Journal of Information Literacy

ISSN 1750-5968

Volume 13 Issue 1

June 2019

Article

Stebbing, D., Shelley, J., Warnes, M. and McMaster, C. 2018. What academics really think about information literacy. *Journal of Information Literacy*, 13(1), pp. 21–44.

http://dx.doi.org/10.11645/13.1.2338

What academics really think about information literacy

Deborah Stebbing, Anglia Ruskin University.
Email: deborah.stebbing@anglia.ac.uk

Jane Shelley, Anglia Ruskin University.
Email: jane.shelley@anglia.ac.uk

Mark Warnes, Anglia Ruskin University.
Email: mark.warnes@anglia.ac.uk

Carol McMaster, Anglia Ruskin University.

Abstract

This research project arose from a need to ensure librarians and academics work together to support student information literacy (IL) development, aligned to the Anglia Ruskin University learning and teaching strategy, and specifically to improve librarians' understanding of how academic staff view IL and consider their perceptions and expectations within different disciplines.

A literature review found a limited number of studies which considered academics' point of view and few were concerned with discipline (faculty) differences. We took a qualitative approach to this research, using semi-structured interviews with a convenience sample of participants drawn from nursing subjects and business subjects in a post-1992 university in the United Kingdom. The research questions asked about academics' perception of IL, the impact of their discipline on IL and their view of the ideal information literate student. Six key areas of concern emerged around the teaching of IL: students transitioning into higher education, developing evaluation skills, the significance of the undergraduate major project (dissertation) and discipline differences, the information landscape and the perceived need for preparation for IL at work. The article discusses the findings, difficulties surrounding students achieving adequate IL and considerations for future practice in delivering focused IL support.

Keywords

academic libraries; academics; assessment; employability; faculty; information literacy; interviews; perceptions; transition to higher education; undergraduates; UK

---

1. Introduction

The Library at Anglia Ruskin University provides a programme of information literacy (IL) education for students, which can be faculty-based or generic as part of a cross-faculty study skills programme. This provision is delivered by subject librarians, arranged in cooperation with academic staff. The teaching undertaken in 2016 had been given direction through a recently formed working group on IL which aimed to develop good teaching practice in the University Library and align teaching with the University's *Learning, Teaching and Assessment Strategy*

(Anglia Ruskin University, 2015). Additionally, the *ANCIL (A New Curriculum for Information Literacy)* framework (Secker & Coonan, 2011) has been adopted to underpin teaching, to audit delivery and to act as an advocacy tool when liaising with academic staff.

Subject librarians are encouraged to develop their teaching skills by gaining professional teaching qualifications such as the PGCert Higher Education and Fellowship of the Higher Education Academy. This influenced the current delivery of IL skills with a greater emphasis on learning and skills development in place of content. The delivery of these sessions was frustrated by too much reliance on 'one-shot' sessions (as defined by Saunders, 2012) as the main means of delivery. 'One-shot' sessions are restricted to being the only opportunity to see the students and are frequently of a limited time duration e.g. one hour. This reduces the opportunity to develop skills beyond the first two levels of Bloom's Taxonomy (Bloom, Engelhart, Furst, Hill & Krathwohl, 1956, p.18) which incorporate knowledge and comprehension, leaving little time for application, analysis, synthesis or evaluation. Similarly, seen through the lens of the *ANCIL* framework (Secker & Coonan, 2011) 'one-shot' sessions hamper the development of skills in the higher bands of 'Advanced Information Handling' – evaluating, assimilating and synthesising information – and 'Learning to Learn', which incorporates reflection and new understanding (Secker & Coonan, 2011, p.5). The Library wished to develop opportunities in the curriculum to allow students to develop these higher-level skills and considered this was best achieved through more collaborative work with academic staff.

Many of the courses provided by Anglia Ruskin University have a technical or vocational base. This is particularly the case at the Chelmsford campus, with many students spending time on placements. Through cross-discipline shared teaching and peer observation, subject librarians observed that some IL skills were common across disciplines or subjects; however, there were differences, which could be pertinent in academia and the workplace. This provided a strong impetus to also explore the perceived need for IL skills beyond the academic environment.

It was anticipated that using evidence gained through our primary research into the views of academics about IL and of their expectations of IL skills of students would assist in developing a closer teaching relationship with academics.

2. Literature review

The purpose of our research was to establish the views of academics and their perception of IL. We first considered how IL was defined in the literature.

The term IL is generally attributed to Paul Zurkowski, who, as President of the Information Industry Association, gave voice to an aspiration of universal IL, which saw 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 moulding information solutions to their problems. (as cited in Badke, 2010a, pp.48–50).

His vision was of handling information for a purpose, a concern for information availability and the contribution of IL to a democratic society (Kelly, 2013). This purposeful theme is also found in the UNESCO Prague Declaration of 2003, which defines information literacy as encompassing:

> …knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the

> Information Society, and is part of the basic human right of lifelong learning (as cited in Information Literacy Group, 2018).

The 2005 UNESCO Alexandria Proclamation took the theme of lifelong learning further, stating that:

> Information Literacy lies at the core of lifelong learning. It empowers 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. (cited in Information Literacy Group, 2018).

Both definitions highlight the use and communication of information in different contexts beyond an immediate academic application, with a sense of making this available for all.

Turning to library-based definitions, one extensively used, from the Association of College & Research Libraries (ACRL), is that it 'provides a framework for assessing the information literate individual' (ACRL, 2000, p.5.) and seeks to present IL as measurable competencies. The ACRL has since replaced this with:

> …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, 2016, p.4).

A feature of the library-based definitions, such as ACRL, has been to define IL through a set of competencies. These have been developed within higher education providing a baseline for discussion and have influenced the direction of research into IL. In the UK, the Society of College, National and University Libraries (SCONUL) introduced the Seven Pillars framework in 1999, and revised it in 2011 (SCONUL, 2011). The Seven Pillars are based on sets of skills designed to assist skills training by librarians and educators in higher education (Dalton, 2013). While describing the IL process, these do not reference a context for IL. These differ from the UNESCO approach to IL, and the more recent revision by ACRL, with their greater emphasis on purpose and the wider application of IL skills.

The Chartered Institute of Library and Information Professionals (CILIP) definition provided a common starting point for the interviews:

> Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner. (CILIP, 2004).

Subsequently CILIP have issued a new definition which states:

> Information literacy is the ability to think critically and make balanced judgements about any information we find and use. It empowers us as citizens to reach and express informed views and to engage fully with society. (CILIP, 2018, p.3).

This later definition links to sentiments first mentioned by Zurkowski (1974, cited in Badke, 2010a), which sees a wider context for IL beyond the education arena and a competencies base.

Research into IL has become a rapidly growing practice domain within library and information science (LIS) especially within the higher education sphere (Webber & Johnston, 2013). Despite this, studies of academics' views on IL remain largely unexplored (Cope & Sanabria, 2014).

Early studies (Divay, Ducas & Michaud-Oystryk, 1987; Oberg, Schleiter & Houten, 1989), considered the views of academic staff in relation to librarians and their role and contribution to the academic community. While not specifically investigating IL, they considered the potential role of librarians who they found were undervalued in teaching and research. Librarians were seen as gatekeepers of information and service providers, but appreciated for their subject expertise. Although library induction and instruction took place this was not seen as equivalent to academic teaching (Divay et al., 1987; Oberg et al., 1989). These authors recommended the need for greater liaison between academics and librarians to improve their professional position and gain greater traction for librarians to develop their role particularly in teaching IL. A recurring theme in the literature is librarians' concern with professional status, gaining recognition as equals to academics, and the subsequent impact on teaching delivery, which has been an impediment to greater progress being made (Andretta, Pope & Walton, 2008; Badke, 2008).

Researchers have considered how IL should be delivered, whether by academic teaching staff or librarians. Academics' attitude towards the delivery of IL has been variable throughout the university sector (Maynard, 1990). Ducas and Michaud-Oystryk, for example, reported that academics were 'lukewarm' (2004, p.342) when considering collaborative teaching with librarians, and conclude that librarians should be proactive and participate in the academic community (2004, p.357). Similarly Bury (2011) suggested an advocacy role to secure better take up of IL training with greater efforts to promote IL (Weetman, 2005; McGuinness, 2006; Saunders, 2012). Greater contact between faculty and librarians can bring benefits to improving an understanding of each other's roles and contribution to IL (Badke, 2010b).

Dubicki mentioned inconsistencies in 'how and by whom IL should be addressed' (2013, p.98), while confirming an agreement of the importance of IL to academics but a mismatch with 'perceived and desired levels of achievement' (2013, pp.113–4). Dubicki concluded with a variety of collaborative suggestions for librarians to effect the incorporation of IL into the curriculum with a programme for academics to keep up-to-date and utilise resources better (2013, p.115).

Some academic staff did not see a requirement to make specific provision for teaching IL skills but expected students to develop these skills over the duration of their course, (McGuinness, 2006) or by a process notably described as 'osmosis' by Weetman (2005). This contrasts with more active approaches with academics doing their own teaching (Morrison, 2007) or with the support of librarians (Johnson, Whitfield & Grohe, 2011). However, Cope and Sanabria (2014) identified that where academics saw IL as within the discipline setting, they may not look to the library to deliver this, since they felt this was already addressed by their own teaching.

Another barrier identified from the literature which has had an impact on the development of IL has been a dichotomy in the approach taken by library staff, either placing IL teaching within the subject discipline (Cope & Sanabria, 2014; Farrell & Badke, 2015) or promoting IL as a discrete discipline taught as a generic set of skills. Leckie and Fullerton (1999) found a need to deliver library research instruction within the discipline-setting for it to be successful. Johnston and Webber (2006) proposed IL as a separate, soft, applied discipline in its own right, with a wider brief covering citizenship, economy and employability (Webber & Johnston, 2017).

Farrell and Badke (2015) documented this tension of librarians decontextualising IL and presenting it back to academics as generic IL instruction, which fails to fit with academics' perception of IL, and uses an alien language. Using 'academics' own language' promotes a common understanding (Webber, Boon & Johnston, 2005) and assists in the liaison process. While Cope and Sanabria (2014) found commonality of IL skills between disciplines, this remains hidden as each discipline expressed IL matters in their own language, and they suggest approaching academics through a general framework, not so closely aligned to their discipline, could be more successful.

When researching academics' views two broad approaches have been adopted, using either a quantitative method drawing from sample groups taken across a number of institutions (Cope & Sanabria, 2014) or using a cross-section of disciplines, (DaCosta, 2010; Dubicki, 2013). Some researchers included a range of disciplines (Andretta et al., 2008; Bury, 2011) at one institution (McGuinness, 2006; Morrison, 2007; Saunders, 2012; Ganley, Gilbert & Rosario, 2013), or concentrated on a specific faculty's view (Leckie & Fullerton, 1999; Boon, Johnston & Webber, 2007). Academics were presented with lists of IL competencies skills which they selected and prioritised as important for students to possess. Broad agreement exists on the key competencies students require and which are valued by academics. DaCosta (2010) used a combination of competencies, drawn from CILIP, SCONUL and American Library Association (ALA) to review students' attainment of prescribed skills, acquired over the course of their academic career. These included recognising the need for information, knowledge of sources, searching strategies, evaluation and creating new knowledge.

Dubicki (2013) used the five ACRL skills for academics to assess and rate students' levels of skills competence, which included identifying, accessing and using information effectively and ethically. Students were found to be weakest in evaluation, which was also noted by DaCosta (2010) and Bury (2011). While there was general agreement of the importance of IL skills, academics deemed some students' skills were insufficient even on completion of their academic programme (Dubicki, 2013, p.114). These studies used a range of existing IL competencies or statements to qualify and establish academics' views rather than add to the skills set.

Researchers who used interviews, such as Boon, Johnston and Webber (2007) in their study of English departments, found agreement that IL included 'access and retrieval skills' (p.224) and higher order skills of critical thinking. They noted 'the use and manipulation of the acquired information is often described in disciplinary terms' (p.214). Academics described research skills and showed an awareness of their relevance and importance beyond the academic environment and transferability to an employment context (Morrison, 2007, p.9), and a willingness to help students learn these skills. McGuinness (2006) found a belief that through being exposed to the study of a subject, students would acquire IL skills, assisted by some specific library instruction. The 'learn by doing' approach was an expectation held by academics. Acquisition was dependent on student motivation and the completion of assignment work and IL was not seen as a priority. Leckie and Fullerton (1999) established the need for IL teaching to be discipline-based, with the benefits of liaison with academic staff enabling appropriate bibliographical instruction to all levels of students. This would include finding, retrieving and evaluating information and the effective use of information. This grew in importance as the student progressed through the years.

Although some research samples included representatives of a number of faculties, the line of enquiry did not always seek to identify specific discipline differences but to compare pre-determined characteristics (Weetman, 2005; DaCosta, 2010). Saunders (2012, p.231) explored the attitude differences between disciplines and identified a common baseline of competencies covering location, access and basic evaluation of information, which were transferable between disciplines. Webber et al. (2005, pp.10–11) considered a comparison between English and marketing academics and found the latter noted the importance of being aware of the outside world, and the need for skills in using and presenting information as well as those of gathering information.

Finally, we reviewed the literature on academics' views of IL within the future workplace. Inskip (2015) and Goldstein (in Malafi, Liu & Goldstein, 2017) reported that the term IL is not always recognised by employers, and graduates moving from an academic environment to the workplace are presenting employers with an ill-fitting skill-set. This is partly due to semantics but there is also a need to understand the differences within the working environment which

contribute to this (Inskip, 2015). Wu and Kendall (2006) noted the need to prepare students for a 'competitive workplace' with IL skills for lifelong learning, while Weiner (2014) also found a recognition of the need to prepare students for success in their careers. Monge and Frisicaro-Pawlowski (2014) considered which competencies can be transferred into the workplace from academia, while noting differences in the two settings, and proposing that librarians should 'incorporate non-formal and informal workplace practices' (2014, p.59).

Lloyd (2006) has shown that information literacy tends to be described in terms of a skill-set, but has presented a less library-centric view, widening IL to beyond a library setting to incorporate the workplace (Winzenried, 2011). Lloyd sees IL as 'a holistic process influenced by social, physical and textual relationships with information that requires a range of information practices and acknowledges the complexity and diversity of information sources within a landscape' (2006, p.571). Goldstein summarises IL in the workplace as 'determined largely by social contexts of work environment' with a reliance on informal routes for information gathering (Malafi et al., 2017). Head (2012) found new employees needed some of the skills they had perfected during college such as 'extracting quality content … critically evaluating materials and/or synthesising large volumes of content' (2012, p. 25). They also needed to develop their use of social capital in the workplace, significant in the early stages of adapting to the work environment when 'cultivating relationships with a trusted co-worker would help them find quick answers, save time, and learn work processes' (2012, p.3).

3. Ethical clearance

In-house ethical training was undertaken and ethical clearance was granted by the relevant research committees. All participants were provided with an information sheet detailing the purpose of the project and were informed that information would be anonymised. Participants signed a consent form to indicate they were making an informed decision to participate, agreeing to the interviews being recorded and that they had the right to withdraw at any time without penalty or providing an explanation. Confidentiality and anonymity were maintained at all times in the storage, transcription, analysis and dissemination of the interviews. The scripts and audio were saved on a secure server.

4. Methodology

The overarching research question we wanted to explore was:

How do academics in higher education perceive information literacy?

Within this there were sub-questions:

- How do the academics in higher education perceive the information literacy skills of their students?
- Does the discipline influence their perception of information literacy?

We used a qualitative method allowing for the exploration of the views, perception and opinions of academic staff. Following the examples of McGuinness (2006), Boon, Johnston and Webber (2007), Bury (2011; 2016), Cope and Sanabria (2014), we used semi-structured interviews as the research instrument.

The use of semi-structured interviews allowed an in-depth exploration and insight into the academics' views, through consistent and specific questions. The semi-structured nature of the interviews provided scope for supplementary questions for clarification and expansion of answers with further exploration of key points, thus improving the validity of the data (Denscombe, 2014). [The interview schedule can be found in Appendix A.] Like Cope and

Sanabria (2014) we found that our participants discussed the core themes but also provided interesting new information that could be responded to and checked during the interview. Before commencement of the interviews the question schedule was piloted and refined from the responses and advice from the pilot group. Where possible both researchers attended the interviews with one taking the lead in each interview. Where this was not always possible the potential of 'interviewer effect' or bias is acknowledged, and may have had some impact on the results; however the use of the schedule and a standard set of questions aimed to minimise this (Denscombe, 2014).

In some previous research around IL with academics, definitions of IL were presented, models of IL supplied, or no definition or model was provided. In other research academics were familiarised with IL models, for example in both the UK and the USA by Weetman (2005) and in her later work, DaCosta (2010) used a variety, including the SCONUL Seven Pillars model (2011), the ALA (2004) IL statement and the CILIP (2004) definition. Gullikson (2006) researched faculty perceptions of the ACRL's IL competency standards, Bury (2011), Saunders (2012) and Dubicki (2013) included the ACRL IL definition and standards to help participants and Pinto and Sales (2015) used a previously designed questionnaire known as 'IL-HUMASS'. Notably the research undertaken by Boon, Johnston and Webber (2007) did not provide a definition and resisted giving one even during their interviews.

We hoped to follow Boon, Johnston and Webber's (2007) method to minimise influencing the views of our interviewees. However, after much debate, it was decided to provide participants with some form of IL definition. While this may be seen to be leading their responses, like Bury (2011), there is an assumption that by using the definition they would all have some knowledge of IL, and equality in discussing and commenting on the same definition of IL.

We discussed the merits of providing a definition of IL to academics. While did we not wish to be over-prescriptive or influence the responses we settled on the CILIP (2004) definition of IL. This brief and generic definition provided a focal point for exploration around the topic. Lists of activities or competencies associated with IL were not included or provided, as we wished to move beyond the more narrow or traditional view of IL and to encompass current thinking around holistic and learner-centred IL practice (Secker & Coonan, 2011; Dubicki, 2013). The interview schedule, including the CILIP definition of IL, was sent out prior to the interviews and although we assumed academics would have read this prior to the interviews, in practice few had done so.

Of interest is more recent research by Dawes (2019) who did not use any definition of IL and instead framed questions in more lay/generic terms which they considered would encourage academics to use their own language.

All staff in the two selected departments (business and nursing) were approached and had equal opportunity to take part in the interviews. For those who opted to take part, we acknowledge that the participants may already have some prior interest and knowledge in IL. Cope and Sanabria state that this could be a potential limitation in obtaining interview samples and that by just agreeing to be interviewed on this topic participants are acknowledging a 'commitment to the concept' (2014, p.480).

No incentives to take part were given. Of the 22 self-selected interviewees, 18 were lecturers (nine from each department) and four were from management positions (two from each department). Our sample included a cross-section of gender, age and length of time in academia.

On average each interview lasted 45 minutes and was transcribed and uploaded into NVivo. Analysis of the scripts was done both independently and collaboratively and likewise the coding was documented, compared and discussed throughout the process.

The interview recordings were listened to and the transcripts read several times and our initial coding used the interview questions as our breakdown to create a thematic structure. Subsequent analysis resulted in the emergence of themes and issues which were identified and coded. These clusters allowed identification of meanings to emerge, which were further sub-divided and refined through the process of re-reading, discussion and comparison. This process helped capture themes raised through the unstructured nature of some responses. The underlying aim was to ensure that patterns and relationships were identified, which is important when analysing qualitative data (Craven & Griffiths, 2013).

5. Findings

Following our thematic analysis of the interviews our key findings are presented under the following eight themes:

- Academics' definition of IL
- Discipline differences
- Transition into higher education
- Information landscape
- Reading and writing
- Preparation for the workplace
- Level 6 and the undergraduate dissertation
- Evaluation and critiquing.

5.1 Academics' definition of IL

Academics all described the use and communication of information as their primary perception of IL and central to their thinking and understanding of IL. The ability of students to search for information was taken for granted, as students were described as being familiar with search engines like Google. This was seen to demonstrate a capability to search. However, as the interviews progressed, there was reconsideration and recognition of the skills needed to search effectively. Academics while noting students could find 'stuff', they could be overwhelmed with the quantity of results and lacked selection and evaluation skills to cope with this. There was a concern that students 'managed' this by accepting early results too readily. The ability to discern quality items from the resources available was seen as an important aspect of being information literate. Information seeking was always described as being for a purpose, generally linked to assignment work or placement requirements. Information was not seen in isolation, but linked to a task, to be re-purposed, to add value or provide research and evidence to support academic work and placements.

Some academics suggested that students should be starting from this position – of understanding – and being able to recognise the requirement for information, when given a particular question or scenario. Others went further, stating that this should include identifying the actual type of information required, such as statistical data or policy information. Academics expected the student to have knowledge of the variety of information resources that were available, and to be able to make appropriate selections for the task. Academics did not indicate how the students were to achieve this awareness but had high expectations of the students' knowledge of information sources.

IL was seen as an active process of turning information into knowledge, or theory into practice. For nursing students this was key to providing evidence-based practice, which underpins the

approach in nursing, of being knowledgeable and well informed and being able to challenge poor practice and implement appropriate change. For business students it brought knowledge and understanding of theoretical models and the ability to explain the mismatch when compared with a real-world environment.

5.2 Discipline differences

Academics were asked to indicate how they saw the influence of their discipline on IL. Teaching academics talked about IL within the setting of their subject, but generally did not recognise underlying skills as having commonality in other disciplines. The subject content was of primary concern and literacy skills were an extension of this, rather than something distinct from their discipline. In contrast, faculty management staff saw IL differently, as a transferable skill which went across discipline boundaries, with wider implications for the student journey through academia into employment. One respondent argued that:

> I think the underpinning skills remain the same regardless of whether you're looking at medical data or looking at a business report on eBay. (Interview 12).

When asked to identify what was unique to their discipline within IL, academics, in general, responded by talking about sources specific to their discipline, rather than competencies specific to a discipline. Academics expected students to draw on a wide range of resources and use these in their assignments, demonstrating a breadth of knowledge. Their perception of sources went well beyond peer-reviewed journal articles and incorporated a wider scope of subject related sources, for example documents from government, commerce, trade, and professional organisations covering a variety of information types including statistical data, news media, policy and procedural documents. This was the case for both nursing and business academics and described by them as the 'information landscape'. A key role emerges from this for those teaching IL, to assist students to be 'engaging with the literature' (Interview 14) and gain a greater awareness of the information sources for their disciplines.

Key themes common in both disciplines were the need to communicate or transmit information, and the requirement to be up-to-date and well informed about current developments and practices.

Communication was closely linked to the intended audience or recipient of the information which influenced the choice and format of the communication and the way information was assembled for presentation. Each discipline interpreted and applied these features in different ways, which related to both academia and the workplace. For nursing students, communication was often regarded as verbal communication. IL was seen as selecting, assembling and presenting the required information, in a format which was appropriate to the audience group. This could range from patients, patients' families, fellow professionals or other agencies. As one nursing academic noted:

> … communication is such a vital part of nursing it underpins almost everything a nurse does that's communication with their patients, communication with relatives, communication with other professionals (Interview 2).

Business students were expected to be able to communicate information generally in a written format, such as case studies and reports. Academic staff included within this the interpretation, analysis and manipulation of data, which could be derived from numerical sources (referred to by them as 'big data') and be presented in a written report or tabular format. Academic staff regarded numeracy and data handling skills as integral parts of the IL skills that a business student should have, as well as developing what might be regarded as traditional literature-

based research skills. Reading and interpreting numbers within the business discipline was specifically identified as a required skill for their academic course and for the future workplace.

Keeping up-to-date was another common theme. Nursing academics stated that students need to be well-informed and keep abreast of the latest developments in a range of areas covering current legislation, policy, regulations, professional guidelines and research at national and local levels. The need for current awareness was driven by both the nature of their work, and the requirements of awarding professional bodies. Business students also need to be aware of current affairs, particularly business news and world events, and how these impact on commerce and the economy. Understanding this interrelationship is fundamental to their knowledge base. Developing and maintaining this knowledge was seen as a crucial part of their IL. This included an expectation that students would follow a variety of reporting and commentating sources from established news and professional websites to complement their knowledge from academic sources.

One academic observed that:

> I always bring up a current event in the lecture and see if the students can apply any of their knowledge to [it] (Interview 4).

Another noted that:

> … every item has some sort of relevance, it might not appear to have … but they need to be aware of [it] so that when they are listening, for instance, to the television or looking at a website with news, they not only understand it but they also understand its relevance to them (Interview 11).

However, academics did not indicate how exposure to current affairs necessarily provided this understanding.

Finally for the nursing students, academics mentioned the concept of evidence-based practice, seen as integral to IL and a driver for attaining and maintaining IL. This underpins training and service delivery in nursing:

> Anything a nurse does they should be able to provide the rationale for why they are doing it and that rationale will come from the evidence-base, the literature and the research that is out there (Interview 18).

5.3 Transition into higher education

Academics mentioned issues around the transition into the culture of higher education. It is seen as a major step for many students whether arriving straight from school or as mature entrants who have been away from formal education for some years. Students find themselves in an alien world and are expected to develop quickly as independent learners. Academics agreed that students are often not fully prepared for this change and this impacts on how students learn and how they engage with their course. The numerous and various prior experiences and backgrounds students bring to university can influence their learning and development through the first year as:

> … when students start on this journey they don't necessarily start on the same point, you will have students from varying backgrounds, various experiences and different capabilities (Interview 9).

Academics typically saw new students as able to use online search engines and thought that finding and accessing information was easy:

> … when they first come here they are all very literate in terms of accessing the systems [and] information (Interview 10).

However, despite experience of using digital tools to search, academics commented that some students' searching skills are rather superficial and they may have only minimal or no experience of advanced searching techniques, or of using a variety of sources. Some mentioned the 'cut and paste culture' displayed by students in their work as they start university, where:

> … the younger students who have come from sixth form … have really been taught to just regurgitate information … they can use whatever source copy and paste it and we have to get those … bad habits out (Interview 14).

Academics commented on this prior 'spoon feeding' experience of students and that many are either used to being provided with information or of using only one key text for all their information.

The ability to work independently and to learn to find things out for themselves is an expectation, however a lack of preparedness results in some students requiring guidance to access and interpret information since 'they come in pretty much expecting to have stuff given to them' (Interview 12). A balance is needed between the amount of guidance provided for students, especially in the first year, and encouragement to independence, inquisitiveness and engagement with the wider literature. The early development of good study skills and habits is an important foundation and 'needs to accelerate quicker than knowledge development' (Interview 20), or subject knowledge.

While emphasising the lack of preparedness they did not blame students for this lack of skills, commenting on a 'weaning off period' (Interview 7) from school, noting that:

> … to a certain extent it isn't their fault they haven't … been taught this at school and when they [students] come into the university setting we are asking … them to climb a mountain basically without the crampons and ropes – necessary tools to do it (Interview 3).

5.4 Information landscape

Academics had referred to students needing 'to be aware of the whole landscape of information' (Interview 21). For both business and nursing, academics had a wide-ranging view of what they saw as relevant information, including academic, institutional and professional sources beyond the academic arena. They referred to the wide range of materials available and their wish for students to engage with and become familiar with them, one stating:

> I would like the students to be aware of the vast range of information sources that they can use … I think there is a very narrow view of where information can be obtained (Interview 7).

There were comments on the lack of use of up-to-date current information, breadth and depth of sources used to support academic assignments plus an apparent lack of reading around topics by some students. This was juxtaposed by a presumption that students naturally had a general awareness of the sources which could be available to them within their discipline. There was an underlying theme that students either had this knowledge or would acquire it, but in reality this did not necessarily take place. Some students were unable 'to demonstrate their knowledge of a

particular matter [having] a very surface level of understanding of what material they need to use' (Interview 12), including selecting and using appropriate level of resources.

5.5 Reading and writing

The skill of reading was mentioned as a critical factor in developing IL skills which had implications for students' academic attainment. Academics commented on the value of reading skills and expressed concern 'that the gap to me is that people just do not read' (Interview 14).

Academics considered some students were reluctant to read and lacked the motivation and commitment to engage with literature and read widely. They asserted students lacked exposure to reading as an activity and when it did take place it could be superficial. The difficulty in undertaking sustained reading, at a deep level, was due in part to a lack of familiarity with this type of material, but demonstrated that this is a skill-set which needs more attention and development in students to improve academic performance. This was evidenced by the limited range of sources used to support assignments especially at Level 4. Academics also commented on the need for wider reading to introduce students to a range of viewpoints to help them undertake critical analysis and form judgments. Despite recommendations through the reading lists, some students seemed bound by the textbook, and did not explore other sources - impacting on their level of attainment. Reading was confined and focused only on the completion of the academic task. This limited their acquisition of knowledge and ability to construct arguments in classroom discussions, reducing their contribution in these sessions and impacted on their writing for assignments.

A link between reading and writing ability was also stated, those with a limited range of reading tended to write in a descriptive manner, 'because they don't read enough they tend to go into … very descriptive modes' (Interview 19). In contrast, those who read more widely were exposed to a wider vocabulary and range of presentation styles and wrote in a more academic style:

> … the academic language that they are reading becomes part and parcel of their own writing style …and the more they read the better their writing is going to be (Interview 7).

5.6 Preparation for the workplace

Both disciplines commented on the need for literacy skills in the workplace and were concerned that students were not adequately prepared for this transition. Academics wanted students to appreciate the connection between what they were taught in university and its transferability and value in the workplace. Although they acknowledged that students may not see this skill-set as directly transferable or relevant to the workplace, academics, who taught nursing students returning from placements and on CPD short courses, were well informed about this issue and saw a very clear and direct link.

Students need to be prepared for finding information in the workplace environment and utilise those access arrangements that are in place. Nursing students also needed to be aware of the greater information landscape pertinent to their discipline both as a student nurse and once qualified:

> … so they need to know … where to get that information from and be comfortable with all the various sources of information that they need so that from my point of view it is preparing them for the workplace (Interview 11).

Academics stated that business students need to develop and maintain an awareness of current economic affairs to operate effectively in the workplace. Additionally, it was anticipated by academics that future employers would expect their new employees to manage large scale projects set in a faster-paced environment than found in academia. While at university, the

business students do receive preparation to develop these skills, but there remained a concern, that the perceived change of scale and pace found in industry was not adequately anticipated.

5.7 Level 6 and the undergraduate dissertation

An academic commented 'it's only really in the third year that focus comes' (Interview 11), and by Level 6, academics expected students to have acquired good IL and research skills, be able to synthesise information and develop arguments supported with the use of good quality references. By their final year students should be well equipped to complete academic work at this level, and 'actually properly hit the ground running with not just their project but their other modules' (Interview 22).

The academics' views of how students develop and learn these skills was unclear with comments about students 'just picking them up' and that they 'develop by some kind of mysterious process of osmosis over time' (Interview 12). They did agree that if they had not acquired them by the dissertation year (Level 6) it has an impact on the quality of academic work, through the lack of information sources used.

Students needed help and support finding searching and accessing information, since they still appeared to be unaware of the full range of information sources available and unable to distinguish effectively between different sources of information. Academics expect students in the final year to be moving away from just using the first sources they find, to the use of good quality 'academic sources'. They also expect students to be able to critique material and 'work through to actually using primary research and analysing it and seeing whether it can support what they are saying' (Interview 18).

Academics commented that the process of completing a dissertation or undergraduate major project (UGMP) seemed to finally get many students fully engaged. In students a significant mind change seems to occur; demonstrated by a change of approach to researching, engaging with the literature and reading:

> … they see the end game and they suddenly are far more interested in their marks and how they can improve their situation and what information they need, so it's obviously a bit easier to encourage them to seek information and be aware of the sources of information (Interview 11).

Additionally, they took advantage of university support systems which had previously remained underutilised. These include personal tutorials, study skills and library support sessions.

5.8 Evaluation and critiquing

A number of issues emerged around the concept of evaluation, including critical thinking, the ability to make judgements, decision making, questioning, having an opinion and being able to compare, contrast and synthesise information. Academics saw a clear link between the development of these skills and student learning and progression to higher order skills – searching, evaluating search results, selecting sources and then critiquing, using and synthesising them. The importance of evaluation and critiquing information for quality, suitability and use in various contexts was mentioned by all academics, in relation to both (as noted earlier in 5.1) their own definitions of IL and the issues around the IL skills of students. Academics were disappointed at the lack of quality resources used in student assignments as often 'they are using the wrong stuff out of all the stuff that is available to them' (Interview 12), demonstrating the limited evaluation skills possessed by some students.

A number of academics specifically mentioned the link between IL, learning and Bloom's Taxonomy (Bloom et al., 1956). They suggested students need help to learn how to question the quality and validity of information sources and acknowledged that this required higher order skills which took time to develop.
Academics mentioned that students need to learn the skills of moving from finding 'stuff' to finding information which they can apply and use in the assessments. Students are:

> … overwhelmed by the information flooding into them… and their problem is getting the golden nuggets out of the rubbish which is out there (Interview 10).

They lack the skills to easily sort through, identify and select quality sources. Evaluation seems to be the greater challenge as:

> … they can pull off the information, the big problem is taking that and utilising it in a way which adds … value (Interview 10).

They deal with this by using the first ten or so items found in any search results, and by taking things at face value 'just accepting *prima facie* without actually examining it… there is no criticality' (Interview 3).

Academics considered those involved in teaching IL should be helping students to develop a questioning attitude (Interview 22) and:

> … teaching them approaches to information … [and to] take those approaches into whichever context that they are going to be (Interview 20).

6. Discussion

In our research, academics' views of IL are reflected in the new definition of information literacy from CILIP (2018) which presents IL within a number of contexts. Of particular significance to academics was the education setting and the importance of developing critical evaluation skills to support arguments with evidence, while also seeing IL in a setting beyond the immediate academic environment. The new definition reflects the importance of IL underpinning transferable and employability skills to bring to the workplace. This is reflected by our academics, who supported vocational courses and showed concern that students should have IL skills when they move into the workplace.

Our academics, in defining IL, notably started with the use and manipulation of information, which was seen as a disparate, context-related activity. In considering the CILIP definition (2004) the first part, the 'when and why', were perceived as less important, with our academics placing more value on the use or transmission of information. They concentrated on the second part of the definition around the end use and application of information i.e. 'use and communicate' (CILIP, 2004).

Our academics discussed the importance of students recognising a need for information which is task driven, where the ultimate use of the information is the key driver. The requirement to clearly identify the task was seen as a prerequisite, before considering the information needed to complete the task. This precondition has also been noted by Dubicki who states that: 'First, students need to understand what is required in order to complete an assignment…' (2013 p.109). This was a concept identified within both the original CILIP definition (CILIP, 2004) and within the SCONUL framework, but is less explicit within the ACRL framework. This is in contrast to the findings of Boon, Johnston and Webber, who found 'the lack of an "recognizing an information need" concept' (2007, p.220) and stated that: 'At no time did the interviewees in…[their] study describe a process of identifying their information need' (2007, p.220).

Towards the end of the interviews academics did acknowledge a lack of students' search and evaluation skills, and were concerned that in some students these skills were slow to develop. Boon, Johnston and Webber (2007) noted a deficiency in these skills prompts discussion, their value only being recognised when absent. Generally, there was an aspiration for IL skills to be present as noted by other researchers, for example Bury (2011), whose research highlighted faculty concern around undergraduates' IL abilities.

As noted above our academics described IL as a task-orientated activity and considered the selection of appropriate resources and their use and communication to fulfil a task as the key features of IL. They did not describe IL in terms of competencies or library skills - rather they referred to 'doing research'. This was also noted in the literature by Webber et al. (2005) and Cope and Sanabria (2014), illustrating the value in library liaison to overcome misunderstandings created by semantics. Keeping in touch with the 'outside world', was emphasised by our interviewees from both faculties, and concurs with other findings, notably Webber et al. (2005). They also noted that 'the ability to manipulate numerical as well as textual data' (Webber et al., 2005, p.11) was a skill required by marketing students. This mirrors our business academics who noted a requirement of their students to be able to 'read numbers', and make sense of numerical data, in order to present in a digestible text-based format for a business audience.

Our interviewees referred to a desire for students to be aware of and use a greater selection of 'good' sources. This is supported in the literature, with a wider appreciation of the wealth of available sources for literature noted (Saunders, 2012), with Andretta et al., (2008) describing it as a knowledge of the information environment. How students learn about the resources for their discipline is sometimes unclear as both our academics and previous research suggests a belief that it just happens by 'osmosis' (Weetman, 2005; McGuinness, 2006; DaCosta, 2010; Badke, 2010b).This suggests there is a gap which librarians could address, by ensuring that students are exposed to using a greater range of sources relevant to their subject area in our IL teaching.

Saunders (2012) noted that disciplines differ in their view of what constitutes primary and secondary sources and this impacted on the accompanying evaluation skills applied to different sources. Social sciences and humanities subjects value commentary and opinion, while science-based subjects placed more emphasis on quality research. In our interviews an importance was attached by business academics to commentary sources such as newspaper and news sources, but this was not found with nursing academics. Both placed value on leading professional sources. Nursing academics placed a greater emphasis on research-based material for evidence-based practice and required an awareness of the research process. Our academics mirrored the ANCIL IL framework section 'Resource discovery in your discipline' and the need to enable students to find and understand the best sources (Secker & Coonan, 2011). This presents a challenge for those teaching IL to ensure students are exposed to a wider selection of materials but with assistance as to how to evaluate these differing materials.

A common concern mentioned by our academics was the over-reliance on textbooks in the first two years of study, similar to the findings of Saunders (2012). Central to this concern was students being 'bound by the textbook' (Interview 1), and the need to explore a wider range of resources beyond the prescribed texts. This is of benefit to 'enhance and expand areas of what [students] are learning' (Interview 1) and link what they learn to real life.

Leckie and Fullerton (1999), when canvassing academics from a wide range of disciplines noted that if instruction is to succeed it needs to be delivered within the subject context. This was also noted by Cope and Sanabria 'that faculty view information literacy as firmly embedded in their disciplines' (2014, p.498) and seen by Farrell and Badke as 'embodied within

disciplinary practice' (2015, p.319). Our findings endorse this, as our academics see IL through the discipline lens, and this included an expectation that students should be aware of all their disciplinary sources. In the two subject disciplines we consulted, knowledge of the subject approach, noted by Grafstein (2002, p.202) as contextualisation within the structures and modes of thought of the discipline, together with the subject specific content, are integral to developing students' IL skills.

The ANCIL framework (Secker, 2011), while following the path of previous frameworks in identifying concepts or competencies, includes a progressive band of 'subject context'. This supports a discipline-based approach to teaching IL and harmonises with our lecturing academics' perception of IL situated within their disciplines.

However, academics in managerial positions, who preside over a higher education curriculum where there is increasing emphasis on employability skills, took a more holistic view, and saw the role of IL in its broader context, as part of 'preparation for life'. This reflects the view first proposed by Johnston and Webber (2006) who viewed IL as a soft applied discipline preparing students in three core areas: citizenship, economy, and employability. The dilemma remains for the librarian of balancing teaching IL either within the discipline setting or presenting IL as a generic skill.

The literature shows that transition into university involves students essentially having to 'learn how to learn' (Wingate, 2007) and that this is an evolving process which takes time (Tett, Cree & Christie, 2017). Assisting progression from the managed learning of 'copying and pasting' and 'teach to the test' culture, experienced at school, to a university culture where content, depth and criticality are priorities and crucial in enabling students to become independent autonomous lifelong learners (Secker, 2011; Pavey, 2013).

Our academics commented on issues around transition using the same vocabulary as the literature. They noted that some students struggle to transition easily into university and are unprepared for independent or self-directed academic work (Anderson & Bull, 2014; Saunders, Severyn & Caron, 2017) and can find this difficult (Christie, Tett, Cree, Hounsell & McCune, 2008; Smith, Given, Julien, Ouellette, & DeLong, 2013). Additionally, students seem overwhelmed by the volume of information available and often dealt with this information overload by using only the first set of results of any search. This strategy was also noted by Cope and Sanabria as a way of coping with the 'data glut' (2014, p.492).

The view that the world of academia is less structured than school (McGuinness, 2006) and can seem alien to what students have experienced before (Bruce et al., 2017), was also observed by our academics. However, despite this issue being a well-researched and known issue, it remains a challenge to be addressed within our institution.

Our academics expressed concern that students do not appear to be reading – enough or the right material – and this impacted on other aspects of their academic course, such as knowledge acquisition and academic writing. Dubicki (2013) notes the importance of reading comprehension, and evidences the need for better reading skills, in part to develop writing and the synthesis of information. Our findings endorse this link between critical thinking, reading and writing which previous studies have also found (Boon, Johnston & Webber, 2007; Dubicki, 2013). Cope and Sanabria (2014) discuss the need to provide writing-intensive courses, to improve writing skills. A lack of wider reading limits knowledge and an ability to understand and contribute to discussions incorporating different points of view. The reticence to use a variety of information sources could be related to lack of awareness of the sources, or a difficulty in locating and using them, and is worthy of further investigation. Ganley et al. (2013) found an over-reliance on newspaper and popular websites with too few peer-reviewed articles and other scholarly material being used by students. This is supported by Morrison (2007) who 'expressed

a desire for students to read published academic work' (2007, p.12). While our interviewees did acknowledge that academic articles could be hard to read, there seems to be a lack of promotion of alternative materials of an intermediate level for undergraduates. While academics indicated their wish for students to be aware of and use a greater variety of material, a challenge remained to provide information sources of the right level for students.

Having good IL skills are a foundation for academic study, and our academics recognised there was a role for IL in the workplace. When considering the research around IL in the workplace different skills are highlighted. The relative importance of gaining social capital in the workplace is an important finding within the literature but not something our academics mentioned. Lloyd (2006) notes that IL in the workplace may not follow a traditional description but can be seen as navigating a series of situations where information is required and may be available. Our academics' view was limited to a need to access a variety of sources relating to the perceived requirements of the workplace. Head (2012) suggests that at the time of her survey, employers expected new employees to combine traditional research competencies with less high-tech skills, but found new employees coped by trial and error to learn these skills. Other writers have commented on the organisational structure and work environment, notably Goldstein (in Malafi et al., 2017) who emphasises the less structured and chaotic workplace, and the role information has in organisational knowledge through information-sharing.

There is limited research on IL specifically around the undergraduate dissertation. Research by DaCosta (2010) and Dubicki (2013) included faculty views of what IL skills students should have acquired by the end of their course and found, like our study, that many still fell short of the ideal. Our academics commented that some students reached Level 6 with poor IL skills but that the UGMP seemed to assist as a catalyst for improved learning and development of IL skills. Whether this is the case and how this might inform IL teaching throughout an undergraduate course is an area to be explored in the future.

The evaluation and use of information within the discipline setting was central to our academics' definition of IL and this matches the findings of other research (Saunders, 2012; Dubicki, 2013; Bury, 2016). Our findings endorse the centrality of the skill of critical thinking around the selection and use of information which is also core to the new CILIP definition (CILIP, 2018). This reflects a move to placing more emphasis on critical thinking in selecting information sources for use. All our academics saw the evaluation, synthesis, contextualisation and application of information sources as important and essential parts of IL, not just the searching. The process of using and repurposing information adds value, and producing this for a task was an area they indicated students found challenging. Similar findings were presented in research by DaCosta (2010), Bury (2011) and Dubicki (2013). Skills of synthesising and creating new knowledge are emphasised in both the ANCIL and the new ACRL IL standards and are seen by our academics as essential to both IL and learning (Secker, 2011; Coonan, 2011; ACRL, 2016). Developing the skills of information discernment (Walton, 2017) was central to our academics' view of the 'information literate' student where IL needs not only to be actively integrated within the student's learning and contextualised within their discipline (Dawes, 2019), but built, like all learning, on their prior knowledge and experiences.

7. Conclusions

Our interviewees, as they discussed their views of IL, presented a number of issues and challenges for our academic librarian team. While we have been aware of the issues for some time, from our own experience and anecdotally, our research has brought into focus the need for IL skills to be developed if possible prior to or at least from the start of students' careers in academia. An awareness that for some, this is a real change of culture which demands new skills, and which the library can take a part in developing. Additionally, the undergraduate dissertation is valuable in initiating much-needed acquisition of IL skills, but there would seem to

be a benefit to encourage these skills earlier in the curriculum. Exploring this relationship could be the subject of a future research project.

The value of reading is apparent, as through this, students are exposed to knowledge and ideas in their discipline. It also facilitates evaluation and synthesis skills, through a critical awareness of a broader based content of their subject. An appreciation of quality information sources necessitates the greater development of evaluation and critiquing skills to be included in future IL programmes. At our university we have increased the delivery and promotion of evaluation skills throughout our IL sessions.

Our findings reflected research elsewhere that academics see IL through their discipline lens, expressed in the discipline's own language. This is important as a starting point for any conversation with academics if librarians are to be successful in promoting IL within the existing curriculum. Following on from this, we are liaising with academics to encourage putting a wider selection of source material on reading lists to ensure students are exposed to a breadth of sources in their discipline.

Academics endorsed a wider view of IL, concurring with the new CILIP perspective, which reached into the next stage of students' careers in the workplace. Further work is required to provide preparation for the IL demands of the workplace including an awareness of the role of informal networks in information exchange. An area for the library team to develop is ensuring our graduates are information literate for work and life. At our institution, the publication of new education and employability strategies, provides opportunities in the curriculum for the development of a range of IL skills pertinent to academia, work and life.

References

American Library Association (ALA) (2004). *Information literacy competency standards for higher education*. Available at: http://www.ala.org/Template.cfm?Section=Home&template=/ContentManagement/ContentDisplay.cfm&ContentID=26962 [Accessed: 3 July 2018].

Anderson, L. & Bull, S. (2014). The creation of a university library outreach programme to develop the information literacy of further education students: An interactive approach to support transition. *Journal of Information Literacy, 8(1)*, 42–57. http://doi.org/10.11645/8.1.1853

Andretta, S., Pope, A. & Walton, G. (2008). Information literacy education in the UK: Reflections on perspectives and practical approaches of curricular integration. *Communications in Information Literacy, 2(1)*, 36–51. https://doi.org/10.15760/comminfolit.2008.2.1.55

Anglia Ruskin University (2015). *Learning, teaching and assessment strategy 2015-17*. Available at: https://www.anglia.ac.uk/-/media/Files/Anglia-learning-and-teaching/Strategy/14-15124-LTA-Strategy-2015-17_FINAL.pdf?la=en&hash=362A4C3CE3E9299B6D617C5F62CC4A69 [Accessed: 12 October 2018].

Association of College & Research Libraries (ACRL) (2000). *Information literacy competency standards for higher education*. Available at: https://alair.ala.org/bitstream/handle/11213/7668/ACRL%20Information%20Literacy%20Competency%20Standards%20for%20Higher%20Education.pdf?sequence=1&isAllowed=y [Accessed: 3 July 2018].

Association of College & Research Libraries (ACRL) (2016). *Framework for information literacy for higher education*. Available at:

http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/infolit/Framework_ILHE.pdf [Accessed: 3 July 2018].

Badke, W. (2008). Infolit land: Information literacy and faculty. *Online, 32(3)*, 47–49.

Badke, W. (2010a). Foundations of information literacy: Learning from Paul Zurkowski. *Online, 34(1)*, 48–50.

Badke, W. (2010b). Why information literacy is invisible. *Communications in Information Literacy, 4(2)*, 129–141. Available at: http://www.comminfolit.org/index.php?journal=cil&page=article&op=view&path%5B%5D=Vol4-2010PER3 [Accessed: 11 May 2019].

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H. & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals*. *Handbook 1: The cognitive domain*. New York: David McKay Company.

Boon, S., Johnston, B. & Webber, S. (2007). A phenomenographic study of English faculty's conceptions of information literacy. *Journal of Documentation, 63(2)*, 204–228. https://doi.org/10.1108/00220410710737187

Bruce, C., Demasson, A., Hughes, H., Lupton, M., Abdi, E., Maybee, C., Somerville, M.M. & Mirijamdotter, A. (2017). Information literacy and informed learning: Conceptual innovations for IL research and practice futures. *Journal of Information Literacy, 11(1)*, 4. https://doi.org/10.11645/11.1.2184

Bury, S. (2011). Faculty attitudes, perceptions and experiences of information literacy: A study across multiple disciplines at York University, Canada. *Journal of Information Literacy, 5(1)*, 45–64. http://doi.org/10.11645/5.1.1513

Bury, S. (2016). Learning from faculty voices on information literacy. *Reference Services Review, 44(3)*, 237–252. https://doi.org/10.1108/RSR-11-2015-0047

Christie, H., Tett, L., Cree, V. E., Hounsell, J. & McCune, V. (2008). 'A real rollercoaster of confidence and emotions': Learning to be a university student. *Studies in Higher Education, 33(5)*, 567–581. https://doi.org/10.1080/03075070802373040

CILIP. (2004). *Definition of Information literacy*. Available at: http://www.cilip.org.uk/cilip/advocacy-campaigns-awards/advocacy-campaigns/information-literacy/information-literacy [Accessed: 12 July 2018].

CILIP. (2018). *CILIP definition of information literacy 2018*. Available at: https://cdn.ymaws.com/www.cilip.org.uk/resource/resmgr/cilip/information_professional_and_news/press_releases/2018_03_information_lit_definition/cilip_definition_doc_final_f.pdf [Accessed: 4 July 2018].

Coonan, E. (2011). *A new curriculum for information literacy: Theoretical background teaching learning: Perceptions of information literacy*. Available at: http://ccfil.pbworks.com/f/emma_report_final.pdf [Accessed: 4 July 2018].

Cope, J. & Sanabria, J. E. (2014). Do we speak the same language? A study of faculty perceptions of information literacy. *Libraries and the Academy, 14(4)*, 475–501. https://doi.org/10.1353/pla.2014.0032

Craven, J. & Griffiths, J. R. (2013). Data analysis. In: M. J. Grant, B. Sen & H. Spring (eds.), *Research, evaluation and audit: Key steps in demonstrating your value*. London: Facet Publishing.

DaCosta, J. W. (2010). Is there an information literacy skills gap to be bridged? An examination of faculty perceptions and activities relating to information literacy in the United States and England. *College & Research Libraries, 71(3)*, 203–222. https://doi.org/10.5860/0710203

Dalton, M. (2013). Developing an evidence-based practice healthcare lens for the SCONUL seven pillars of information literacy model. *Journal of Information Literacy, 7(1),* 30–43. https://doi.org/10.11645/7.1.1813

Dawes, L. (2019). Faculty perceptions of teaching information literacy to first-year students: A phenomenographic study. *Journal of Librarianship and Information Science, 51(2)*, 545–560. https://doi.org/10.1177/0961000617726129

Denscombe, M. (2014). The good research guide: For small scale research projects (5th ed.) Maidenhead: Open University Press.

Divay, G., Ducas, A. & Michaud-Oystryk, N. (1987). Faculty perceptions of librarians at the University of Manitoba. *College and Research Libraries, 48(1)*, 27. https://doi.org/10.5860/crl_48_01_27

Dubicki, E. (2013). Faculty perceptions of students' information literacy skills competencies. *Journal of Information Literacy, 7(2)*, 97–125. http://doi.org/10.11645/7.2.1852

Ducas, A. & Michaud-Oystryk, N. (2004). Toward a new venture: Building partnerships with faculty. *College & Research Libraries, 65(4)*, 334–348. https://doi.org/10.5860/crl.65.4.334

Farrell, R. & Badke, W. (2015). Situating information literacy in the disciplines: a practical and systematic approach for academic librarians. *Reference Services Review, 43(2)*, 319–340. https://doi.org/10.1108/RSR-11-2014-0052

Ganley, B. J., Gilbert, A. & Rosario, D. (2013). Faculty and student perceptions and behaviours related to information literacy: A pilot study using triangulation. *Journal of Information Literacy, 7(2)*, 80–96. http://doi.org/10.11645/7.2.1793

Grafstein, A. (2002). A discipline-based approach to information literacy. *The Journal of Academic Librarianship, 28(4)*, 197–204. https://doi.org/10.1016/s0099-1333(02)00283-5

Gullikson, S. (2006). Faculty perceptions of ACRL's information literacy competency standards for higher education. *The Journal of Academic Librarianship, 32(6)*, 583–592. https://doi.org/10.1016/j.acalib.2006.06.001

Head, A. J. (2012). Learning curve: How college graduates solve information problems once they join the workplace. *SSRN*. https://doi.org/10.2139/ssrn.2165031

Information Literacy Group (2018). *Definitions and models*. Available at: https://infolit.org.uk/definitions-models/ [Accessed: 14 July 2018].

Inskip, C. (2015). Making information literacy relevant in employment settings. *Online Searcher, 39(4)*, 54–57.

Johnson, O. J., Whitfield, J. S. & Grohe, B. (2011). Improving social work students' information literacy skills: A faculty and librarian collaboration. *Journal on Excellence in College Teaching, 22(3)*, 5–21.

Johnston, B. & Webber, S. (2006). As we may think: Information literacy as a discipline for the information age. *Research Strategies, 20(3)*, 108–124. https://doi.org/10.1016/j.resstr.2006.06.005

Kelly, J. (2013). Paul G. Zurkowski and information literacy: On his trip to the first European conference on information literacy (ECIL). *Journal of Information Literacy, 7(2)*, 163–167. https://doi.org/10.11645/7.2.1867

Leckie, G. J. & Fullerton, A. (1999). Information literacy in science and engineering undergraduate education: Faculty attitudes and pedagogical practices. *College & Research Libraries, 60(1)*, 9–29. https://doi.org/10.5860/crl.60.1.9

Lloyd, A. (2006). Information literacy landscapes: An emerging picture. *Journal of Documentation, 62(5)*, 570–583. https://doi.org/10.1108/00220410610688723

Malafi, E., Liu, G. & Goldstein, S. (2017). Information Literacy: Business and workplace information literacy: Three perspectives. *Reference & User Services Quarterly, 57(2)*, 79. https://doi.org/10.5860/rusq.57.2.6521

Maynard, J. E. (1990). A case study of faculty attitudes toward library instruction: The citadel experience. *Reference Services Review, 18(2)*, 67–76. https://doi.org/10.1108/eb049095

McGuinness, C. (2006). What faculty think – Exploring the barriers to information literacy development in undergraduate education. *The Journal of Academic Librarianship, 32(6)*, 573–582. https://doi.org/10.1016/j.acalib.2006.06.002

Monge, R. & Frisicaro-Pawlowski, E. (2014). Redefining information literacy to prepare students for the 21st century workforce. *Innovative Higher Education, 39(1)*, 59–73. https://doi.org/10.1007/s10755-013-9260-5

Morrison, L. (2007). Faculty motivations: An exploratory study of motivational factors of faculty to assist with students' research skills development. *Partnership: The Canadian Journal of Library and Information Practice and Research, 2(2)*. https://doi.org/10.21083/partnership.v2i2.295

Oberg, L., Schleiter, M. & Houten, M. (1989). Faculty perceptions of librarians at Albion College: Status, role, contribution, and contacts. *College and Research Libraries, 50(2)*, 215. https://doi.org/10.5860/crl_50_02_215

Pavey, S. (2013). Transition from school to higher education. In: J. Secker & E. Coonan (eds.) *Rethinking information literacy: A practical framework for supporting learning*. London: Facet Publishing.

Pinto, M. & Sales, D. (2015). Uncovering information literacy's disciplinary differences through students' attitudes: An empirical study. *Journal of Librarianship and Information Science, 47(3)*, 204–215. https://doi.org/10.1177/0961000614532675

Saunders, L. (2012). Faculty perspectives on information literacy as a student learning outcome. *The Journal of Academic Librarianship, 38(4)*, 226–236. https://doi.org/10.1016/j.acalib.2012.06.001

Saunders, L., Severyn, J. & Caron, J. (2017). Don't they teach that in high school? Examining the high school to college information literacy gap. *Library and Information Science Research, 39(4)*, 276–283. https://doi.org/10.1016/j.lisr.2017.11.006

Secker, J. (2011). *A new curriculum for information literacy: Expert consultation report*. Available at: http://ccfil.pbworks.com/f/Expert_report_final.pdf [Accessed: 12 October 2018].

Secker, J. & Coonan, E. (2011). *A new curriculum for information literacy: Curriculum and supporting documents*. Available at: http://ccfil.pbworks.com/f/ANCIL_final.pdf [Accessed: 12 October 2018].

Smith, J. K., Given, L. M., Julien, H., Ouellette, D. & DeLong, K. (2013). Information literacy proficiency: Assessing the gap in high school students' readiness for undergraduate academic work. *Library & Information Science Research, 35(2)*, 88–96. https://doi.org/10.1016/j.lisr.2012.12.001

Society of College, National and University Libraries (SCONUL) (2011). *The SCONUL seven pillars of information literacy*. Available at: https://www.sconul.ac.uk/page/seven-pillars-of-information-literacy [Accessed: 29 June 2018].

Tett, L., Cree, V. & Christie, H. (2017). From further to higher education: Transition as an on-going process. *Higher Education: The International Journal of Higher Education Research, 73(3)*, 389–406. https://doi.org/10.1007/s10734-016-0101-1

Walton, G. (2017). Information literacy is a subversive activity: Developing a research-based theory of information discernment. *Journal of Information Literacy, 11(1)*, 137–155. https://doi.org/10.11645/11.1.2188

Webber, S., Boon, S. & Johnston, B. (2005). A comparison of UK academics' conceptions of information literacy in two disciplines: English and marketing. *Library and Information Research, 29(93)*, 4–15. https://doi.org/10.29173/lirg197

Webber, S. & Johnston, B. (2013). Transforming information literacy for higher education in the 21st century: A lifelong learning approach. In: M. Hepworth & G. Walton (eds.) *Developing people's information capabilities: Fostering information literacy in educational, workplace and community contexts*. Emerald Group Publishing Limited, 15–30.

Webber, S. & Johnston, B. (2017). Information literacy: Conceptions, context and the formation of a discipline. *Journal of Information Literacy, 11(1)*, 156. https://doi.org/10.11645/11.1.2205

Weetman, J. (2005). Osmosis - Does it work for the development of information literacy? *The Journal of Academic Librarianship, 31(5)*, 456–460. https://doi.org/10.1016/j.acalib.2005.05.007

Weiner, S. A. (2014). Who teaches information literacy competencies? Report of a study of faculty. *College Teaching, 62(1)*, 5–12. https://doi.org/10.1080/87567555.2013.803949

Wingate, U. (2007). A framework for transition: Supporting 'learning to learn' in higher education. *Higher Education Quarterly, 61(3)*, 391–405. https://doi.org/10.1111/j.1468-2273.2007.00361.x

Winzenried, A. (2011). Information literacy landscapes: Information literacy in education, workplace and everyday contexts. *Library Review, 60(2)*, 164–166. https://doi.org/10.1108/00242531111113122

Wu, Y. D. & Kendall, S.L. (2006). Teaching faculty's perspectives on business information literacy. *Reference Services Review, 34(1)*, 86–96. https://doi.org/10.1108/00907320610648789

Appendix A

Interview schedule

Bridging the gap: Investigating collaborative support for student information literacy

The University Library, in collaboration with Anglia Learning and Teaching, is conducting research looking at the perception and views of academic staff regarding information literacy skills students have and require during their undergraduate career. The research will also seek to investigate the needs and requirements within specific disciplines.

The information gathered will be used to make recommendations to inform the future learning experience of students provided through a partnership with the University Library and Academic staff.

Areas to be explored in the interview:

Demographic data

These questions will help put your answers in the context of your discipline:

- What is your position?
- In which faculty are you based?
- What subject areas do you cover?
- How long have you been teaching undergraduate students?

1. Perceptions of information literacy

The definition of information literacy from the Chartered Institute of Library and Information Professionals (CILIP) is:

> "Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner".

What does information literacy mean to you?

2. Impact of your discipline on information literacy

3. The information literate student

4. Identifying the information literacy gap

5. How students learn information literacy skills