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Information literacy outreach between universities and schools: A case study.

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Abstract

Research shows that students starting higher education (HE) often lack an essential level of information literacy (IL). To address this issue, a growing number of Higher Education Institutions (HEIs) engage with schools through Information Literacy Outreach Programmes (ILOPs). This paper explores the forces and motivations behind how and why HEIs engage with schools through ILOPs, and discusses their impact on beneficiaries.

Using a UK research-led university in the North of England as a single case study (hitherto XXXX), this research project adopted a qualitative case study approach and used Situational Analysis to explore and analyse the data collected. Data collection involved semi-structured interviews with key staff that participated in the IL outreach programme, and a model was developed to illustrate diagrammatically the key outcomes and phases of the IL Outreach Programme.

Key findings revealed that the IL Outreach Programme at XXXX is an effective mechanism for bridging the social worlds of schools and HE; for creating partnerships and knowledge sharing between institutions; for breaking down social barriers and inequalities; and for developing critically aware, independent learners.

The significance of this paper is that it helps us understand the impact of IL outreach programmes, and how such programmes provide schools and HEIs with an opportunity to work collaboratively and share knowledge and best practice. It also provides a valuable addition to IL literature.

Keywords

higher education; information literacy; outreach; secondary education; situational analysis; UK

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1. Introduction

It is well documented in the librarian literature that students starting higher education (HE) can struggle to adapt their Google-centric information practices to a new environment, and can find

it challenging to discover, interpret and evaluate scholarly information (Head, 2013; Hughes et al, 2018; Pashkova-Balkenhol et al., 2019). This can impede the development of essential information literacy (IL) related graduate skills (Kerr, 2012; Oliver & Jorre de St Jorre, 2018). Recognising the importance of IL, Higher Education Institutions (HEIs) are attempting to address this problem through the development of secondary (high) school outreach[1] sessions that contain large elements of IL. In the UK these are offered as part of HEIs Widening Participation (WP) and fair access policies[2] that seek to increase the number of students from under-represented groups. The IL outreach sessions engage with secondary schools to develop student IL and address disparities of access and participation in HE among social groups (Moore et al., 2013).

HEIs across the UK and internationally are increasingly developing Information Literacy Outreach Programmes (abbreviated hereafter to ILOP) under a plethora of names. ILOPs in the UK typically provide outreach sessions that include transferable skills applicable to study, the workplace and lifelong learning. Provision is primarily aimed at pupils in the final two years of secondary school studying for Post 16 qualifications such as A-Level, Diplomas, BTEC and EPQ (Extended Project Qualification – see 2.5), but can be adapted and offered to pupils aged 13 and older. Sessions are held either within the university in collaboration with the university library, or in schools and Further Education (FE) colleges at their request. They are delivered by staff from an outreach team, with support from library staff and outreach student ambassadors. Most sessions include elements of IL, covering areas such as critical thinking and independent study skills, research methods and resource evaluation, referencing and plagiarism, and often include a library tour with a practical research session. Examples of outreach programmes in the UK include the University of Birmingham (Anderson & Bull, 2014), the University of Surrey (Roberts et al., 2015) and Strathclyde University (Smith, 2017).

Prior to this study taking place, very little had been written in the literature about how schools and HEIs work collaboratively in an attempt to improve the IL of students for HE and lifelong-learning through outreach work and ILOPs (Anderson & Bull, 2014; Bent, 2008). Pashkova-Balkenhol et al.'s recent (2019) literature review identifies a need for increased dialogue and collaboration between school and university IL stakeholders in order to support transition of students from school to university. There is a wealth of literature around how HEIs seek to improve the IL of undergraduate students e.g. (Funnell, 2017; Gleeson et al., 2016); student transition from school to university (Salisbury & Karasmanis, 2011; Saunders et al., 2017); and a growing body of work around how school librarians develop the IL of students whilst at school (Smith, 2016; Streatfield et al., 2011; Toerien & Harrow, 2019). Yet there is limited published literature that looks specifically at in IL outreach work between schools and HEIs, although some excellent examples have been shared at conferences e.g. (Benny & Smith, 2018; Smith, 2017). This paper therefore addresses this issue and attempts to fill an important gap in the literature and to extend understanding of the potential benefits of such activities.

[1] 'Outreach' is taken to apply to any activity that reaches out beyond HE providers to engage with communities to raise HE awareness and aspirations. (HEFCE, 2013, p.3).
[2] Widening Participation in HE was introduced in the 1997 Report of the National Committee of Inquiry into Higher Education, otherwise known as the Dearing Report.

For clarification, UNESCO's (2013, p.29) definition of IL is used as the working definition for this paper:

> A set of competencies that empowers citizens to access, retrieve, understand, evaluate and use, create, as well as share information and media content in all formats, using various tools, in a critical, ethical and effective way, in order to participate and engage in personal, professional and societal activities

Using this definition of IL, the aim of this research is to explore the various forces and motivations behind how and why HEIs engage with schools through ILOPs. Using XXXX as a case study, the objectives of the research will be to answer the following research questions:

- What are the key forces and motivations behind why HEIs conduct IL outreach work with schools?
- What value do stakeholders place on ILOPs and how do they perceive IL?
- What are the potential barriers for schools in supporting pupils to attend HE ILOPs?
- Are collaborative relationships & partnerships developed between HE staff, HEIs and schools through ILOPs?

The context for this research is within XXXX located in the north of England, undertaken as master's dissertation research. The study took place in 2015, and received ethical approval from XXXX. First the literature on IL in both schools and HE in the UK is reviewed, and the literature on IL outreach activities between schools and universities is summarised. The case study approach and situational analysis methodology is presented, and the various mapping techniques are included. The results are presented thematically, and discussed in relation to the literature. Recommendations for practice derived from the study for information professionals in schools and universities are presented.

2. Literature Review

This review includes literature from practitioner and research-based studies from the UK and focuses on IL in schools and HE; and ILOPs between HE and schools in the UK.

2.1 IL in HE

Research on IL in HE dominates library and information science (LIS) literature particularly related to student study skills and pedagogy. Research by Corrall (2007) revealed that HEIs were seeking to embed IL in library strategies, and more recently Ellis et al. (2017) found that while the vast majority of universities in the UK promote IL on their websites in some fashion, and 30.8% include IL in the library strategic documentation, very few include it in their central mission statements, visions or strategic plans. Nevertheless, IL is viewed as 'a way for college and university libraries to directly support the educational mission of their institutions' (Saunders, 2012, p.226). Employers expect graduates to bring essential IL attributes into the workplace, although knowledge of the label information literacy remains limited (Inskip, 2015).

IL is commonly taught by librarians in HEIs, using a variety of pedagogical approaches, such as play-based learning (Walsh, 2018); inquiry-based learning (McKinney, 2013); and problem and project-based learning (Boss et al., 2015). There is increasing research internationally into the

professional roles of librarians as educators (Mallon et al., 2019; Osborn, 2017; Wheeler & McKinney, 2015). Models and frameworks of IL such as A New Curriculum for Information Literacy (ANCIL) (Secker & Coonan, 2011) and the Association of College & Research Libraries (ACRL) framework (Association of College & Research Libraries [ACRL], 2015) support pedagogical innovation in IL teaching.

However, there is also ongoing debate, particularly in HE, in relation to the contested nature of other various literacies which clearly overlap with IL such as digital literacy, academic literacy, media literacy, or associated skills such as research skills, information competencies or digital fluency, all of which are used in a variety of contexts. (Secker & Coonan, 2011). Stordy (2015) has addressed this issue by developing a useful taxonomy of literacies. Webber and Johnston (2017) note the tension in defining IL as a distinct concept from media literacy due to perceptions that IL is 'quantitative, instrumental, and focused on questions of search and access' (p.169). Whereas media literacy has a more defined disciplinary focus and greater resonance with policy makers and research funders. Nevertheless, researchers in the IL community are convinced of the close relationship between IL and learning (Bruce, 2008; Fister, 2017).

2.2 IL in schools

The literature evidences a range of school librarians practice from teaching IL in isolation, to teaching IL in collaboration with teaching staff. It is recognised that academic achievement of pupils is increased in situations where librarians work closely with teachers to teach IL, although it often requires significant advocacy work on the part of the librarian to achieve this (Hutchinson, 2019). The most recent national survey of UK school libraries in 2010 found that 87% of qualified librarians are contributing to IL work in their school (Streatfield et al., 2011), However, compared to the HE sector, IL in general has not been 'transferred into educational language used by teaching staff, syllabuses or the examination system in England' (Jones, 2018b, Schools section, para. 1), thus causing it to be viewed as something that 'librarians do', resulting in the isolation of IL as a discipline. McKeever et al. (2017) note that there has been little national action in the UK to develop IL as part of learning and teaching in schools, despite the efforts of individual librarians and teachers.

Historically librarians in the UK have taught IL in secondary schools independent of national curricula standards, based on established models of IL, such as the Big 6 (Eisenberg & Berkovitz, 1990); PLUS (Herring, 1996) which are still recommended in advice provided by CILIP (Jones, 2018b). In the US, more recent models and standards have been designed such as the American Association of School Librarians (AASL) Standards Framework for Learners (2018). Drawing on the Empire State information fluency curriculum developed by the New York City School Library System (2014) the Framework Of Skills for Enquiry Learning (FOSIL) group has developed a model of the inquiry process and related framework for developing IL to support inquiry-based learning in schools (Toerien, 2019).

Although not specifically identified within the national curriculum, elements of IL do exist within certain subjects. Indeed, there is little agreement from teachers on which curriculum subject might be the best 'home' for information and digital literacy (Miller & Bartlett, 2012). However as highlighted by Jones (2018b), the approach to IL varies between schools, and the teaching of IL is piecemeal rather than comprehensive. This variation of teaching IL was highlighted by the

Office for Standards of Education (OFSTED, 2005) noting how some secondary schools do little more than a simple induction course for students in Year 7 (aged 11–12), while others worked with different subject teachers to teach a coherent and planned programme for IL skills across the curriculum.

Lancaster (2015) advocated the need for schools to move away from the ad hoc nature of teaching IL by making IL integral to teaching and learning. Ideally, not as a separate IL policy, but by embedding it into the teaching and learning policy of the school, as part of the lesson planning process, and including it as an aspect of teacher appraisal. Teachers do recognise IL as a very important skill to possess, and consider internet based research vital for school work, however many teachers also feel they would need training in order to teach IL effectively (Miller & Bartlett, 2012). Collaboration between school librarians and teachers, has been identified as a way to improve IL teaching in school (Kuhlthau et al., 2007; McKeever, 2013), although collaboration can often happen at a low level, and there are reported barriers to collaboration such as the status of the librarian, the librarian being excluded from wider conversations around learning and teaching, and a lack of time and motivation on the part of teachers (Davies, 2012; McKeever et al., 2017).

2.3 IL in UK curricula and learning

In the UK education system, IL and its associated skills have been developed within the educational framework of Scotland following the work of Irving and Crawford (2012), and in Wales an emphasis on IL in school curricula has been developed through the *Information Literacy Framework for Wales* (Welsh Information Literacy Project, 2011) and the Digital Competence Framework (Welsh Government, 2017). In England the body that monitors the quality of education in UK schools (OFSTED, 2005) – recommended that schools develop the quality and coherence of programmes for teaching IL, however there is no more recent official statement or policy on IL and school libraries.

IL is frequently linked to wider concepts of digital and media literacy in government publications and policy documents, and covered in the context of the computing curriculum, rather than school libraries. The *Computing Curriculum* (Department for Education [DfE], 2013, para. 5) states that learners should be able to ‘use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content’. The UK Digital Skills Taskforce (2014) report, which includes clear relevance to IL, highlights the importance of digital literacy in compulsory education and states that ‘schools, colleges, universities and industry need to collaborate to help teachers with the new computing curriculum’ (p.11).

The UK government’s reform of education and curriculum for 14-19 year-olds in 2005 (DfE, 2005) led to the introduction of the EPQ, which from 2008, was provided as a fully-accredited stand-alone Level 3 qualification that included independent learning and up to 120 guided hours (Daly & de Moira, 2010). Although the term IL is omitted from EPQ terminology, the EPQ clearly contains important elements of IL. Aimed at stretching advanced students, the EPQ involves students producing work where they get to complete a report and a presentation. As stated by AQA (formerly the Assessment & Qualifications Alliance), a key provider of school curricula and examinations in the UK, students learn ‘new skills such as independent research, project management, reflection and self-directed learning’ (AQA, 2020, para. 2). They also state that

‘Universities support and value the EPQ as evidence of a student’s ability to use a range of skills that are vital for successful study in HE’ (para. 2).

IL literature highlights how IL and independent learning are closely linked and the role that IL plays in supporting the development of independent and lifelong learning skills, critical thinking and knowledge development (CILIP, 2018; Secker & Coonan, 2011; UNESCO, 2005; Welsh Information Literacy Project, 2011) These competencies are mirrored in the conception of the value of the EPQ. Stoten's (2014, p.73) research on the EPQ and self-regulated learning revealed how teachers welcomed the EPQ as it promotes ‘independent learning, self-responsibility of students and developed many of the skills necessary for success at university level’. Stoten’s (2014) research also revealed concerns in relation to staff training for the EPQ, as teachers’ roles change from being teachers, to being supervisors of research. The increase in focus on learning through independent research echoes a similar pedagogical shift in HE from transition to inquiry-based pedagogies (McKinney, 2018; The Boyer Commission, 1998). The revised CILIP definition of IL (CILIP, 2018) highlights the increased relevance of IL for pupils engaging in inquiry-based learning generally and the EPQ specifically. As a result, many school librarians have found themselves involved in supporting the EPQ, often in collaboration with teaching staff, whilst at the same time developing students’ IL (Toerien & Harrow, 2019).

As mentioned earlier, another recent development for IL in schools has been the introduction of the Department for Education (DfE’s) *Computing Curriculum* (2013) that includes a balance of ICT, computer science and digital literacy. Although IL as a term is not mentioned in the new policy, it is referred to in its aims under the digital literacy strand, which states that from KS2, students should be ‘taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content’ (DfE, 2013, para. 5). However, the lack of a subject home for IL, and its explicit inclusion in the curriculum contributes to a lack of engagement from school teachers in the concept, despite many agreeing that IL is important (McKeever et al., 2017).
Digital literacy has increasingly come to the attention of educators as they recognise the need for the teaching profession to have a role in preparing children for a digital world (Hague, 2010).

This together with the government’s digital agenda has for the first time resulted in digital literacy being formally included in the national curriculum. However, this has not come without its concerns around teachers’ ability to deliver the new curriculum as only 44.9% of secondary school ICT teachers have an A-level qualification relevant to ICT and the majority of primary school teachers do not have a computing background (UK Digital Skills Taskforce, 2014). The same report highlighted that digital skills need to be threaded throughout the curriculum and that ‘the education system should recognise the benefit of project-based learning and cross-curricular work’ (p.46).

2.4 ILOPs between HEIs and schools

There is currently an emerging body of literature looking at how HEIs are increasingly addressing the apparent information skills gap in school-age students through ILOPs between HEIs and schools (Anderson & Bull, 2014; Bent, 2008). As noted earlier, more activity in the UK has been reported at conference presentations than in the formal academic literature (Perera & Sinclair, 2019; Smith, 2017). Work undertaken by HEIs and HE librarians to support prospective

HE students is recognised in the CILIP Information Literacy Group's guide to transition resources (Jones, 2018a) which contains numerous examples of both online resources and brief descriptions of outreach activities including at the University of Birmingham where information skills sessions are provided for students in the final two years of school to support the development of skills identified as necessary for successful study in HE.

Bent's (2008) research highlights that there is a lot of interest from the school sector to be involved in more collaborative and outreach partnership work to improve IL in the transition to higher education, and the introduction of the EPQ provides a unique opportunity for this. Research has shown that teachers and students found outreach sessions delivered by HE librarians useful for supporting the EPQ (Anderson & Bull, 2014). Many of the institutions that volunteered information for the CILIP guide to transition resources specifically provide resources for students undertaking the EPQ. A number of conference presentations have also reported specifically on the value of IL outreach for the EQP. For example, Benny and Smith (2018) reported on an outreach activity designed by librarians at Liverpool John Moores University which was focused on supporting local school pupils undertaking the EPQ. This initiative also led to increased collaboration with the wider outreach team at the university.

From the literature, it can be ascertained that ILOPs are provided either through HEIs outreach departments, the library, or more typically by both departments working in collaboration with each other, offering IL and digital literacy skills training and academic library tours. For example, the Library Services at the University of Birmingham were approached by the university's Outreach Department to support their Masterclass Programme, aimed at 16-18 year olds. The library saw this as an opportunity to help address the apparent IL skills gap in school-age students, and demand has increased year-on-year (Anderson & Bull, 2014). Bird and Johnston (2015) stress the need for HE librarians to work closely with teachers and school librarians to develop relevant resources, the need for professional-looking content, and the need to evaluate outreach activities.

The Teaching Excellence Framework (TEF) sets out a strategy for WP and ensuring fair access to HE in the UK, including doubling the number of students from disadvantaged backgrounds (Department for Business, Innovation and Skills [BIS], 2016). It is recommended that partnership between stakeholders, including schools, employers and HEIs, and also within institutions in order to ensure the success of WP initiatives (BIS, 2014). Sustained interventions that involve cross and inter-sector partnerships that maximise resources has been identified as critical success factors in WP programmes, and it is recommended that WP programmes provide interventions at key transition points and throughout the full lifecycle of the student (Moore et al., 2013). Universities can be daunting environments for students from disadvantaged backgrounds, who must learn new behaviours, and develop new socially negotiated practices, including how to use libraries and access resources (Perera & Sinclair, 2019). Indeed prospective students and their families from disadvantaged backgrounds may lack IL, and find it challenging to negotiate the information environment of universities, and IL focused outreach activities supported by partnerships between school librarians and HEIs can provide much needed IL development (Smith, 2017). WP programmes often involve many strands of activities including financial incentives, mentoring, transition support and academic support, however it is noted that in general it has proved difficult to evaluate the success of WP initiatives in the UK (Younger et al, 2019).

In summary the review has demonstrated that there are many examples of outreach activities for IL developed by HE librarians, often in the context of supporting students undertaking the EPQ. There is some evidence of collaboration and partnership between HE librarians, school librarians and teachers, but little evidence of sustained collaboration with other stakeholders. This research, although the data was gathered some time ago, still provides a unique insight into the collaborative provision of IL outreach, which is under-researched in the UK.

3. Methodology

3.1 A case study approach

A qualitative case study approach was adopted, and Situational Analysis (SA) was used to explore the data collected on a single HEI, in this case XXXX. The case study was designed incorporating Thomas's (2011) design considerations of *purpose*, *approach* and *process*. Thomas (2011), highlights that a case study can fulfill a number of *purposes*. This research case study meets three of Thomas's *purpose* categories: *instrumental*, *explanatory* and *explorative*. *Instrumental* in that the case study is for a specific purpose, in this instance to investigate how and why HEIs engage with schools through ILOPs; *explanatory* as the case study seeks to explain the situation of inquiry around ILOPs in HEIs; and *exploratory* as the case study explores what is happening and why in relation to ILOPs in HEIs and XXXX in particular.

The case study was also designed with two of Thomas's (2011) *pathways*, 'interpretative' and 'building a theory' – 'interpretative' as this form of inquiry employs an approach that provides an opportunity for immersion into the subject data; and 'building a theory' through the project discussion and analysis and the development of the Information Literacy Outreach Programme model (see section 5.5).

3.2 Data collection

To provide a cross-section of opinion across relevant stakeholders, research participants identified were a mix of school staff including school librarians, heads of sixth form and EPQ coordinators, from both independent schools and state schools, who had participated in the ILOPs; and university staff from XXXX involved with IL outreach. Participants were selected and recruited initially through purposeful sampling through acquaintances of the researcher. However, as the research continued, there was a snowball effect as outreach staff recommended other university staff involved in the ILOP and school staff who had attended the ILOPs. There was also an element of snowball sampling as school library staff recommended other school staff within their institutions to be interviewed, such as heads of sixth form or EPQ coordinators, enabling a richer data collection. The breakdown of participants is illustrated in Table 1:

Table 1: Breakdown of participants

Organisation type	Participant's role	No. of participants
State schools	Teacher	1
	School librarian	3
	EPQ coordinator	1
Independent schools	School librarian	3
	Head of Sixth form	1
University	Academic staff	1
	Library staff	2
	Outreach staff	2
	Volunteer	1
		Total participants
		15

Ethical approval was obtained from the XXXX ethics panel. Interview questions were informed from the literature review. The questions covered four themes: background information of the participants' perception of IL; a description of the participants' experience of the ILOP; questions designed to elicit participants' conception of the need for IL outreach work between schools and HEIs; and a reflection of any collaborative partnerships/relationship formed as a result of the ILOP. The full set of interview questions can be found in Appendix 1. Interview questions were designed with the same key themes for both school and university staff with small contextual alterations in the wording of the questions so responses could be compared when analysed. Interviews with university staff were conducted face-to-face at the participants' workplace, whereas interviews with school staff were a mix of face-to-face and via telephone. Interviews were recorded using an audio recording device and were transcribed by the researcher after each interview.

3.3 Situational Analysis approach

Situational Analysis (SA) was identified as an appropriate method for the analysis of the data as it is an interpretive, qualitative method that can be used within the boundary of a case study. Developed by Adele Clarke (2003) SA is an extension of Grounded Theory, based on a constructivist view of the existence of multiple realities. SA focuses on the whole situation of enquiry as the unit of analysis, and seeks to understand the full range of human and non-human actors within the situation. As stated by Clarke et al. (2015) 'the assumptions we hold, the actions we take, the data we generate and the analysis we construct all reside within the situation of inquiry' (p.7). SA is characterised by a desire to identify differences, variations, conditionality, complexity and sites of silence, rather than to identify commonalities in the data (Clarke & Friese, 2007; Vasconcelos et al., 2012).

Three mapping techniques are used in SA, and these promote deep analytical thought and reflexivity in relation to the data, and to reveal the complex relationships between human and non-human actors (Clarke et al., 2015):

- Situational maps, or messy maps, layout the initial study of the situation, and include major human, non-human, discursive and other issues and elements and their

relationships amongst them.

- Social worlds/arenas maps layout the collective actors and arenas of commitment and discourse within which they are engage in their negotiations, and interpretations of the situation.
- Positional maps plot the major positions taken, and not taken, considering discursive variations, difference, and controversy surrounding the situation.

3.4 Situational Analysis in action

In the first stage of analysis, data collected from the transcribed interviews were open-coded and memos written up which in turn revealed individual and collective actors within the situation and major discursive issues (Saldana, 2011). In the second stage of analysis, mapping of the coded data took place and this provided insights into the complexity of the situation of the research topic, revealing patterns and explanation theories through analysis of the data.

The initial situational map had several iterations to ensure all the key issues had been identified. As stated by Clarke (2005), the initial map is exploratory in nature and aims to capture the 'messy' complexity of the situation. Maps were drawn on paper so relational analysis of the data could take place and illustrated on one visual picture. Relational analysis was also supported by the drawing of an 'ordered map' where key issues and concepts identified on the messy map were categorised (See Figure 1). Relational analysis from the messy maps proved to be very productive and insightful in producing emerging key themes and to begin building a model to explain the situation of inquiry. This was made clearer with the creation of the social worlds and arenas map as illustrated in Figure 2, which shows a mapping of the relationships between key actors and non-human elements in the situation, and the distinct and overlapping worlds they inhabit.

Individual Human • Students in HE • Students in school • Teachers • School librarians • EPQ Coordinators • Outreach (O/R) staff • University Library staff • Academics • Parents **Collective Human** • State schools • Independent schools • HEIs • Education policy makers • Politicians • WP **Discursive Constructions of individual and /or collective humans** • Social world of children and students & their communities • Students knowledge of IL • Teachers knowledge of IL • Lecturers/academics knowledge of IL	**Major issues** • National curriculum does not produce independent, inquiring learners. Too much focus on fact recalling, tests & exams. • HEI builds independent learners but what happens to students not attending HE? • Gap between school & HE IL provision • Gap in IL provision between schools • IL as a term not visible outside LIS yet recognised as an important element to learning & as a human right by UNESCO. • IL embedded at HE but not school level. • Schools & HEIs need to talk – neither knows what the other is doing. **Non-human elements** • IL • DL • Outreach & WP • Resources – physical & electronic **Implicated/salient actors** • Student at school & in HE **Discursive Construction of non-human actants** • Widening skills gap between schools and HE • A level reform & introduction of EPQ

• Expectations of students IL at HE • How school librarians and teachers value IL • Emotion of students, teachers & university staff. **Political/Economic elements** • Government & National education policy • Widening Participation (WP) agenda for HEIs • Budget/investment in schools • Budget/investment in HEIs • Economic/social exclusion **Temporal Elements** • Time in curriculum • A level reform • Emerging awareness of IL through DL & policy	• Illusion that students are information literate (Google Generation) **Sociocultural/Symbolic elements** • Race, class, school, socio/economic background, aspirations **Spatial elements** • Students in O/R programme are taught either in their own schools or at UoS • Being taught IL in UoS classroom rather than school classroom engages students – they see it as prestigious – it must be important if being taught at university. • Availability to access O/R programme **Related Discourses** • Employability and IL • IL & LLL

Figure 1: Ordered Map related to the situation of inquiry

As stated by Genat (2015) 'every inquiry generates a unique social *arena*, and interacting system of social *worlds*, each inhabited by a particular stake holder group' (p.157). Figure 2 provides a visual tool for understanding and exploring the data and for mapping key actors (people and groups) in the situation of inquiry. The social worlds are represented by shapes with boundaries, some more porous than others, to illustrate where communication between those social worlds may be better than others. In this case Figure 2 shows how the social worlds of schools and HE interact through XXXX ILOP and how knowledge is shared (A). It also shows how XXXX ILOP helps with the development of IL which leads to social inclusion and lifelong-learning.

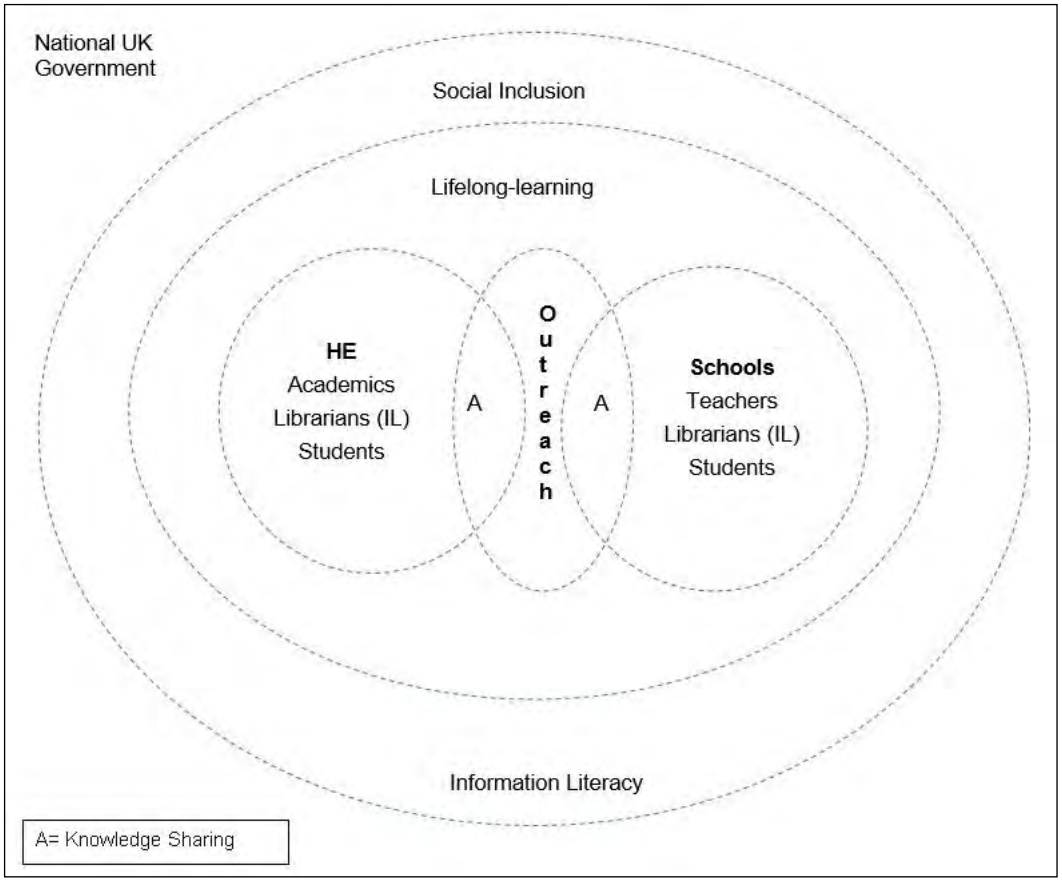

Figure 2: Social worlds & arenas map for situation of inquiry.

4. Findings

Seven central themes emerged from the data. These are reported below, and illustrated by quotations from the interviews. The letter U followed by a number relates to a participant quotation from XXXX, and the letter S followed by a number relates to a participant quotation from a school involved in the ILOP.

4.1 Visibility of IL

Most of the participants had some understanding of IL, defining it either as a list of skills or competencies relevant to study. Some participants demonstrated a deeper understanding of IL. The visibility of IL in schools and at XXXXX was discussed, and participants reported that IL was less visible in schools than in HE. Participants repeatedly highlighted its importance, but lack of inclusion, in the national curriculum:

> *I think there is an awareness in both spheres [schools and HE] about how important IL is, but I think that doesn't always join up. (U2)*

Most participants were encouraged by the inclusion of digital literacy in the DfE Computing Curriculum, but expressed concern that it is being taught in isolation:

It's divorced from other subjects when actually it should be embedded across the curriculum. (U5)

4.2 IL outreach mechanisms

There was much discussion in relation to the necessity for IL outreach between schools and HE and the mechanisms for doing this. Transition to HE and the workplace, reference to the 'skills gap' between schools and HE were mentioned as key influences for the need for IL outreach:

> *The assumption that students coming from school have the skills [IL skills] is wrong. University has a role in transition, as well as schools, so I think outreach helps fill that gap. (U5)*

> *Where the skills gap is really serious, in my opinion, is in the educators. Teachers don't have the skills [IL skills]. (S9)*

The increasing number of students choosing the EPQ was overwhelmingly mentioned as a key driver to the growing demand of IL outreach sessions. Many of the participants discussed A-Level reform and how this might impact on demand for the EPQ:

> *There's a lot of discussion around how the EPQ will sit alongside the new Post-16 landscape, so we think the EPQ may become more prominent, it might fill a gap, and IL is part of that. (U2)*

4.3 Bridging social worlds

The split between the two social worlds of school and HE was a major point of discussion throughout the interviews and how XXXX ILOP acted as a mechanism for bridging the two social worlds of school and HE:

> *It's a two-way process, adding, it informs both schools and universities providing both with an insight into what is happening [in both spheres] and what could be developed. (S1)*

Interviews highlighted the need for increased dialogue between schools and HE and knowledge sharing:

> *We spend a lot of time thinking about students information skills and their digital skills when they come here [HE], but I don't think we ever think about what they have done in school. (U3)*

The interviews also revealed how teaching staff as well as students found the IL outreach sessions useful:

> *It made them sit up and rethink about how they teach the EPQ. They tend to look at things very much from the angle of a secondary teacher rather than from the students' view point and have begun to realise that they may need to deliver in a different way.* (S4)

Participants talked about the partnerships formed due to the ILOP very positively. Some talked purely in relation to the ILOP while others talked more around the outreach work and WP between schools and HE:

> *It has deepened our partnerships with schools. (U2)*
> *Schools who have just had an Ofsted report say 'the inspectors love it when we said we worked with the university'.* (U5)

4.4 Emotional value and importance

Feedback from participants overwhelmingly clarified that the ILOP at XXXX is highly valued by both school and university staff. Although students themselves did not participate in this research project, the participants offered anecdotal evidence highlighting how students felt about the outreach programmes:

> *It opened their [students] eyes and made them realise the importance of IL to their learning, not just for the EPQ but as something that can be put into practice in other subjects and elsewhere.* (U4)

Participants displayed positive emotions, through the tone of their voice, facial expressions and their choice of words when talking about the ILOP. Comments included how IL outreach 'motivates' and 'engages' students, gives them 'confidence' and reduces 'stress' or the 'worry' of going on to HE.

4.5 Barriers to IL outreach

Participants highlighted specific barriers to teaching IL in schools and attending IL outreach at XXXX. The preference for most participants from XXXX was to bring students out from schools to visit the university. However, participants from schools cited taking time out of the curriculum, staffing and resources and cost of travel as the key barriers to attending IL outreach, some highlighting how a visit would entail a whole day, rather than just a few hours if the activities took place in school. Most of the participants stated that temporal factors around the curriculum create barriers for teaching IL in schools:

> *The curriculum and schemes of work are so tight, it doesn't give the teachers any opportunity to go off tangent and do a project that the students really enjoy. It is so restrictive on what the teachers have to get through. (S4)*

It was also noted that lack of access to computers was also a barrier. The interviews also contained a discourse around attitudes towards IL, revealing a range of nuanced opinions about the relative skills of students and pupils and perceptions of teachers regarding those skills:

> *From my perspective it's taken for granted that students are able to do IL. It's just assumed. As teachers' we forget that we are spoon feeding students as we're under pressure to get results.* (S7)

Participant S6 agreed:

I don't think teachers realise pupils don't know how to do it [IL], adding, *I think some schools are better than others*. Participant U1 said: *It's probably a mixture of time and lack of confidence and expertise.*

4.6 Social economic influences of IL outreach

The inequality of provision around computing and library resources was discussed as a key motivation around the need for IL outreach between schools and HE:

> *Sometimes schools come [to the university] with students with a background where traditionally their family or parents haven't been to university and access to information isn't good…It concerns me that some schools don't have the facilities they should have or the resources available for access to information. I question how these kids get on when they haven't got the facilities to do so. (U6)*

Participant U2 said:

> *We [XXXX] work with students who struggle to access any kind of computing facilities beyond school*, adding *a well-equipped school sector is a really good way to level the playing field.*

Participants discussed the inequality of IL provision between schools and how the teaching of IL varies from school to school, some commenting how it is taught sporadically by school librarians, others stating how IL is embedded through the whole school:

> *I see IL being embedded in everything that we do in the whole school. It's sort of dripped-fed, without the students realising that IL is a thing.* (S3)
> *KS3 tutors deliver aspects of IL but they call it 'research skills' and our EPQ staff also deliver aspects of IL.* (S4)

There was some discussion around pedagogy and learning styles in relation to IL:

> *There is a big push now on student-centred learning [in schools], getting the students to think, to analyse and evaluate and draw their own conclusions and compare with each other*, adding, *teaching staff don't look at IL skills in isolation, they look at them as part of the learning process and making students more independent.* (S1)

However, this opinion was not shared by some participants, a number raising concerns in the way students are taught in schools, repeating phrases in relation to how students are *spoon-fed* information or how there is a lot of *teaching to the test* or too much focus on *exam factories* rather than encouraging IL and independent thought.

Commenting on the inclusion of IL in policies such as the new DfE *Computing Curriculum* and the EPQ, Participant S3 said: *I think schools who are not necessarily covering IL will be forced to reassess and do so*. This comment was particularly enlightening and raises questions around what is happening to students in schools who are currently not being taught IL or participating in IL outreach as highlighted by Participant U3 who said*:*

> *Doing outreach you are not always getting every student which is why it is so important [IL] is included in schools for those who don't go to university. What happens to the kids not doing the EPQ?*

4.7 Building inquiring minds

The interviews revealed concern around students' critical and evaluative skills, their need to question information, and to develop as independent learners. This resulted in the theme of 'inquiring minds' to emerge. When asked how important IL is for the students' journey of learning, the participants responded positively, some referring to how it impacts on students' learning at school and HE, while others commented how it impacts beyond education: *It [IL] helps them function in their everyday lives, particularly with their careers and jobs* (S1). Participants repeatedly mentioned that IL should be taught to students from primary school age, highlighting that it is too late at secondary school or Post 16. Participant U5 mentioned how although ILOPs are primarily aimed at Post-16 students, they can also be tailored for younger students.

Another option expressed frequently was that IL develops the whole student, that it makes them question, be critical, and inquisitive around information:

> *We have to give them [students] that critical thinking, otherwise it's possible to get the wrong understandings of things,* adding, *there's a lot of bad, dangerous information out there. It's like the George Carlin famous quote, "don't just teach your children to read. Teach them to question what they read. Teach them to question everything".* (S2)

To summarise, seven central themes emerged from the data: visibility of IL; IL outreach mechanisms; bridging social worlds; emotional value and importance; barriers to IL outreach; social-economic influences; and building inquiring minds. Analysis of these themes reveals a complex situation of inquiry which are discussed in relation to the literature in the following section.

5. Analysis and Discussion

This section examines how the findings answered the research questions, with reference to the literature and presents a model to illustrate the outcomes and benefits of the ILOP used at XXXX.

5.1 What are the key forces and motivations behind why HEIs conduct IL outreach work with schools?

XXXX's commitment to WP and outreach is a key motivation to the ILOP, which seeks to address the disparities of access and participation in HE among social groups. This aligns with the policy and regulatory environment for UK universities, where much emphasis has been given to WP and the reported benefits to individuals and society (BIS, 2014, 2016).

Other findings relate to how the ILOP prepares students for HE and lifelong learning, in particular how it eases transition from school to university through introducing students to the idea of studying at HE level and familiarising them with the university environment and library facilities. The ILOP can also be used to close the skills gap between schools and HE (Anderson

& Bull, 2014; Perera & Sinclair, 2019), which as confirmed by participants interviewed still very much exists around the issue of IL, the size of the gap varying between schools and their school library provision. The EPQ and its relationship to IL was discussed at length in the interviews, including how the EPQ has become an avenue for both school librarians and teaching staff to teach IL, and is a key influence on the growing demand for IL outreach. As highlighted in the literature the EPQ encourages independent learning, and forms a natural link with HE as it provides students with vital skills for further study (AQA, 2020; Benny & Smith, 2018; CILIP, 2018; Toerien & Harrow, 2019).

The findings also revealed that XXXX ILOP was found to be an effective mechanism for bridging the social worlds of schools and HE, and breaking down social barriers and inequalities which ties in with UNESCO's (2005) definition of IL and the Department for Business, Innovation and Skills (BIS) (2016, 2014) guidelines on widening participation, both of which relate to the importance of social inclusion and social justice. Interviews revealed an inequality of IL provision and computing and library resources between schools that participated in this research, and how this impacted on the lives of students. As part of XXXX commitment to WP, one of the ILOP objectives is 'to help improve participants' opportunities and social mobility' (XXXX, 2015, p.1—4).

The findings revealed a call to teach IL at primary level, which with the new DfE *Computing Curriculum* should increasingly happen. However, the literature and participants reported concerns around the ability of teachers teaching digital literacy. The UK Digital Skills Taskforce (2014) report highlights the importance of digital literacy in compulsory education and states that 'schools, colleges, universities and industry need to collaborate' to help teachers with the new computing curriculum (p.11), presenting an opportunity for the university to work more closely with local schools, including primary schools.

The literature review and feedback from participants agree that the value of IL is reduced in schools compared to in HE, particularly in England, where as a term IL in general isn't mentioned at strategic level or included within the national curriculum (McKeever et al., 2017).

5.2 What value do stakeholders place on HEI ILOPs and how do they perceive IL?

The findings revealed that the ILOP is highly valued by all of the participants, who often showed or expressed emotion when describing its value and importance, even referring to its level of 'prestige' in relation to when school staff have to justify taking students out of school. Participants repeatedly made comments on how IL develops the whole student and independent learning, which chimes with the UNESCO's (2005) definition of IL, which includes how IL empowers people to 'achieve their personal, social, occupational and educational goals' (p.3). In relation to this, all participants responded strongly that IL is essential for students' journey of learning in the digital world, and that IL develops critical and evaluative skills and builds an inquisitive and questioning mind-set around information. However, it was apparent that there were differences in participants' conceptions of IL and this was largely dependent of their role, in the case of this study between school teachers and school librarians. Variation in conception of IL is a feature of phenomenological research into IL (Bruce, 1997; Webber et al., 2005).

Participants repeatedly emphasised, these points, for example: *We have to give them [the students] that critical thinking*. As a result, this led to the notion of 'building an inquisitive and questioning mind-set around information' to be a key outcome of ILOPs and an essential finding from the analysis.

There was some disparity in opinions around the inclusion of IL in the national curriculum, librarians tended to be more critical of the national curriculum and questioned whether IL was taught as effectively as it might be given its lack of a subject home. While teachers stated that the concept of IL was embedded well in the curriculum, particularly in A level subjects such as Psychology, History and the EPQ. None of the participants from schools were aware that IL had been included in the new DfE *Computing Curriculum*, but that may be due to the small sample of participants.

There was discourse around teaching methods in schools and the teaching of IL, some schools clearly valuing IL highly and where it is embedded into every subject, compared to other schools where it was taught more inconsistently. The literature contains examples of criticism of teaching methods in schools. Stoten (2014) stated that 'English universities have periodically criticised the GCE A level in that students are often spoon-fed and not used to taking self-directed and independent learning' (p.66). However, the beginnings of a move towards student-centred learning in schools was highlighted by some of the participants. The literature revealed a link between independent learning and IL, where IL helps develop independent learning skills, particularly in relation to the EPQ qualification (Anderson & Bull, 2014; Benny & Smith, 2018; Secker & Coonan, 2012).

5.3 What are the potential barriers for schools attending HE ILOPs?

Participants from schools cited taking time out of the curriculum, staffing and resources, and the cost of travel as key barriers to attending IL outreach (Saunders et al., 2017). Most of these barriers have been partially addressed. For example, the university outreach team has just launched its Discover Study Skills Online resource and also offers school visits. Also with the inclusion of digital literacy in the DfE *Computing Curriculum*, and the growing popularity of the EPQ, the notion of 'taking time out of the curriculum' doesn't apply as the ILOP can directly support these aspects of the national curriculum. Other potential barriers may come from the misunderstanding and attitudes towards IL as revealed in the findings, where some of the participants acknowledged that sometimes teaching staff assumed that pupils already possess IL skills. However, the literature reveals a complex picture around the IL capabilities of school children, with some areas of expertise, and others where skills are lacking (Anderson & Bull, 2014; McKeever, 2013).

One of the features of SA is to try to identify sites of silence in the data, aspects of the situation that might be expected, but are not mentioned by participants (Clarke, 2003) A silence that emerged from the findings was around the issue of schools that do not participate in the EPQ, or students that are not taking the EPQ. Concerns were raised by participants around how these students fare in regards to IL and whether they are captured by XXXX IL outreach.

5.4 Are collaborative relationships & partnerships developed between HE staff, HEIs and schools through ILOPs?

The research demonstrated that in this situation, collaborative relationships and partnerships have been developed between HE staff, HEIs and schools as a result of ILOPs, and this is something that looks set to continue with the increasing demand from schools for ILOPs due to the reasons mentioned in 5.1. Partnerships between stakeholders are highly recommended as ways to improve outreach activities (Benny & Smith, 2018; Moore et al., 2013).

An important outcome of the partnerships formed between schools and HEIs is that it has enabled knowledge sharing. Participant S1 stated *it's a two-way process*, and Participant S3 stated *it reinforces good practice,* referring to how it enables both schools and HEIs to gain insight from each other, reflect on their professional practice around empowering students as learners, and then act upon their new gained knowledge in their respective institutions.

6. Recommendations for practice

Sections 5.1 though to 5.4 reveal a complex situation of inquiry. The key lessons learned from the analysis of the situation have been summarised below followed by recommendations for practice.

The motivation for the ILOP is driven by XXXX commitment to WP and IL outreach. The ILOP provides mechanisms for IL outreach, and is an effective mechanism for bridging the social worlds of schools and HE; for creating partnerships and knowledge sharing between institutions; for breaking down social barriers and inequalities; and for developing critically aware, independent learners.

The ILOP provides an opportunity for knowledge sharing between stakeholders, and a mechanism through which the university can respond to the growing demand from schools for support from universities.
Drawing on these findings the following recommendations are offered for practitioners within universities (A) and schools (B):

(A) Universities

- Work in partnership with regional primary and secondary schools, to support the delivery of digital literacy, as part of the DfE Computing Curriculum and the inclusion of IL in teaching and learning policy.
- The EPQ provides a useful focus for ILOPs, but it is important to also reach out to schools and students not participating in the EPQ.
- Address key barriers to IL outreach to facilitate the practice more effectively.
- Disseminate information about ILOPs throughout the HEIs to inform HE staff of its impact and far-reaching objectives.
- Share best practice with other HEIs.

(B) Schools

- School senior management, teaching staff and school librarians to work collaboratively to support the inclusion of IL in teaching and learning policy.

- Schools to disseminate information in relation to the purpose and benefits of ILOPs, with the intention to inform ALL staff of the programme's far-reaching objectives beyond recruitment, and to raise awareness that IL can be embedded in all subjects.

7. Limitations

Due to the timescale available for this master's dissertation, the scope for this research project was limited to the XXXX as a case study. The timescale available also influenced the decision not to seek data from school-aged students who participated in the ILOPs as this would have increased the ethical risk element of the research project. The lack of awareness of the term information literacy, particularly as this is not included in any curriculum standards, in the participants of the research, presents a limiting factor to the study. Furthermore, while the findings reveal an inequality of IL provision it should be emphasised that this finding was within a relatively small study. A study with a larger sample across more institutions would need to be carried out to ascertain the accuracy of this finding.

8. Conclusions

In summary, the principal conclusions that emerged from the research project are that XXXX ILOP, generates a process of beneficial outcomes that leads to the development of inquiring minds and informed institutions around the concept of IL. The ILOP provides mechanisms for IL outreach, and is an effective mechanism for bidging the social worlds of schools and HE; for creating partnerships and knowledge sharing between institutions; for breaking down social barriers and inequalities; and for developing critically aware, independent learners. XXXX ILOP provides an opportunity for knowledge sharing between stakeholders, and provides a mechanism through which the university can respond to the growing demand from schools for support from universities.

Key forces and motivations behind this growing demand are largely attributed to the introduction of the EPQ. Other influential factors at play include the emphasis on independent learning and digital literacy in educational policy; the desire to improve student attainment; and the government's digital and WP agenda. Other key influences in relation to why HEIs engage with schools through IL outreach are to prepare students for HE and lifelong learning and to ease transition. The findings revealed participants place great value and importance on the ILOP, but also uncovered differing values of IL between HE and schools highlighting the need for dialogue.

8.1 Recommendations for further research

A broader understanding of IL outreach work between HEIs and schools may be achieved with a larger scale research project, where several HEIs could be investigated and compared, and data from a larger sample collected over a longer period of time, including schools that currently don't attend ILOPs.

The inclusion of school-aged students and their parents, undergraduate students, mature students, and alumni who are in their early career would provide the opportunity to gather data

around their perceptions of ILOPs adding to a deeper understanding of the impact of the outreach work.

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Appendix

Interview Schedule

The aim of the interview is to gain an understanding around the various forces and motivations behind how and why HEIs engage with schools through IL outreach programmes and the partnerships that are created in the process.

Perception of IL [All participants]

How would you define IL?
How important do you believe IL is for students in their journey of learning, whilst at school, at HE, and in future employment?
In your experience, how does the perception of IL in schools compare to the perception of IL at HE?

IL programmes at XXXX [University staff only]

Can you describe the outreach programmes at XXXX?
Could you describe how these outreach programmes were set up and managed?
How are IL sessions within these programmes delivered?
How do schools find out about these outreach programmes and what is the proximity of schools that attend?

Have you noticed any growing demand of IL sessions and if so why?
What member of staff do you tend to liaise with in schools in relation to IL?
Do you know the impact of these sessions? Are they evaluated?

Force and motivations behind why HEIs conduct IL outreach with schools [All participants]

What do you believe to be the key influences/drivers around the need for IL outreach programmes between schools and HEIs?
Do you believe there is an IL skills gap between schools and HE and if so how does IL outreach help to fill that gap?
Do you believe there is a certain expectation of students' IL skills from academics by the time they come to HE?
Do you know what IL assistance the XXXX offers first year undergraduates and has this influenced what IL assistance is offered to schools?
IL is referred to in the DfE Computing Curriculum; the EPQ and the Scottish public library strategy. Do you think this highlights the importance of IL skills?

Explore how collaborative relationships and partnerships are developed between HE staff and HE institutions and schools through IL outreach programmes [All participants]

Do you work in collaboration/partnership with any other departments at the XXXX that offer IL outreach to schools and current undergarduates and if so has this been helpful?
Has the IL outreach programme enabled your organisation to formulate a collaborative relationship or partnership between HE staff, HEIs and schools?