Éducation comparée / nouvelle série, n°19, pp 19 - 42

Then and now; themes in information literacy research in Anglophone countries from 2006-2016

Geoff WALTON
Manchester Metropolitan University,
Royaume-Uni

ABSTRACT

This paper addresses the questions: what were the major information literacy themes over the past decade (2006-16)? (RQ1); what is the current focus of IL research in Anglophone countries? (RQ2). The international conference LILAC (Librarians Information Literacy Annual Conference) was used as a lens through which to explore these developments. The paper seeks to reveal and analyse the major themes that have emerged from these events using qualitative content analysis to categorise findings.

LILAC was chosen because: (1) it attracts contributions from around the world (30 countries in 2016) and consistently hosts contribution from the USA, Canada, Australia, New Zealand, Eire as well as the UK; (2) contributors are drawn from both information professionals as well as the academic research community.

Findings show that the IL field is dominated by pedagogic research by librarians working in universities Higher Education to enable undergraduates and postgraduate become information literate. The focus of teaching and learning activities is largely on active learning and practicality or utility with expositions on how this can be achieved. Active learning is described in terms of constructivist and experiential approaches to teaching and learning as a means for maximising student engagement, especially through 'hands-on' interactivity using ICT or problem-solving.

INTRODUCTION

Few would have imagined that the concept outlined by Paul Zurkowski in 1974 would have captured the attention of practitioners and researchers in the field of information science for so long. Its development by the ALA in 1989 cemented it into the landscape of the library profession in the USA. Some would say with 'missionary zeal' (Owusu-Ansah, 2003). The American College & Research Libraries (ACRL) group definition of 2000 has provided a focus for the practitioner community and the basis for definitions in other Anglophone countries namely ANZIIL in Australia & New Zealand (Bundy, 2004) and the Big Blue in the UK (Big Blue, 2002). In 2015 the re-defining of IL by the ACRL in terms of threshold concepts provided an interesting early opportunity to determine what initial influence, if any, this may have on the IL community.

It can be seen that it was only from around the turn of the millennium, however, that IL began to capture the attention of professionals outside the USA in the UK (SCONUL, 1999) and other Anglophone countries for example the Council of Australian University Librarians (CAUL, 2001) with the notable exception of Australian researcher, Christine Bruce whose 'Seven Faces' of information literacy and relational concept provide a different narrative to, and predated, this activity (Bruce, 1997). The much criticised grand narrative of 'Seven Pillars' model has been proven to be popular amongst UK practitioners. First devised in 1999, it was relaunched in 2011 (SCONUL, 2011). Another UK model, Big Blue (2002), was a synthesis of several existing models (including ACRL) which was developed into the JISC i-skills model. The ANZIIL model (Australia & New Zealand Institute for Information Literacy) is based almost completely on the ACRL approach (Bundy, 2004).

The emerging importance of IL has been demonstrated in a number of ways through the growing number of research papers indexed in the database Web of Science, conference events, communities of practice, professional bodies and their sponsored research across a range of contexts. More broadly, the developing nature of IL is demonstrated through a growing range of scholarly literature. A search for the phrase 'information literacy' on Web of Science from 2006 to 2016 shows that journal articles in English have grown from 58 to 265 demonstrating a near 5 fold increase in volume.

Regarding conference events, In the UK the Librarians information Literacy Annual Conference (LILAC) has run successfully every year from 2005 and continues to do so. Further significant events included the Staffordshire University information Literacy Community of Practice (SUILCoP) which ran from 2016-2010 and attracted practitioners and academics from across the UK (as reported by Walton & Pope, 2006; 2011). These two events alone demonstrated that IL had become an important part of the professional lexicon in the UK. SUILCoP in particular focussed on the notion of IL teaching and research as a community of practice where meaning about a subject (in this case IL) is generated through mutual engagement with others in this community (Wenger, 1999). The Radical Librarians Collective also offers a fresh and challenging perspective on the direction of IL research especially the notions of 'critical information literacy praxis' (Radical Librarians Collective, 2016). The Scottish IL Community of Practice known as The Right Information - Information Skills for a 21st Century Scotland is an online community of practice which is open to everyone from within and outside the information profession.

Whilst this study analyses the work presented at LILAC it is recognised that there are other important events and outlets which should be embraced as part of the Anglophone IL socio-cultural landscape. The Library & Information Research Group (LIRG) and the Library & Information Science Dissertations Conference (LISDIS) for students also offer research perspectives in IL. The Information; Interactions & Impact Conference ('icubed') has become an interesting outline for IL research although its focus tends to be more in the fields of information seeking and information behaviour more generally. The emergence of the European Conference on Information literacy (ECIL), since its inception in 2013, has become a major event in the IL calendar. In 2016 this attracted representatives from 55 countries. Although conducted in English its international complexion, extending far beyond the Anglophone countries, does not give a sufficiently discrete and nuanced picture of emergent research in English speaking countries. There are several national conferences in the USA which are also important events in the IL year for example, Library Orientation Exchange (LOEX), American Library Association (ALA) and ACRL national conference events and regional conferences such as the Southern California Instruction Librarians (SCIL) Works

but, it is argued they appear to be very USA centric. Australia and New Zealand also have their own IL related events for example the International Evidence Based Library and Information Practice Conference (EBLIP). Canada has the Workshop for Instruction in Library Use (WILU). Eire has hosted LILAC twice (2010 and 2016) but does not appear to have its own conference specifically focussed on IL. Although all of these mentioned have a varied reach, it is argued here that LILAC furnishes the greatest breadth of representation of ongoing research (including practitioner research) across the Anglophone community.

There have also been many developments in the research literature both within and beyond the library profession. There are two international journals, Journal of Information Literacy (UK based) and Communications in Information Literacy (USA based) which have contributed significantly to the research field in IL. The Journal of Information Literacy is now in its 10th year and its special anniversary edition has gathered together 10 major thinkers in from across the Anglophone IL community to reflect on its development and future directions for the subject area. Within the information community, theoretical developments have begun to take place and signs of its maturity as a concept are demonstrated in a range of intellectual critiques (for example Markless & Streatfield, 2007; Walton, 2010; Whitworth, 2014; Tewell, 2015). For a more complete historical account of the development of IL in the UK see Secker & Walton (2016). Beyond the profession, IL has been recognised in a number of other disciplines such as media studies and politics (Leaning, 2009 and Thornton, 2012 respectively). Narratives of IL which demonstrate an alternative to the educational context, and which further show the maturation of information literacy, are embodied in Annemarie Lloyd's (2012) notions of IL as a socially enacted practice which is based on work with a range of research participants from outside the academic sphere such as firefighters and refugees. Research on IL in the workplace (for example Crawford & Irving, 2009) also indicates a broadening of the scope of IL as a topic for investigation.

In terms of professional bodies, recent work funded by the Information Literacy Group (ILG) of the Chartered Institute of Library & Information Professionals (CILIP) further indicates that there is a serious ongoing attempt to broaden the scope of IL research beyond

HE and into the workplace, politics, local government, public libraries and health arenas (ILG, 2016). Its Research Bursaries programme offers up to £10,000 for practitioners and researchers alike. The 'Go Digital Newcastle' digital inclusion project has extended information literacy into the community by promoting digital champions to work with the public as part of a wider network involving the public library and other stakeholders. The 'DeVIL' project has worked with employers to devise a tool for measuring capabilities in the workplace and 'On the Move' is investigating transitioning information skills into the workplace. The 'Learning Lending Liberty' project explored how school libraries in Scotland support political literacy for young people. The 'IL-DEM' project is focused on local democracy. The 'Lost in Information' project is investigating New Syrian Scots' information way-finding practices. There are two projects looking at IL training in the professions, one focused on school teachers and the other on radiographers. Finally, ILG have funded a project which is examining psychophysiological aspects of information discernment and its effect on well-being (ILG, 2016). An important initiative in the USA such as, Project Information Literacy (PIL) which is run by Alison Head and is regarded as, 'the most important long-term, multi-institutional research project ever launched on how students use information for school and beyond' (Fister, 2016, n.p.). In addition, the new framework from the highly influential ACRL, based on threshold concepts devised by Meyer & Land (2003), has generated a great deal of debate. It will be interesting to examine whether this has become a focus for IL research and how this may develop in the future.

METHODOLOGY

The research questions for this study are as follows:

(1) What were the major information literacy themes over the past decade (2006-16)?

(2) What is the current focus of information literacy (IL) research in Anglophone countries?

The international conference LILAC (Librarians Information Literacy Annual Conference) was used as a lens through which to address the research questions. LILAC was chosen for two reasons: (1) it attracts contributions from around the world and consistently hosts contribution from the USA, Canada, Australia, New Zealand, Eire as

well as the UK (2) contributors are drawn from information professionals as well as the research community. For the purposes of this study the final conference programmes, documents generated for the LILAC event between 2006 and 2016, were analysed. It should be noted that it was not possible to include 2008 in this analysis as the data was not available. The specific focus of the analysis is the abstracts included in the LILAC conference booklet. In these documents the text of each abstract is accompanied by author names and affiliation. Abstracts were analysed for the focus of their research. Keynotes, poster sessions and workshops were excluded to ensure that the sample reflects work conducted by researchers and practitioners at a similar level and stage in progress.

This research employs qualitative content analysis to analyse the data. This involves an unearthing of underlying themes in the material under analysis and understanding the meaning of the context in which the item is analysed (Bryman, 2012). Open coding was used from which themes were formed (Robson, 2002). The objective of the qualitative content analysis used here is to address the research questions by allowing themes to emerge from the data. However, given that the author was very familiar with the LILAC conference event a number of additional preliminary codes were identified. Data was initially coded for themes including pedagogy, IL models, author affiliation and fields of study. In terms of pedagogy, this was drawn very widely to include theories of learning such as Kolb's learning cycle or notions of approaches to learning such as constructivism or behaviourism. Associated teaching methods for example group work and active learning were also included. The IL models theme included for example, the ACRL framework and the Seven Pillars amongst many others. Author affiliation was coded by sector, for example HE. Fields of study included subjects such as, psychology and their sub-fields for example, cognitive psychology. Other themes emerged as a result of a number of sweeps through the documents. Once all of the data had been themed into categories, as suggested by Miles and Huberman (1984, p.9), the analysis began to identify 'patterns and processes, commonalities and differences'. These are discussed in the findings section. There is no attempt in this study to establish statistical differences.

FINDINGS

A total of 31 additional themes were identified as well as the initial four themes mentioned in the previous section. The major themes are discussed below.

The context from which the research described has emerged

The analysis (Table 1 below) gives a strong indication that IL research is dominated by projects carried out in the Higher Education (HE) environment, mainly in universities by academic librarians.

Table 1 Number of IL projects from 2006 - 2016, (data from 2008 unavailable).

Year	HE	FE	Schools	Workplace	Health	Public libraries	Public and/or wider community
2006	27	0	4	0	3	2	2
2007	36	3	3	1	3	2	0
2008	-	-	-	-		-	-
2009	58	0	6	0	1	1	5
2010	85	3	8	3	3	1	3
2011	73	0	1	0	1	0	5
2012	66	1	6	1	1	0	0
2013	59	4	4	3	0	1	3
2014	48	2	6	0	4	0	5
2015	47	1	7	3	1	1	2
2016	53	2	5	2	3	2	1

The only domain that is consistently represented at LILAC at least once each year, other than HE is that of the schools sector. All remaining areas have no strong consistent presence and this appears to suggest that there is unlikely to be growth in these in immediate future. However, there is some promising work in the public sphere in the UK, especially around citizenship and politics which is supported by ILG funding. It will be interesting to see if this has an impact on growth in the next few years.

Those researchers in all sectors, with the exception of HE and to a lesser extent the public sphere, tend to be professional librarians. In HE there is a small minority of researchers who are academics, but the

vast majority are professional librarians working as liaison, research or subject librarians. Some professionals have the specific title of Information Literacy Librarian or similar. The majority of these professionals appear to have a well-defined remit to engage with their users (undergraduates and postgraduates) to teach information literacy either as a one-off session in induction or as an embedded class within a taught unit such as, a module as part of an undergraduate degree programme.

Research participants

Typically for HE, the research participants tend to be first year undergraduate or taught postgraduates (MA/MSc) or early career PhD. The majority of the abstracts indicate that the authors have a clear goal (explicit or implicit) to improve the learning journey of their participants. It is of note that students tend to be referred to, or viewed, as an homogenous group (gender mentioned only once) with a skills deficit which requires alleviation through normative notions of IL (although this may be a limitation dictated by the abstract form in which the evidence under analysis is presented). Students are characterised as primarily over-confident with the attendant assumption, on the part of information professionals, that these students are non-information literate. The 'Internet generation', 'Google Generation', 'Millennial', 'Digital Native' or similar labels are used in large minority of cases as a student descriptor and defining characteristic. There appears to be a tacit assumption that these individual or individuals are comfortable in terms of using the internet, particularly social media, but lacking in IL especially in avoiding plagiarism and cannot detect bias in sources of information. These two concerns of plagiarism and detection of bias form the focus for many IL teaching and learning interventions. This reflects concerns in previous IL research literature regarding students' lack of ability to detect bias is evident in the IL research literature (for example, Pickard, Shenton, & Johnson, 2014) but tended not to be referred to directly in the text of abstracts sampled. Plagiarism has also attracted research attention in the literature (for example, Gourley & Deane, 2012).

Schools are mainly focussed around mid-secondary with a growing trend of focussed research in the UK on early A level students enrolled

on the Extended Project Qualification (EPQ). Research in the public sphere and the workplace is typically with non-vulnerable adults of working age.

Models and definitions (e.g., SCONUL 7 Pillars, ACRL, ANZIIL)

The field of IL has developed a number of models for describing and understanding the phenomenon of IL. Table 2 shows all of the IL models explicitly mentioned by researchers in their abstracts.

Table 2 Models and definitions of IL

2007	2016
SCONUL Seven Pillars x4 i-Skills (JISC) x2 ACRL ANZIIL CILIP Information Literacy Skills	ACRL Information Literacy Framework x10 ALA Digital Literacy JISC Digital Literacy SCONUL Seven Pillars

Whilst there are no surprises in the list of models and definitions for 2007 shown in Table 2, what is surprising is how little IL models feature explicitly in the research described. This is worthy of note given that the majority of IL models were developed in the HE context. Only a minority allude to any specific model (approximately 1 in 5 of all abstracts for both years feature a model). The new ACRL Framework was the focus of activity for a large minority of abstracts and clearly indicated that this had captured the attention of information professionals and academics most of whom are USA based. Researchers noted that there was a very strong motivation to use the Framework embodied in such statements as, 'a desire to include', 'utilise', 'readily adopted', 'newly adopted', 'inspired by' and 'new vision'. These tend to show an enthusiastic and somewhat uncritical view of the new Framework. However, one paper did sound a note of caution and asked what were the 'practical implications' and examined the 'opportunities and challenges' of implementing the new Framework. Also of interest is the emergence of digital literacy as a concept. It is interesting that JISC still maintains some influence on this area in the UK.

Field (for example, psychology, media studies, sociology, anthropology)

Fields are not all pervasive in the research which is presented at LILAC. However, it is argued that they are becoming more visible and diverse. Table 3 indicates this small but identifiable shift, which is a possible indication of a growing inter-disciplinary approach to IL.

Table 3 Fields and their sub-fields mentioned in the text of abstracts

2007	2016
Psychology, in particular the topics: Cognition Motivation Self-esteem Learning styles Learning theory Meta-cognition Multiple intelligence Thinking skills **Information Science** Information seeking behaviour Information literate university Kuhlthau's ISP **Education, in particular the topic:** Salmon's online discourse	**Psychology, in particular the topics:** Behaviour Cognition Emotional intelligence Learning theory Metacognition Visual thinking **Information science, in particular the topics:** Digital literacy Digital natives Gamification Information discernment Knowledge management Met-literacy **Art, in particular the topic:** Iconoclasm **Education, in particular the topic:** Threshold concepts **Anthropology**

The field of psychology, especially around notions of learning and its components for example cognition, metacognition and affect continue to inform many IL researchers' approaches to their work. Meta-literacy is also mentioned but surprisingly infrequently. It is interesting that from time to time other imaginative approaches which

do not necessarily resonate directly with IL from the arts and anthropology are deployed in IL research. It will be interesting to track whether these trends are sustained or are novel but short lived approaches. Anthropological approaches appear to be employed readily by USA researchers, whereas the field of psychology is used most by UK researchers. It is of note that IL researchers and practitioners very rarely use previous research from the field of information behaviour to inform their approaches. Given the distinct overlap between these two areas and attempts to bring them together for the purposes of research for example, Walton & Hepworth (2013) it is a concern that these explicit connections are not present.

Research methods employed in IL research

The years 2007 and 2016 were selected, for the purposes of this sample, to give an indication of any changes or similarities over a significant time span. Research methods are disaggregated under three methodological approaches; 'qualitative', 'quantitative' and 'mixed'.

Table 4 Research methods employed in 2007 and 2016 disaggregated by methodology

2007	2016
Qualitative	**Qualitative**
Subject specific case study x5	Action research x3
	Interviews x3
Action research x2	
Focus groups x2	Case study x2
One to one interviews – open questions x2	Ethnography x2
Written feedback verbal and written x2	Literature review
	Participant observation
	Participatory Research and Action
Annual audit of IL teaching interventions	Phenomenography
Exploratory survey of website content	Qualitative text analysis
	Retrospective interviews
Meta-synthesis	Rhetorical device of analogy
Narrative diary	Systematic review

Reflective interviews with staff Participatory research User-testing	User experience (UX) using an anthropological lens
Quantitative Questionnaire x2 Assessed work Discussion forum text Questionnaire measuring IL competencies in students Questionnaire - multiple choice measured for statistical differences Questionnaire – personalised Usage statistics (VLE)	**Quantitative** Survey x11 Questionnaire X2 Correlation Learner analytics Longitudinal analysis using a competency based information literacy rubric Questionnaires on the searching process
Mixed Online surveys and follow-up interviews	**Mixed** None

Explaining each of these methods and how they are deployed is beyond the scope of this article. However, what Table 4 illustrates is that, where specified, there has been a consistent tendency to deploy a wide variety of mainly qualitative and, to a lesser extent, quantitative methods in the two years sampled. Mixed methods are not well represented. The emergence of phenomenography is probably attributable, in part, to Christine Bruce in Australia, Susie Andretta and a promotion of this method by ILG in the UK. However, it can also be seen that there is a growth in using surveys (online and offline) to gather data. It is not always clear what kinds of questions these surveys contain but it is often implied that they are quantitative in nature using closed questions. Mixed methods employing a variety of approaches for example, a questionnaire coupled with in-depth interviews appears to be a lesser used approach. Given that for many

IL researchers their goal is to enable their users to become more information literate, it is argued here that it is reasonable to assume that abstracts lacking a stated methodology embody an action research approach where practitioners investigate their practice 'to improve service provision' (Pickard, 2013, p157).

Pedagogy

Many of the abstracts were clustered around various aspects related to the theme of pedagogy. A significant focus was on the perception that there is a perceived need for a high degree of interactivity in the classroom which leads to engagement, including assumptions of location – especially where young learners learn best in the online environment. This is especially seen as the case when sessions are delivered 'bite-sized', 'mini-lessons' which are 'short', 'informal' that is in small chunks of learning which, it is claimed, lead to successful engagement with IL teaching sessions. It is also reported that these 'bite-sized' learning objects are easy to manage and reuse. This theme is further nuanced by the mention of in problem-solving as a means for promoting interactivity and engagement in learners. These approaches reflect ideas drawn from constructivist and experiential approaches to learning (for example Kolb et al 1991).

Many argue for 'embedded teaching', ie that which is contextualised in a subject module/curriculum is the most effective rather than the 'one-shot' teaching session and this is supported by the IL pedagogic literature (for example, Walton & Hepworth, 2011 and 2013).

There is an assumption that non-didactic teaching of whatever flavour is, by definition, innovative. This is particularly argued by researchers in the context of games-based learning. None of these ideas are new *per se* but perhaps reflect that they are new to those researching in the IL domain.

Hands-on interactivity

In a further nuancing of the pedagogical theme is the notion of hands-on activities in teaching again reflecting the interest in constructivist and experiential theories of learning. Researchers, through their text, appear to indicate that the most useful IL learning interventions are based on active learning approaches. These are clustered around and encompass the notions of engagement and

interactivity which are put forward as the solution to solve the issue of lack of student engagement and promote successful IL learning for example,

> 'Web 2.0 has moved the agenda toward provision of more interactive solutions for engaging our student […] moving images and games […] offer us a more attractive and interactive ways of presenting our material.'
>
> '[There is a] positive relationship between active learning opportunities […] and student motivation and content retention.'

Researchers use the terms 'practical', 'hands-on', 'task based activities', 'discovery' and 'interactivity' in association with 'engage' and 'motivate' to describe the learners' states. Interactivity is, on occasion, described as a collaborative activity where,

> 'students working in teams to find answers in a friendly competition with their classmates; teamwork and a little motivation can help encourage the reluctant to participate.'

One researcher noted that, school students' digital literacy is more likely to be improved if the activities are, 'collaborative, novel and interactive.' Furthermore, 'active learning when correlated with other strategies can help alleviate students' anxiety during information skills training sessions.' The atmosphere of these learning activities is variously described as 'lively', 'fun', 'attention grabbing', 'novel' and 'multi-sensory'. Activities themselves tend to involve quizzes, podcasts, creativity and increasingly, games. Latterly the notion of active learning is characterised more as a 'tools' based approach where it is suggested that social media is regarded as a panacea for problematic pedagogical issues and is seen as a means for ensuring student engagement in the classroom for example,

> '[…] roll-out of a real time, online information literacy skills session using Blackboard Collaborate with twenty students on the MA In Education course. This was the first time the presenters had used this online collaborative tool.'

> 'Librarians have a central role in supporting these evolving transformative styles of learning, by blending digital tools into their information literacy offer.'
>
> '[…] students comprehend the course materials through the introduction of the latest online tools incorporated into the students skill set'

This first quote is also a useful example of embedded IL teaching and learning as mentioned above in the pedagogy theme.

The issue of plagiarism

There are a number of aspects to this theme, some researchers have linked plagiarism with mechanistic skills of poor referencing for example:

> 'One of the biggest issues was plagiarism and a lack of understanding by some international students around the concept of referencing'
>
> 'Session Three dealt with avoiding plagiarism and how to reference'

However, others view it in a different and more complex light where researchers note that students do not recognise it as an issue for example,

> 'Plagiarism is a complex issue without a simple solution. PLAgiarism Teaching Online (PLATO) is based on the need for learners to recognise what plagiarism behaviour is […]'

Perhaps more importantly, plagiarism as a cultural construct has been highlighted where researchers allude to it as creating an academic 'trap' for example,

> '[…] are we actually helping to create a plagiarist environment […] in terms of the information we provide and the skills we teach […] where students 'unintentionally fall into the plagiarism trap due to cultural educational norms […]?'

It can be seen from these quotes that where plagiarism is a focus, IL is shown to be a solution to the issue when delivered in an appropriate fashion.

Communities of Practice

It appears that LILAC functions as a community of practice in a number of ways to achieve the specific goal of enabling learners to become information literate. Firstly, LILAC functions as a means for not only reporting research, but also enabling other IL researchers to use the research presented to improve their own provision for example,

'Information professionals […] can expect to leave [this session] with a clear picture of the power that student research data can afford them in their current and future decision making.'

This demonstrates that many researchers and practitioners want their research to be of practical value to the community for example,

> 'Delegates will be invited to reflect on these findings and discuss the implications for developing digital literacy programmes in schools'
>
> 'Three outcome for this presentation will be, lively discussion, sharing of ideas and new and engaging activities'
>
> '[The researcher] will share the specific set-up activities used to improve students understanding and use of electronic resources'
>
> 'This course design may be used as a model for other credit-bearing information literacy courses'

A second aspect of the community of practice is the relationship between academics and librarians.

> 'Collaborative work between the Library […] and the Department of Mechanical Engineering on this module has focused on the development of a range of digital learning resources […] and created a collaborative culture […]'

It is apparent that many librarians in academia work successfully with academics to create successful IL learning opportunities. However, the relationship between librarians and academics in the teaching and learning context, in particular, remains an under researched area in IL. It is clear from the text of abstracts that the academic-librarian dyad is a productive part of much of the research described, yet it does not feature as a separate focus for research. This was alluded to by a researcher in 2007 as a missed opportunity, 'there are relatively few studies which focus on investigating the collaboration between librarians and academics [and] the need for improvements in the way that research into this area is designed and written up'. Yet this remains un-explored as a serious research avenue in IL practice.

A third aspect of the community of practice theme centres on the relationship between student and librarian strongly emerged in 2016.

> 'Librarians became involved in Learning Communities to communicate directly with students early in their academic careers' and 'first contact with our audience [students] is at an information-giving induction lecture […]'

A fourth and lesser theme centred on using peer-to-peer learning as a means for improving student learning for example,

> 'In the evaluating web sites activities students developed (through online discussion with fellow students and tutors) their own evaluation criteria which they later used to evaluate two web sites for an assignment.'

A fifth theme is that of librarian as advocate/evangelist. This also links to the community of practice theme especially in the ways in which it is seen as a vital role in strengthening the relationship, and links, between information practitioners and academics. On occasion this is expressed in marketing language such as 'clear brand identity', 'promote', 'sell', 'campaign' and 'championed' or even evangelical missionary terms for example, 'persuade', 'preaching to the non-converted', 'spreading the gospel', 'enlighten' and 'vision' for example '[We] will explain how the vision of information and digital literacy is

being developed'. This theme of evangelism or missionary zeal Owusu-Ansah (2003) has long been a thread running through IL practice.

Together these appear to indicate a shifting in the role of the librarian/information professional to that of teacher and researcher, exemplified via the themes of pedagogy and hands-on interactivity discussed above.

DISCUSSION

It was apparent that during 2006-07, IL models (for example, SCONUL Seven Pillars or the ACRL standards) were deployed in whole or in part to structure pedagogical interventions. However, these appear to have waned in popularity until 2016 when the threshold concepts used by the new ACRL standards have captured the imagination of as significant minority of researchers (addressing RQ 1 and 2). This is also reflected in other conferences in 2016 such as the European Conference on Information literacy (ECIL). It is not evident why Information behaviour (IB) a major research area in information science does not feature heavily in IL research and practice given that, from a theoretical perspective, there is considerable overlap between IL and IB. Furthermore, IB research informs many of the areas which IL includes for example, information seeking and sharing and evaluation of sources all carry significant overlap.

The most widely analysed pedagogy, and current focus of research (addressing RQ 2), appears to be various 'active learning' approaches and how these have enabled the effective teaching of IL. These are alluded to as being short, informal, highly interactive group-based sessions, the very antitheses of didactic learning. A great deal is made of the importance and success of games of various kinds in teaching students to become information literate.

In terms of students (especially undergraduates) and how they are regarded by researchers, there remains a tendency to view them as prone to many behaviours associated with the much discredited label of 'digital native'. There was some evidence of a more nuanced view of students and their behaviours in 2016 but there still appears to be little IL research, from the evidence viewed in this study, on gender

differences and other traits that might reveal different IL approaches and capabilities. Admittedly, this lack of nuancing of research participants may be due to the nature of the abstract form under investigation in this context.

There is very little evidence of research carried out which attempts to critique notions of information literacy whether it be theories or models. Most research is small scale, action-based and pedagogic in nature. There is an emerging theme around the political and citizenship aspects of IL (especially projects funded by ILG). This appears to be a very promising development in diversifying the research base and impact of IL into the public sphere (again addressing RQ 2).

A strong recurrent theme amongst researchers which espouses a theme on IL as part of a mission to convert non-believers (usually academics) to the 'cause' which takes on an almost missionary dimension – first alluded to by Owusu-Ansah (2003) and very clearly still in place in 2016 (addressing RQ1 and 2). However, the focus of the mission appears to have changed to one of broadening the appeal of IL beyond Higher Education and into the workplace, citizenship and politics (addressing RQ2). It is argued here that it is perhaps time for practitioners to let the evidence speak for itself once these new projects (particularly under the aegis of ILG) come to fruition.

Perhaps of most interest was the emergence of various forms of community of practice which exist in the IL domain and which merit further exploration. It would appear that they do follow Wenger's notion of a community of practice where meaning about IL is generated through negotiation through mutual engagement with others in this community. It is evident that librarian/information professionals work closely and often with academics from all subject areas and it would be useful to ascertain why certain relationships are more constructive than others and whether there are common ingredients and approaches that can be shared amongst the profession.

CONCLUSION

Both research questions have been addressed, as shown in the discussion above, but it is recognised that there are limitations to this

study in that the lens for analysis was the Librarians' Information literacy Annual Conference (LILAC) abstracts and may not be generalizable across the whole field of IL. However, because of the broad representation from Anglophone countries at this conference it is argued that it is a legitimate object of study. The findings indicate that IL research in Anglophone countries continues to mature. The quality of papers, in terms of contextualisation from previous research, methodological rigour and diversification beyond the HE domain continue to grow and develop. IL research continues to use theory and research from other subject areas, especially psychology, to inform methodologies and data gathering methods. However, what has emerged with great clarity is that IL researchers and practitioners rarely use previous research from the field of information behaviour, to either inform theory or develop methodology. This is an unexpected outcome given that information behaviour has much to contribute to IL research and practice. In addition, IL practitioners and researchers appear to embrace some theories because they have become 'fashionable' or popular in some way, such as the ACRL threshold concepts which have been adopted with enthusiasm. There appears to be little attempt by researchers to first of all test whether this concept, in particular, is suitable for the field. It appears that concepts are simply embraced and then developed without critique. It is recognised that there is evidence to support this as a useful pedagogy but nowhere in the text analysed is it critiqued or alternatives offered. What has also emerged is that USA researchers appear more focused on the ACRL Framework model and anthropology as a theoretical tool, whereas UK researchers use a wide variety of IL models (or none) whilst using psychology as a theoretical tool.

The overarching recommendation from this article is that, for IL research to continue to progress and mature, any new concepts, theories and techniques should be held up to scrutiny via robust research first before being adopted. Having a well-researched foundation to IL in this way will enable information professionals to take forward a strong message of its utility for education, citizenship and the workplace to the wider community and its leaders.

References

AMERICAN LIBRARY ASSOCIATION (ALA) (1989). *Presidential Committee on Information Literacy: Final Report*. [Online] http://www.ala.org/acrl/publications/whitepapers/presidential (Accessed 7th November 2016).

ASSOCIATION OF COLLEGE & RESEARCH LIBRARIES (ACRL): a division of the American Library Association (ALA) (2000). *Information Literacy Competency Standards for Higher Education*. Chicago: American Library Association. [Online] http://www.ala.org/acrl/standards/informationliteracycompetency (accessed 7th November 2016).

ASSOCIATION OF COLLEGE & RESEARCH LIBRARIES (ACRL): a division of the American Library Association (ALA) (2015). *Framework for Information Literacy for Higher Education*. Chicago: American Library Association. [Online] http://www.ala.org/acrl/standards/ilframework (Accessed 8th November 2016).

BIG BLUE PROJECT (2002). *The Big Blue: information skills for students: Final Report*. [Online] http://www.webarchive.org.uk/wayback/archive/20140614193822/http://www.jisc.ac.uk/publications/reports/2002/bigbluefinalreport.aspx (Accessed 7th November2016).

BRUCE, C. S. (1997). *Seven faces of information literacy in higher education*. [Online] http://www.christinebruce.com.au/informed-learning/seven-faces-of-information-literacy-in-higher-education/ (Accessed 7th November 2016).

BRYMAN, A. (2012). *Social research methods.* (4th edn.). Oxford: Oxford University Press.

BUNDY, A. (2004*). Australian and New Zealand information literacy framework: principles, standards and practice.* (2nd edn.). Adelaide: Australian and New Zealand Institute for Information Literacy. [Online] http://www.caul.edu.au/content/upload/files/info-literacy/InfoLiteracyFramework.pdf (accessed 7th November 2016).

COUNCIL OF AUSTRALIAN UNIVERSITY LIBRARIANS (CAUL) (2001). *Information literacy standards*. [Online] http://www.caul.edu.au/caul-programs/information-literacy/publications (Accessed 7th November 2016).

CRAWFORD, J & IRVING, C. (2009). Information literacy in the workplace: a qualitative exploratory study. *Journal of Librarianship & Information Science*, 41 (1), pp29-38.

FISTER, B. (2016). Information Literacy and Recent Graduates: New from PIL, Project Information Literacy has just released a major new report. Check it out. Inside Higher Ed. [Online] https://www.insidehighered.com/blogs/library-babel-fish/information-literacy-and-recent-graduates-new-pil (Accessed 13th July 2017)

GOURLEY, L. & DEANE, J. (2012). Loss, responsibility, blame? Staff discourses of student plagiarism. *Innovations in Education and Teaching International*, 49 (1), pp19–29.

INFORMATION LITERACY GROUP (2016). *Research Bursaries*. [Online] http://www.cilip.org.uk/information-literacy-group/research-bursaries-0 (Accessed 6th November 2016).

KOLB, D. A., RUBIN, I. M. & OSLAND, J. (1991). *Organizational behavior; an experiential approach.* (5th edn.). Englewood Cliffs, New Jersey: Prentice-Hall.

LEANING, M. (ed) (2009). *Issues in information and media literacy: criticism, history and policy*. California: Informing Science Press.

LLOYD, A. (2012). Information literacy as a socially enacted practice: Sensitising themes for an emerging perspective of people-in-practice. *Journal of Documentation*, 68 (6), pp772-783 [Online] http://www.emeraldinsight.com/journals.htm?articleid=17062472 (Accessed 6th November 2016).

MARKLESS, S. & STREATFIELD, D., A. (2007). *Three decades of information literacy: redefining the parameters*. . In: Andretta, S. (ed.). *Change and challenge: information literacy for the 21st century*. Adelaide: Auslib Press, pp15-36.

MEYER, J. H. F. AND LAND, R. (2003). *Threshold Concepts and Troublesome Knowledge 1*. In, *Linkages to Ways of Thinking and Practising' in Improving Student Learning – Ten Years On*. C.Rust (Ed), OCSLD, Oxford.

OWUSU-ANSAH, E. K. (2003). Information literacy and the academic library: a critical look at the concept and the controversies surrounding it. *Journal of Academic Librarianship*, 29 (4), pp219-230.

PICKARD, A. J. (2013). *Research methods in information*. London: Facet.

PICKARD, A. J., SHENTON, A. K. & JOHNSON, A. (2014) Young people and the evaluation of information on the web: principles, practice and beliefs. *Journal of Library and Information Science.* Vol 46 (1) pp 3-20 DOI: 10.1177/0961000612467813

RADICAL LIBRARIANS COLLECTIVE (2016). *Building solidarity for those critical of marketization of libraries and commodification of information*. [Online] https://rlc.radicallibrarianship.org/ (Accessed 6th November 2016)

ROBSON, C. (2002). *Real world research.* (2nd edn.). Oxford: Blackwell Publishing.

Secker, J. & Walton, G. (2016). *Information Literacy in the UK*. **In** Sühl-Strohmenger, W (ed). *Handbuch Informationskompetenz*. Berlin: Walther De Gruyter.

SOCIETY OF COLLEGE, NATIONAL & UNIVERSITY LIBRARIES (SCONUL): Advisory Committee on Information Literacy (1999). *Information skills in higher education: a SCONUL position paper*. [Online] http://www.sconul.ac.uk/sites/default/files/documents/Seven_pillars2.pdf (Accessed 7th November 2016).

SOCIETY OF COLLEGE, NATIONAL & UNIVERSITY LIBRARIES (SCONUL): Working Group on Information Literacy (2011). *The SCONUL Seven Pillars of Information Literacy Core Model For Higher Education* http://www.sconul.ac.uk/sites/default/files/documents/coremodel.pdf (Accessed 7th November 2016).

TEWELL, W. (2015). A decade of critical information literacy. A review of the literature. *Communications in Information Literacy*, 9 (1), pp24-43. [Online] http://www.comminfolit.org/index.php?journal=cil&page=article&op=view&path%5B%5D=v9i1p24 (Accessed 4th November 2016)

THORNTON, S, (2012). Trying to Learn (Politics) in a Data-Drenched Society: Can Information Literacy Save Us? *European Political Science*, 11 (2), pp 213–223. [Online] http://link.springer.com/article/10.1057/eps.2011.20 (Accessed 6th November 2016)

VITAE (2016) *The Vitae Researcher Development Framework*. [Online] https://www.vitae.ac.uk/vitae-publications (accessed 3rd November 2016).

WHITWORTH, A. (2014). *Radical information literacy*: *reclaiming the political heart of the information literacy movement*. Oxford: Chandos.

WALTON, G. (2010). *Demolishing the Seven Pillars: a warning from research*. Librarians Information Literacy Annual Conference, Limerick, Eire.

WALTON, G. & Pope, A. (eds.) (2011). *Information literacy: infiltrating the agenda, challenging minds.* Oxford: Chandos.

WALTON, G. & HEPWORTH, M. (2011). A longitudinal study of changes in learners' cognitive states during and following an information literacy teaching intervention. *Journal of Documentation* 67 (3), pp449-479.

WALTON, G. & HEPWORTH, M. (2013). Using assignment data to analyse a blended information literacy intervention: a quantitative approach. *Journal of Librarianship and Information Science*, 45 (1) pp53-63

WENGER, E. (1999). *Communities of practice: Learning meaning and identity*. Cambridge: Cambridge University Press.