the desired impact and response. This may be through the choice

of filter on Instagram or which hashtags they are using. Some users may not consciously acknowledge this decision process. The ability to appropriately judge writing and presentation style to an audience on social media can directly correlate to academic writing skills. The awareness of self and audience that is required for effective communication skills is important in both social and academic scenarios.

The functionality offered within some social media platforms can be conducive to academic learning and communication skills development. The limited character limit permitted in a Twitter message can be used to help students to effectively summarise information in a succinct way. There are frequent hashtags on Twitter which encourage users to humorously summarise books or films in a small number of words: for example #ExplainAFilmPlotBadly. Whilst these hashtags provide a source of entertainment there are clear benefits to this style of synopsis within an education setting. In an information literacy instruction session this sort of simple summarising could help students to think about key themes within a topic to help with search strategies and techniques, and could also be used to think about essay planning and structures. The rigid character limit on Twitter encourages a style of writing which seems at odds with long pieces of academic writing. However, the skills required to communicate effectively within such constraints can positively impact the ability to write in a concise way, even when the word limit is far greater.

The need for academic researchers to effectively communicate research, and to develop an online presence is increasingly important as academic literature is published at ever increasing rates. Bjork, Roos and Lauri (2009) calculated that just over 1.3 million academic papers were published in 2006 - and this number has surely grown since then. Academic libraries may now offer support to researchers and academic staff in regards to the ways that they share and communicate their research. Research is traditionally communicated through academic journals or books, and impact measured by citations. Yet increasingly, alternative metrics - 'altmetrics' - are seeking out the more informal impact of research: through mentions on social media sites, inclusion in news stories and bookmarks on academic referencing softwares (Altmetric, 2016). Altmetrics seek to complement traditional research metrics and provide a more rounded view on the impact of a journal article. Therefore, social media platforms can play an important role in the research lifecycle - and academic libraries must be aware of these new channels for communicating research.

Priestner (2013, p. 97) sought to engage academics and researchers with some of these tools - specifically Twitter and blogs - in order to highlight their importance "as a means of developing

and honing one's academic voice, and recording and analysing experiences, concepts and theories relevant to their research". He conducted two instructional sessions, which aimed to be both informative and exploratory. Priestner invited guest speakers to join him for the sessions to make them more collaborative and to provide multiple examples of the benefits to using the tools. He found that by the end of the two sessions attendees were much more likely to engage with social media tools in relation to their academic research and many have requested follow up sessions (Priestner, 2012). It is important for academic libraries to support their users in embracing new technologies to support their research and learning.

Blogging can also be a useful tool for students who are new to university level study. The move to undergraduate work can be a challenge and blogs can be useful means of academic reflection, and are sometimes built into modules of academic courses as regular unassessed assignments. Many studies have found that blogs can be a helpful means of providing students with a space for active reflection, to explore their own thoughts, and think critically on a topic outside of a classroom setting and without the pressure of assessment (Joshi, 2009; Tanti, 2012; Glass and Spiegelman, 2007). Academic libraries often offer academic writing sessions to undergraduate students to help develop the skills required for university study. These sessions could utilise blogs as a means of developing reflective writing skills for an academic setting. This can be of particular help for international students, with English as a second language. It can be daunting to write an academic piece of work in a second language, and blogs provide a space for students to explore their ideas and practice writing before a graded assignment. However, it may be unlikely to expect all students to complete these sorts of practice writing tasks on top of their other studies, unless they are a required component of a course. Lin (2015) found that despite enthusiasm from international students in regards to reflective blogging they were unwilling to continue beyond the compulsory number of blogs due to the time pressures of writing in English. This raises an important consideration - students have to juggle multiple modules, assignments and commitments and are unlikely to fully engage with non-compulsory 'extras' on top of this. Academic libraries who are keen to use blogs for information literacy skills may wish to consider developing these alongside an academic module to ensure that students commit to them.

The final strand of ANCIL focuses on the 'social dimension of information' (Webster, 2013). ANCIL was designed as a transitional framework that would support students from their arrival in a higher education setting, to departing this setting for employment. As Webster (2013, p. 122) expresses, students may feel that the information literacies and academic skills that they have developed whilst at University are "unique to the academic context". Therefore it is

important that these crucial skills are promoted in relation to lifelong learning, and are not linked to a specific institution, system, or assignment. The skills which information literacy seeks to develop are vital to students in their life beyond University, and it is important that they understand how these skills can be utilised in their working life. As Coulter and Draper (2006, pp 102-103) state, academic libraries need to “create a learning context that highlights the relevancy of IL to students’ lives, future careers, interests and/or experiences”. In situating information literacy beyond just a university based situation, librarians can deliver training in a more meaningful and engaging way. This is supported by the constructivist approach to information literacy - the concept that learning is informed by both ideas and experiences together. It would be impossible for students to understand information literacy without lived experiences of seeking, evaluating and creating information themselves. The purpose of information is to fulfil a need, and without this want it can be difficult to engage with ideas of information literacy. Therefore, librarians should endeavour to situate instructional sessions in a way that students can relate the ideas to their own experiences of needing information - however informal or trivial these may seem.

Webster (2013, p. 123) explains that libraries risk “making the process of learning the rather alien values and practices of academic learning more difficult to grasp” by not engaging with the personal and social contexts which students have already experienced. Similarly, Lipponen (2010) suggests that “the use of technology requires construction of meaning that evolves in everyday practices”. Information literacy can never be seen as independent from technology, as information content has moved online, and thus it is important to draw upon users own experiences to inform new practices being introduced in an academic setting. Users of social media will already have experienced many of the key elements of information literacy: searching for information, sharing and communicating knowledge. It would be remiss for libraries to ignore or suppose these skills to be inferior - they have evidently served and satisfied information needs. It would be more useful to draw upon these skills as relevant experiences to introduce more complex ideas of searching for information for academic assignments or to promote critical thinking. Additionally, experiences gained through interactions on social media can help to create a context in which users understand and situate information.

ANCIL’s final strand explores the ways that information literacy can be taken beyond the academic setting to ensure that it becomes a valid lifelong process, rather than just an obligatory part of university. Lifelong learning is at the heart of information literacy values, as laid out by the Alexandria Proclamation of 2005. This is increasingly important as technologies

continue to advance and users need to adapt their knowledge to new online environments. The notion that students are able to leave universities as fully informed digital citizens is perhaps a little too ambitious, but information literacy should have in some ways have prepared them for modern working life. Students will have often developed information and academic literacies unconsciously whilst at university, through the process of completing their assignments, and taking part in lectures or seminars. It is unrealistic to assume that all students will have undergone formal information literacy training. The information and academic literacies which students have naturally acquired will thus be vital in informing their lifelong learning and everyday information practices.

Conclusion

This dissertation sought to analyze the opportunity for connection and interplay between social media platforms and information literacy skills. The ANCIL framework provided a clear structure for a close analysis. Through this analysis I have demonstrated that social media tools can help to better situate the key concepts of information literacy, and make these more engaging for higher education students. Social media has become an indispensable part of modern life, used by academic staff and students alike. Information literacy instructors need to take advantage of the educational opportunities which social media offer.

By using elements of social media academic libraries can enhance their current information literacy provision without too much time, effort or cost. This can be as simple as sharing study advice tips via their social networks. However, those wishing to invest more in using aspects of social media could develop information literacy programmes which actively utilise the style and functionality of social media platforms such as Facebook and Twitter to enhance the knowledge of their users and ensure that they understand that information literacy goes far beyond an academic course; that it is crucial to lifelong learning. Social media is particularly helpful as it moves the learning process outside of a purely academic setting, emphasising the transitional nature of information literacy advocated through ANCIL. This could be achieved by using examples from social media which can be easily translated to an academic setting, such as identifying reliable sources.

Fundamentally, this research has shown that academic librarians should not overlook the natural skills which users of social media develop in everyday life. Conversely, these skills should be utilised as a means of explaining concepts of information literacy which may appear alien and complex to new students who have not experienced academic study at University level. All students will have encountered an information need in their everyday life, and will have sought help in resolving that need. This may be through a simple Google search, by

reading a book, or posing a question on an online forum or social network. These naturally developed information skills should be curated and enhanced by more formal information literacy teaching.

Social media can also help librarians to identify new areas of information literacy which need investment. Whilst academic libraries have traditionally taught students how to identify reliable sources of academic information, in the ever-digital age this is not enough. Students need to understand these ideas in a more complete way which goes beyond filtering a list of results in library catalogue to show only peer-reviewed articles. Students cannot be perceived to be information literate without developing these sorts of skills in practical and meaningful ways. Social media can allow students to question sources of information, and the inherent bias that may accompany them in a real life scenario. If students are able to challenge the sharing of unreliable information on social networking sites such as Facebook then these skills will be easily transferred to the academic setting and into their professional lives.

Social media platforms also provide librarians with informal spaces to discuss and share useful information resources with their students. By using hashtags on Twitter librarians can direct their students to relevant sources, or offer study skills advice. The informal nature of these platforms can offer an alternate way for students to interact with their library and their peers.

Information literacy is at its core the ability to adequately resolve an information need using appropriate information resources. Social media platforms are collaborative communication tools which allow users to create, share and find information. There is a natural affinity between the two that should not be ignored or diminished.

Recommendations for further research

This dissertation has been based on desk research. In order to develop it further, I hope to introduce aspects into my own information literacy teaching sessions with the aim of getting student feedback and appraisals about what they found most useful. It is important to gain more formal feedback in an active classroom setting. This practical experience and student assessment will allow me to take these ideas forward as a legitimate area of information literacy research.

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