

Academic Information Literacies

Finding and using information in research, teaching and academic professional development at the University of West London.

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Ethical clearance for this study was obtained through University of West London School of Human and Social Sciences Research Ethics Panel

Introduction

How, why and when do academics use information in their work? In what contexts do they search for, critique and apply professional, scholarly and research information sources from books, research journals, professional organisations, social media and government regulators? How do they locate the resources that they need to develop teaching materials, write papers and books and formulate new research projects? How do they express, negotiate and experience their 'Information Literacy'? Despite the increasing breadth of research in this area, there is little evidence of the experiences of academics in the context of modern UK universities such as UWL. Such evidence could help inform resource acquisition and development policy and form the basis of learning tools to develop a higher and more consistent level of Information Literacy in its academic community, with the possibility of increased productivity and quality in scholarly and research activity.

Information Literacy is the effective identification, seeking out and synthesising of the information needed to increase knowledge and facilitate learning and understanding (SCONUL 2011) in whatever context. It is an idea which has evolved from more restricted notions of library skills or information skills (Snavely & Cooper, 1997) through an increasing awareness of a wider 'information landscape'. Information Literacy has been successful in obtaining a higher profile in Higher Education in recent years, proving useful in elucidating the role of information experiences in, amongst other fields, research, active learning and the development of competent, creative professionals (Forster, 2017).

Early behaviourist models described Information Literacy in terms of performances, skills and knowledge (Kuhlthau, 1993). Constructivist models put the information tasks necessary to function in the actual information world as the defining actions (Doyle, 1992), and

Information Literacy was increasingly understood as the ability to apply skills and understanding in a context or situation for a specific purpose. Using the methodology phenomenography, Bruce (1997) developed a more sophisticated 'relational' model by treating it as a 'phenomenon', uncovering the range of experiences that can be described in the lives of information users. The relational model emphasises that at any moment the experience of being information literate can be described by a relatively small number of archetypal formulations of 'variations' in that experience. This understanding of the subjective and contextual nature of Information Literacy goes a step beyond a model of the constructivist type in its sensitivity to the different ways in which Information Literacy is experienced by an individual and placing that experiential variation at the heart of how it is understood. Bruce's approach, as modified by Forster (2017), formed the underlying paradigm for this study.

The Study

The purpose of this study was to allow Library Services to better understand the nature, range and focus of the information literacies of academic staff at UWL. Through this understanding it was hoped to discover what is required to develop and enrich these literacies, and from this knowledge formulate and make available focused and appropriate information literacy developmental resources for academics; resources that could potentially form part of their individual professional development plans.

The study consisted of two parts, data for which was collected in 2021. A survey (n=84; 32% response rate) asked academic staff, after providing demographic background information, to use free-text response questions to give brief descriptions of their key information activities, skills and resources used and how often they looked for professional, scholarly and research information and why. 'Information' was defined in the broadest sense, including any news, opinion, discussion or guidance sought out and engaged with as part of the academic role.

The second part of the study consisted of semi-structured interviews (n=15) with participants selected from volunteers from the survey respondents with an eye to

representation in terms of the group's demographics as described in the survey. The interview protocols were based on the free-text responses, and the transcripts were analysed thematically using the 'thematic phenomenography' method developed by the project's principal researcher (Forster, 2015). This produced groups of thematic descriptors of varying complexity of experience; each group describing a focus of experience within the information world of the participants. The final outcome was a group of 4 'personas', each describing a way of experiencing information literacy in academic work at the university; each one not a separate job or role but a way of thinking about and experiencing information use any academic might take on depending on what the current task requires.

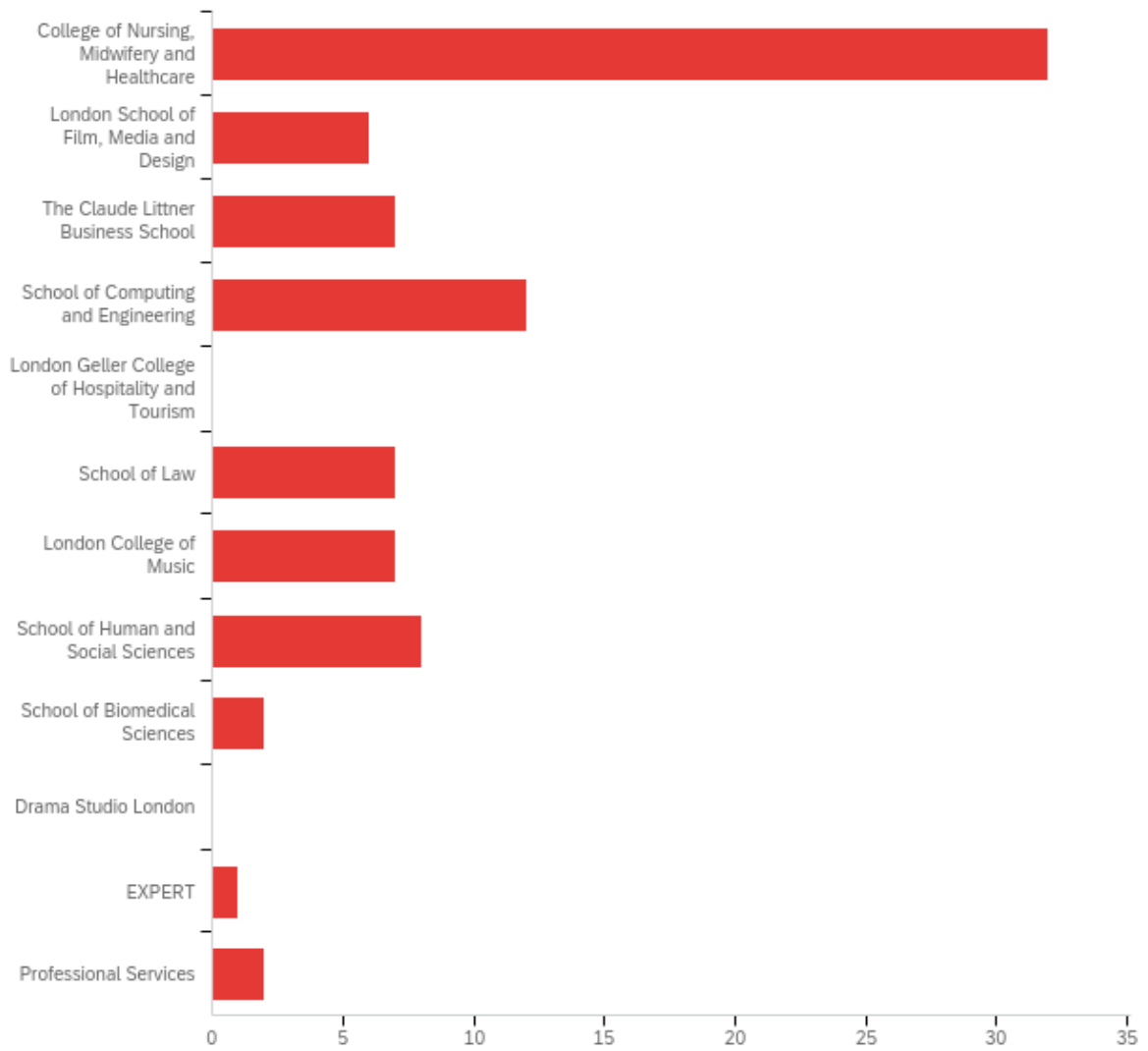
Part 1: The Survey

The survey, which was developed using the Qualtrics survey tool, was distributed via internal e-mail and other internal communication systems, invited volunteers from the academic staff to contribute either by filling in the brief survey or by completing the survey and volunteering for the interview. Subject Librarians affiliated with the schools were also asked to approach academics with additional invitations and explanations of the study's aims.

Demographics

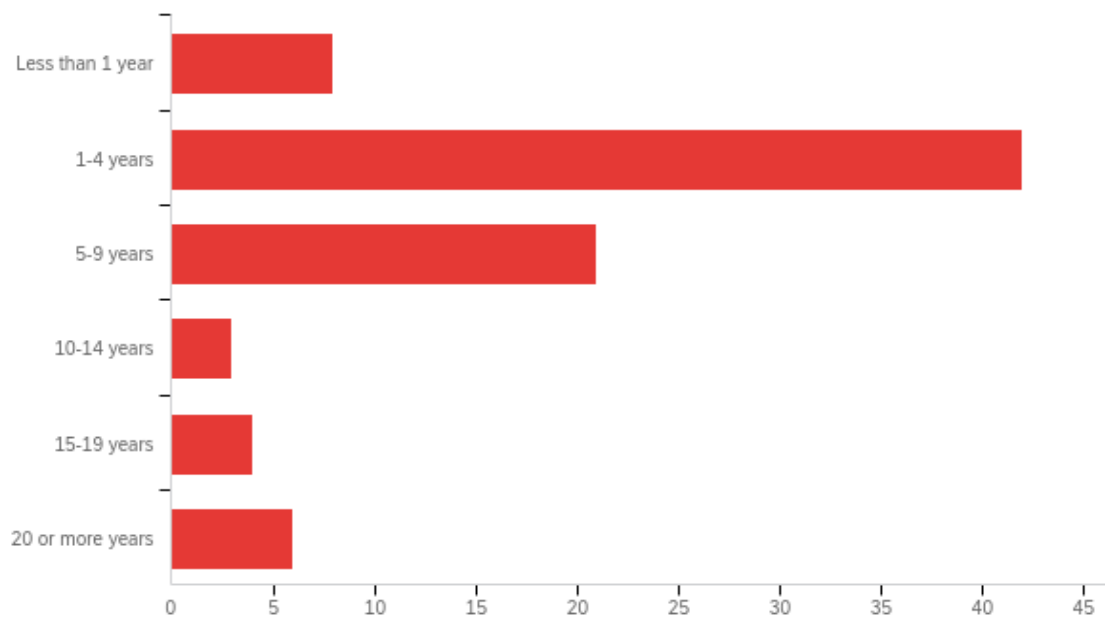
Your School, College or Department

The first question asked for the participant's school or college. The proportion of responses from each School/College wasn't an exact match in terms of faculty size. However, the variation was sufficiently diverse to enable a demographic for Stage 2 which approximately corresponded. Interestingly, stage 2 showed no noticeable division between the schools in terms in their information literacy experiences.



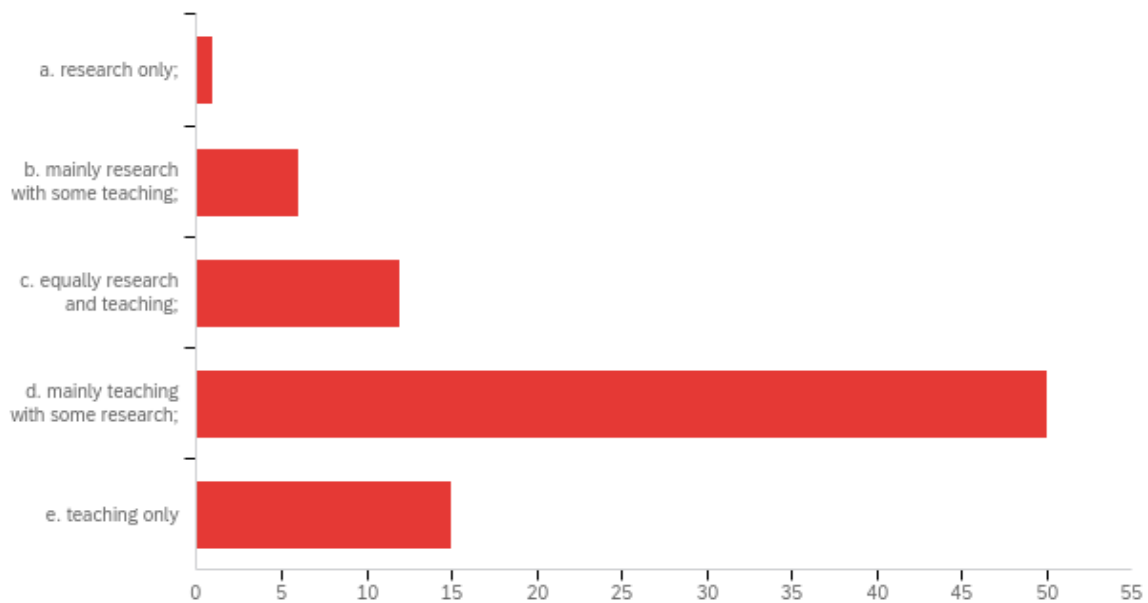
How long have you been in your current role?

A good range of experience across the sample. What was the significance of 'experience' in the information behaviour of academics? Confidence in knowledge of the 'Information Landscape', of the key authors and information sources, turned out from the interviews to be a significant characteristic of academic information literacy.



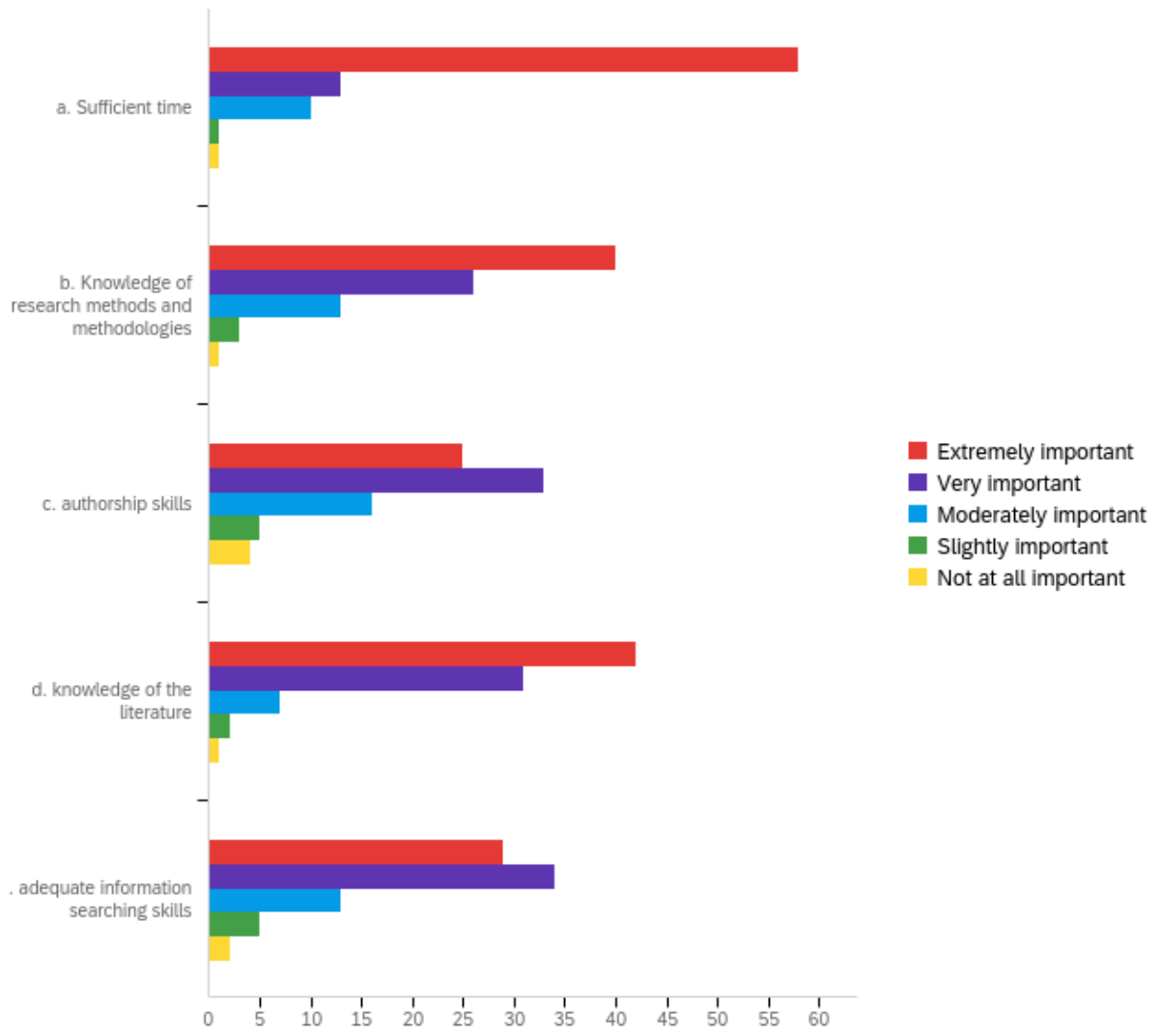
What is the Balance Between Research and Teaching in your Role?

Most participants were involved with both teaching and research. The detailed and complex responses in both the free-text answers in the survey and the interviews indicated ways in which information gathering and use varied and converged between the two roles.



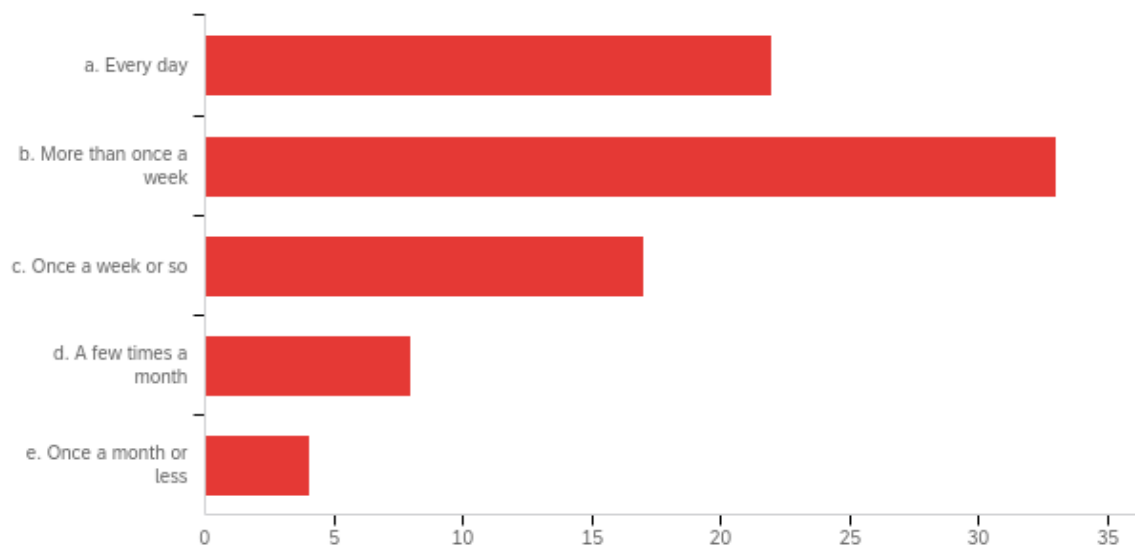
How important to your scholarly and research activity are the following factors?

The interviews indicated that time was a major factor in information gathering and use. Interview participants also indicated the value of subject and scholarly knowledge to a quick, precise and efficient information gathering process; hence, it seems, the high value given to them here. Authorship skills were included, as these involve focused gathering, synthesising and explication of information.



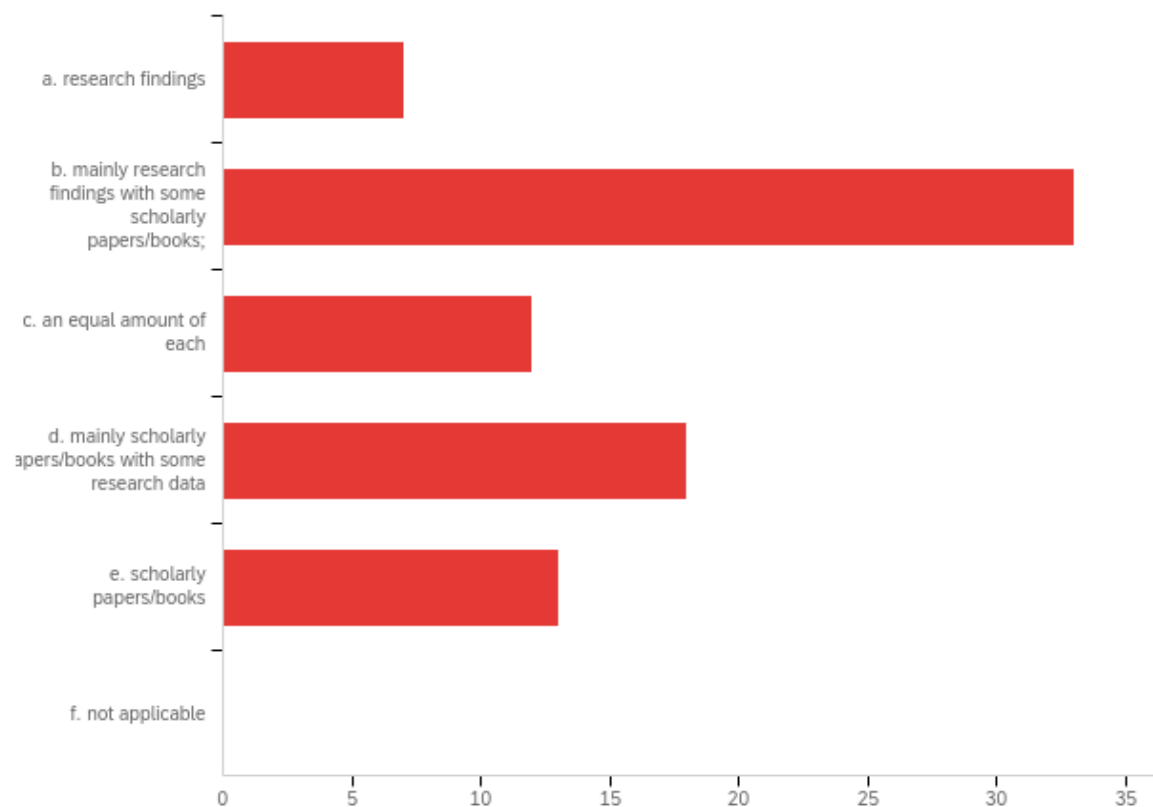
How often do you seek out scholarly or research information sources?

Information gathering is a frequent academic activity; it has many purposes and isn't just a matter of large-scale trawls of the research or pedagogic literature. It often involves quick confirmations and enquiries, consultations with colleagues and collaborators, scoping searches and engagement with new or revised professional guidance and regulations. Consequently, as confirmed in the interviews, information gathering can be a constant, varied, time intensive and sometimes relentless activity.



Select the most appropriate description of the information sources you use to support and develop your Teaching/ Professional awareness.

Despite the fact that not all of the professions and disciplines taught at UWL could be defined as 'evidence-based', research evidence and research-based guidance appears to form the backbone of the scholarly information sources used by its academics. Knowledge of the key researchers and their work was shown in the interviews to be a key means of successful negotiation with the often-overwhelming research landscape.



Free Text Answers

Survey respondents were asked to give brief answers to a small number of questions which highlighted the basic details of their scholarly and research information experiences. The answers were used to inform the interview protocol in Stage 2 but coming from a wider sample than the interviews (n=84), they have considerable interest in themselves. What role does scholarly and research information play in your work and how does it promote effectiveness and professional development? Are you limited in your activities and plans by deficits in your information skills? How do you advise students in their pursuit of information skills development? What are the relevant characteristics of key information sources? These basic stimulators began the process of getting participants to think about their information behaviours, priorities, ambitions and limitations. The actual responses can be found in an appendix.

In general terms, how would you describe the role of scholarly and research information in your work?

Participants were quite adamant about the vital nature of such information and how important it was to effectively obtain it: to *'contextualise, support and provide evidence for topics taught'* and to develop one's career. Keeping aware of new developments in the discipline are mentioned in the context of developing relevant and engaging teaching, finding the latest research and identify research gaps. The role of the library, both as an institution, a source of information and through the support of specialist librarians was highlighted in the interviews.

How, and in what contexts, does scholarly and research information support and enrich your work? How has it contributed to your achievements?

Information Literacy may effectively produce a flow of relevant information for academics, but does it make a difference? The responses to this question suggest a resounding 'yes'. 'Giving authority and depth', 'enriches my teaching', 'provides me with a knowledge base that I can use in teaching', 'a wider understanding of developments in my field' amongst other comments. The comments and interviews re-emphasise the findings of research (Forster, 2017) that a complex and specialist information world must be successfully negotiated by academics and other professionals to be able to maintain, not only a basic knowledge of their discipline, but the information needed to progress in teaching quality and new research ideas. The 'negotiation' required high levels of Information Literacy and availability of specialist sources.

What do you think you might be able to achieve if your information skills were better than they are?

The research literature suggests that part of Information Literacy development is a widening of the 'information landscape' (Lloyd, 2020). To develop Information Literacy skills requires a sense of where the academic wishes to get to; more publications or research proposals, or just a greater sense of being able to navigate their information world quickly and effectively. Participants often indicated that they wish they had more 'systematic' information skills, although some expressed confidence in their skills and their understanding of the 'information landscape'. Systematic skills were often felt to be a means of approaching otherwise unattempted research projects.

List three databases, catalogues or websites you use regularly.

The popularity of the UWL Library discovery tool (LibSearch, formerly Summon) and Google Scholar is highlighted several times in the interviews. Academics seem to require simplicity and speed in their search tools, most having enough confidence in their knowledge of the literature and their ability to quickly critique a search result and the resultant information items. They are happy to do without complex search protocols for focused information needs when the search needs to be functional but doesn't need to be comprehensive. However, the specialist databases are understandably popular for more comprehensive searching, especially in those disciplines with a large and complex research base. A compromise between simplicity and specialist needs was found in the use of publisher websites or other journal article aggregators.

Briefly describe the database's content. Then say: Why it is useful. In what ways is it easy to use. In what ways is it difficult to use.

Brief and focused descriptions of content of favourite databases will of course give insights into priorities in information searching and use, as well as key requirements and any sense of shortcomings in information sources. Many of those currently subscribed to by UWL Library Services are mentioned repeatedly. Ease of use/ 'single-click' and 'full-access' to full-text are common positive characteristics, with both 'wide-variety' and specialist resource content also highlighted. Some broad tools such as Google Scholar are identified as 'gateway' or scoping tools, implying use of more specialist tools will come later.

What advice/techniques or 'tricks' would you pass on to a colleague to help them use information searching tools?

When asked for advice, our participants gave a varied response. 'Start with a general tool' or on the other hand 'begin with a key journal and follow the 'trail' via reference lists', keep it simple...or learn how to use advanced tools such as subject headings. Apparently contradictory advice but showing that varying approaches are needed and need to be understood depending on what kind of search it is and to what purpose. 'Be clear in what you want to find, be tenacious, patient and determined, and do keep records...and get help from your librarian!'

Part 2: The Interviews

Methods

The wide range of comments from the survey were analysed to develop a protocol for semi-structured interviews (n=15). The protocol was based around comments which suggested potential Information Literacy experiences which were complex and simple, specialist and quotidian, focused on individual, collaborative and student-centred work.

The interview participants were selected from volunteers from amongst the survey respondents with an eye to representation in terms of the group's demographics as described in the survey. Unfortunately, not every school contributed to the survey, but the final 15 were a good cross-section of specialism, role and years of experience, possible due to a gratifyingly large percentage of the survey respondents agreeing to be interviewed (50+). The schools/college breakdown of the sample was:

CNMH, 5; SCE 3; Graduate School 2; SHSS 2; CLBS 1; SoL 1; LCM 1.

The interviews were conducted via MS Teams, which allowed convenient appointments and ease of recording. 13 of the 15 interviews were conducted by the principal researcher; 2 others by the participant's own subject librarian.

The transcripts were analysed thematically using the 'thematic phenomenography' method developed by the principal researcher (Forster, 2015). This produced thematic descriptors ('Dimensions of Variation') identifying and describing a focus of experience of Information Literacy, some more complex than others. The dimensions were then grouped under 'Themes of Expanding Awareness'; each theme describing a field of experience within the information world of the participants. The dimensions were arranged under each theme in ascending order of complexity of experience; that is, of 'expanding awareness' of the dimensions of the phenomenon of Information Literacy. Finally, a horizontal mapping process allowed the detail of the Information Literacy experiences of four 'personas' to be described, each a way of functioning within the Information Landscape of academic work. These methods and outcomes will be described in more detail below.

Findings from the Interviews

General Comments

Before looking at the outcomes, we can make some general comments derived from the researcher's experience of the interviews as phenomena in themselves.

A fascinating distinction began to emerge between the information seeking behaviour (correctly) expected of students - carefully developing a range of searching and critiquing skills with close attention to logically developed search protocols - and Information Literacy as experienced by academics. For academics, searching for, and using, academic information was often experienced as an intuitive, task-focussed, time-intensive process informed by a developed understanding of the 'information landscape' of the discipline. The key authors, the keywords and their relationships to other keywords, the primary journals and essential professional organisations and their documentation were intuitively brought into play. Students, without this expertise within the information landscape, are encouraged to rely on a more constructed and scoping approach.

Another impression derived from the researcher's experience of the interviews was that academic Information Literacy can also be summarised in the form of a SWOT analysis. Participants also express their experience/understanding of Information literacy in their description of difficulties, shortcomings and limitations:

- Strengths: ability to focus searching precisely and at an early stage using detailed subject knowledge and awareness of key authors
- Weaknesses: lack of confidence in the techniques and outcomes of more comprehensive searching
- Opportunities: library support; support from colleagues and collaborators
- Threats: lack of time; searching tools which are complex and time-consuming

Dimensions of Variation of Awareness

Analysis of the interview transcripts in the first instance looked to develop a range of 'dimensions of variation of awareness' of Information Literacy. These are description of experience of the phenomenon which vary in terms of focus of experience (what kind of tasks?) and complexity (simple or more complex tasks). They are developed from a careful and intuitive analysis which avoids reliance on simple phrase recognition and interprets purpose, experience and their expression across several transcripts. The dimensions are defined in the form of simple descriptors before being arranged under 'themes'.

Themes of Expanding Awareness

Themes of Expanding Awareness collect the dimensions under a common 'theme' of experience, or as one might otherwise express it, a 'field of activity' within the information landscape. The dimensions are arranged from simplest to most complex experience, or an 'expanding awareness' of the potentialities of the experience of Information Literacy. The themes are either an awareness of process or an awareness of meaning (Forster, 2015), the two aspects of the basic structure of phenomena as established by Husserl (Cerbone, 2005).

The Themes of Expanding Awareness for this study were:

1. Keeping up to date (process focussed)
2. Developing new ideas (meaning focussed)
3. 'Speed, focus, availability' (process focussed)
4. Systematic searching (process focussed)
5. Student guidance (meaning focussed)
6. Library culture (meaning focussed)

The Themes will now be discussed in more detail, with the dimensions of variation of each theme listed in ascending order of complexity. The interpretation of complexity of each dimension is a careful assessment of the complexity of the information focused task each dimension is located in; it is a subjective assessment, but one carefully evaluated.

Theme of Expanding Awareness No.1: Keeping up to date

This theme groups dimensions which involve experiencing Information Literacy as using information skills to maintain efficient functioning in an academic role. This had several meanings: professional awareness and competence, ability to teach an ever-developing subject, being able to write and revise effectively for publication, and understanding of where research priorities lie, both for collaborators, other colleagues and the profession.

From the least complex



to the most complex experience

- ❖ Keeping up to date with developments in government policy, professional protocols, codes and legal frameworks
 - Targeted messages; alerts; grey literature
- ❖ Keeping up to date in the profession
 - Discussions with colleagues and other professionals
 - Information gathering activities which can form 'a competitive advantage in a small world'
 - The use of information or the reason for searching for it is 'wide-ranging and never typical' (P7)
- ❖ Keeping one's teaching up to date
 - Searching the latest textbooks for developments in key area or for topic tangential to expertise
 - Keeping an eye on papers from key authors and their reference lists for new developments in the discipline
 - New teaching ideas and advice from colleagues and collaborators
 - Searching the websites of professional organisations for changes in professional requirements
 - Developing new courses or revising them
- ❖ Experiencing the 'scholarly culture'

- Emersion in social media; professional and government developments and policy
- Discussions with colleagues and collaborators about 'where the discipline/profession is going
- Appreciating the value of evidence synthesised by professional organisations
- Knowing that some parts of the profession or subject area are 'fast changing' and others 'slow changing'; different information gathering habits based on that knowledge
- ❖ Experiencing revising scholarly activities
 - Searching for up-to-date material to revise book chapters
 - Searching for recent scholarly and research resources in response to writing and reading reviews
 - Searching for recent scholarly and research resources while preparing to write journal papers
- ❖ Keeping up to date in the research field
 - Locating research studies in response to reading and developing systematic reviews
 - Locating and reading new papers by key researchers (analysing their ref. lists)
 - Keeping up to date on research funders and their priorities

Theme of Expanding Awareness No.2: Developing New Ideas

The second Theme gathered dimensions which described Information Literacy's ability to help in the generation of new ideas and facilitating new ways forward. By becoming aware of intriguing new developments, the academic can be stimulated to new ideas that develop the new developments further - for research, teaching or publication.

From the least complex



to the most complex experience

❖ **Developing new Ideas for Professional Development**

- New ideas from key journals – high profile authors, and who they cite.
- Breaking through ‘habit’. ‘You get people relying on [sources] they have used for years’ (P7)

❖ **Developing new ideas in Teaching**

- Reading newly published textbooks, especially in new or peripheral areas, to inform teaching
- Taking a joint developmental journey with PG students

❖ **Developing New Ideas for Scholarly activity**

- New ideas from discussion with colleagues and collaborators, experiencing, networking
- Finding new ways forward through information journeys – experiencing tangential and other complex relationships between key authors and emerging subject domains. Skilled, rapid, ‘flow’ searching.

❖ **Developing New Ideas for Research**

- Finding new research opportunities through searching for new research grants
- Forming a new research idea; exploring the literature for context. Professional knowledge allows this to be done efficiently and deeply.

Theme of Expanding Awareness No.3: Speed, Focus, Availability

One of the key findings of the study was that academics used their subject knowledge to focus quickly on what they needed. They only searched comprehensively for specific reasons, such as for major research projects; more often they required a search tool which allowed them to locate works by key authors, in the essential journals based on a judicious use of keyword, that would lead immediately to the full-text of the paper. This theme concentrates on the day-to-day information gathering activity of busy and knowledgeable academics seeking to quickly discern, solve, grasp.

From the least complex



to the most complex experience

❖ **Focusing on Discerning the professional context**

- Experiencing quick judgement of information needs form extensive knowledge of the profession and discipline
- Experiencing the ability to rapidly construct and develop a search strategy through understanding of essential keywords and the relationship between them and their hierarchical value

❖ **Focusing on Grasping the Value and Applicability of information sources in the context of teaching**

- Experiencing the ability to do without complex database functionality
- Experiencing the ability to maintain a focused eye on the developing subject area through knowledge of key sources
- Experiencing the ability to prefer simple intuitive interfaces (frustration with complex and varying database search protocols)
- Experiencing the centrality of discovery tools – speed, simplicity of search (not requiring pre-planning), comprehensivity. Value of ‘one screen’ searching, insensitivity to grammar and syntax.

❖ **Focusing on Grasping the nature and content of the scholarly discipline through collaboration**

- Experiencing the way in which collaboration can sharpen and speed up the scoping information gathering process for research and scholarly work
- Frustration with lack of immediate access to the full-text document – time-poor, well-focused (and therefore full-text need significant and not irrelevant) and intuitive searching is derailed and frustrated. Liking for full-text databases e.g. Academic.edu; ArXiv

❖ **Focusing on Grasping of the Information and Research Landscape (authors, journals, developing disciplines)**

- Experiencing ability to locate key studies and other academic contributions through wide knowledge of key authors

- ‘Jumping sideways’ (P12) to intuit complex relationships between subjects, authors, sources
- ‘Learned to not keep asking the wrong thing’ [P6]
- Experiencing the ability to quickly critique the often sizeable results. ‘I have enough knowledge to quickly tell if it’s rubbish or not’ [p.4]. Making a quick representative selection ‘no need to have every single paper’ unless doing an SR
- Remembering being an inexperienced academic: being confused by breadth and size of literature – limited knowledge of its topography, lacking confidence, not intuitive and more likely to follow a fixed protocol, become confused easily and waste time.

Theme of Expanding Awareness No.4: Systematic Searching

Academics do systematic searching only under specific circumstances. Preparing for a research study, undertaking a review of the literature, assisting research students, exploring new topics in detail.

From the least complex



to the most complex experience

- ❖ Experienced as confidence in ability to make the best use of time through planning, focussing, critiquing and resource awareness – avoiding becoming overwhelmed or developing an incomplete search
- ❖ Experiencing subject knowledge as understanding the right databases, keywords necessary for teaching
- ❖ Experiencing subject knowledge as knowing the key authors, researchers and research journals necessary for teaching
- ❖ Experienced information gathering as comprehensive, planned, longitudinal, recorded

- ❖ Experienced as being able to critique a scoping search in grasping the ‘information landscape’
- ❖ Experienced as having a complete grasp of the Information Landscape sufficiently to identifying the research gap

Theme of Expanding Awareness No.5: Student Guidance

Academics guide and encourage students in their literature searching, whether assignment or research focussed. Within the complex experiences of the teacher-student relationship, students are given the contexts for information gathering, the aims and purpose of information critique, and application and the sources of the necessary skills. A significant part of Information Literacy experience for academics is in the context of their students being led to develop their own information Literacy experiences, their own academic understandings and research competencies.

From the least complex



to the most complex experience

- ❖ Experienced in showing how and where to get help from information professionals
- ❖ Experienced as the teaching of ‘tricks’ and ‘quick solutions’ to enable students to develop confidence in the information landscape
- ❖ Experienced as teaching the contexts and methods of information critique and how to select trustworthy and essential texts
- ❖ Experienced as defending your own teaching against information literate students
- ❖ Experienced as guiding into systematic process of information gathering and use
- ❖ Experienced within the feedback process, checking a student’s sources for validity and appropriateness, and whether appropriate range had been used
- ❖ Experienced as showing how to avoid misdirection or becoming overwhelmed
- ❖ Experienced in helping students to grasp underlying theories which will better guide their understanding of the information landscape

- ❖ Experienced as a joint iterative process of discovery of a subject information landscape
- ❖ Experienced in continually widening an awareness of a student's information world

Theme of Expanding Awareness No.6: Library Culture

One clear theme which emerged from the discussion of academic information literacy experiences was connected to the centrality of the library to many of the ways research and scholarly work were supported. There was a 'Library culture' in the university, in which academics and their students researched and taught with a sense of the value and centrality of, not just information resources, but libraries and librarians. Academics felt at home in the library as well as personally supported in their teaching and research work.

From the least complex



to the most complex experience

- ❖ Experienced as enthusiasm for libraries as study environments
- ❖ Experienced as keenness to improve effectiveness of library use
- ❖ Experienced as enthusiasm for, and willingness to engage in, the digital information environment
- ❖ Experienced as being understood and supported in their needs and their students' needs
- ❖ Experienced in effective relationships with information professionals
- ❖ Experienced as enthusiasm for libraries as liberating entities
- ❖ Experienced as a source and means of discovery

Personas

Also known as Categories of Description (Forster, 2015). They are developed from dimensions of variation of experience gathered from each of the six Themes which seem to have a similar focus and level of complexity of experience of Information Literacy, with some personas therefore exhibiting more complex experiences, others less complex. A conjunction of 'process' and 'meaning', they bring together the two aspects of a phenomenon as described by Husserl (Cerbone, 2006).

In this study, four personas could be mapped out and given definition based on their grouped dimensions. Not surprisingly, they coalesced around four familiar foci of academic work. However, some of the details, in the context of Information literacy, were surprising and informative and potentially useful for future Information Literacy developmental resources development. The four personas are:

- The professional
- The teacher
- The scholar
- The researcher

Information Literacy is experienced with least complexity in the 'professional' persona, greater in the teacher, greater still in the scholar, and the greatest in the 'researcher' persona.

As described above, the themes are either focused on process or awareness, the two aspects of the basic structure of phenomena as established by Husserl (Cerbone, 2005), hence each Category is a description of experience of the phenomenon in question.

Personas are ways of experiencing Information Literacy within the information world of the participants. They are not separate groups of participants or separate roles as such, they are foci of experience within the overall experience of the phenomenon that any academic may arrive at depending on the range of tasks at hand.

Persona 1 – The Professional

The 'Professional' makes themselves aware of the latest developments in the profession and their academic discipline. New ideas are generated in how to progress professionally and how the profession will or might progress. The essential keywords are known and how to relate them to produce a quick and effective information product for day-to-day administrative activities, which is reflected in a confident use of 'tricks' to find information quickly and an enthusiasm for libraries as sources and locations of personal development and the maintenance of professional standards.

Relevant Dimensions:

- Keeping up to date with developments in government policy, professional protocols, codes and legal frameworks
- Keeping up to date in the profession
 - Discussions with colleagues and other professionals
 - Information gathering activities which can form 'a competitive advantage in a small world'
 - The use of information or the reason for searching for it is 'wide-ranging and never typical'
- Developing New Ideas for professional development
 - New ideas from key journals – high profile authors, and who they cite.
 - Breaking through 'habit'. 'You get people relying on [sources] they have used for years' (P7)
- Focus on Grasping the professional context
 - Experiencing quick judgement of information needs form extensive knowledge of the profession and discipline
 - Experiencing the ability to rapidly construct and develop a search strategy through understanding of essential keywords and the relationship between them and their hierarchical value
- Experienced as confidence in ability to make the best use of time when searching for key documents

- Experienced in showing how and where to get help from information professionals
- Experienced as the teaching of 'tricks' and 'quick solutions' to enable students to develop confidence in the information landscape
- Experienced as enthusiasm for libraries as study environments
- Experienced as keenness to improve effectiveness of library use

Persona 2 – The Teacher

'The teacher' has little time to do extensive information searching. Expert subject knowledge is used to search quickly and with focus for material to support and update teaching resources, with a preference for discovery tools rather than specialist databases, and with easy access to full-text resources, especially new and updated texts, professionally generated data and guidance and collaboration from colleagues. Students are taught how to recognise reliable sources and how to quickly critique their value, leading to the student's ability to recognise the information landscape, sometimes as part of a joint discovery. They have a complex understanding of the library's provision of digital resources and the high-quality librarian support which leads them, and their students, towards Information Literacy.

- ❖ Keeping one's teaching up to date
 - Searching the latest textbooks for developments in key area or for topic tangential to expertise
 - Keeping an eye on papers from key authors and their reference lists for new developments in the discipline
 - New teaching ideas and advice from colleagues and collaborators
 - Searching the websites of professional organisations for changes in professional requirements
 - Developing new courses or revising them
- ❖ Developing new ideas in Teaching
 - Reading newly published textbooks, especially in new or peripheral areas, to inform teaching
 - Taking a joint developmental journey with PG students

- ❖ Focus on grasping the value and applicability of information sources in the context of teaching
 - Experiencing the ability to do without complex database functionality
 - Experiencing the ability to maintain a focused eye on the developing subject area through knowledge of key sources
 - Experiencing the ability to prefer simple intuitive interfaces (frustration with complex and varying database search protocols)
 - Experiencing the centrality of discovery tools – speed, simplicity of search (not requiring pre-planning), comprehensivity. Value of ‘one screen’ searching, insensitivity to grammar and syntax.
- ❖ Experiencing subject knowledge as understanding the right databases, keywords necessary for teaching
- ❖ Experiencing subject knowledge as knowing the key authors, researchers and research journals necessary for teaching
- ❖ Experienced as teaching the contexts and methods of information critique and how to select trustworthy and essential texts
- ❖ Experienced as defending your own teaching against information literate students
- ❖ Experienced as guiding students into systematic process of information gathering and use
- ❖ Experienced within the feedback process, checking a student’s sources for validity and appropriateness, and whether appropriate range had been used
- ❖ Experienced as enthusiasm for, and willingness to engage in, the digital information environment
- ❖ Experienced as being understood and supported in their needs and their students’ needs by the library.

Persona 3 – the Scholar

‘The scholar’ approaches information searching and application within an ‘academic culture’: exchanging and discussing information sources, such as papers from prominent journals, with colleagues and collaborators through whether in person or via social media, or aggregators such as academia.edu and arxiv.org. Information searching often has a

specific focus – reviewing books, drafting chapters and papers – with awareness of how sharing information informs and enriches these processes, including an awareness of how librarians are key ‘collaborators’. Yet there is awareness of how literature searching, and libraries, can in more complex experiences of information need and use, be creative and liberating in terms of how their role as a scholar can be viewed and practiced.

❖ Experiencing the ‘scholarly culture’

- Emersion in social media; professional and government developments and policy
- Discussions with colleagues and collaborators about ‘where the discipline/profession is going
- Appreciating the value of evidence synthesised by professional organisations
- Knowing that some parts of the profession or subject area are ‘fast changing’ and others ‘slow changing’; different information gathering habits based on that knowledge

• Experiencing revising scholarly activities

- Searching for up-to-date material to revise book chapters
- Searching for recent scholarly and research resources in response to writing and reading reviews
- Searching for recent scholarly and research resources while preparing to write journal papers

❖ Developing New Ideas for Scholarly activity

- Sharing information in discussion with colleagues and collaborators; experiencing ‘networking’
- Being creative within information journeys – experiencing tangential and other complex relationships between key authors and emerging subject domains. Skilled, rapid, ‘flow’ searching.

❖ Focusing on Grasping the nature and content of the discipline through collaboration

- Experiencing the way in which collaboration can sharpen and speed up the scoping information gathering process for research and scholarly work
- Frustration with lack of immediate access to the full-text document – time-poor, well-focused (and therefore full-text need significant and not irrelevant)

and intuitive searching is derailed and frustrated. Liking for full-text databases e.g. Academic.edu; ArXiv

- ❖ Experienced as confidence in ability to make the best use of time through planning, focussing, critiquing and resource awareness – avoiding becoming overwhelmed or developing an incomplete search
- ❖ Experienced as showing how to avoid misdirection or becoming overwhelmed
- ❖ Experienced in effective relationships with information professionals
- ❖ Experienced as enthusiasm for libraries as liberating entities

Persona 4 – The Researcher

‘The Researcher’ has a sufficient grasp of the discipline’s information landscape to be able to recognise a ‘research gap’ or to be able to interpret a scoping search well enough to do so. This grasp is maintained by keeping up to date by effective time-focused selection of new papers, especially by the key researchers and from prominent journals that are familiar to them. That ‘grasp’ is expressed through a familiarity with the literature that is organic in its comprehension of both detail and totality simultaneously and so creatively facilitates the generation of new ideas. ‘The Researcher’ helps their research students to widen their information landscape through expanding their theoretical knowledge as well as by conveying an understanding of the library's role in this.

- ❖ Keeping up to date in the research field
 - Locating research studies in response to reading and developing systematic reviews
 - Locating and reading new papers by key researchers (analysing their ref. lists)
 - Keeping up to date on research funders and their priorities
- ❖ Developing New ideas for research
 - Searching for new research grants
 - Forming a new research idea; exploring the literature for context. Professional knowledge allows this to be done efficiently and deeply.
- ❖ Focusing on Grasping of the Information and Research Landscape (authors, journals, developing disciplines)

- Experiencing ability to locate key studies and other academic contributions through wide knowledge of key authors
- 'Jumping sideways' (P12) to intuit complex relationships between subjects, authors, sources
- 'Learned to not keep asking the wrong thing' [P6]
- Experiencing the ability to quickly critique the often sizeable results. 'I have enough knowledge to quickly tell if it's rubbish or not' [p.4]. Making a quick representative selection 'no need to have every single paper' unless doing an SR
- Remembering being an inexperienced researcher: being confused by breadth and size of literature – limited knowledge of its topography, lacking confidence, not intuitive and more likely to follow a fixed protocol, become confused easily and waste time.
- ❖ Experienced information gathering as comprehensive, planned, longitudinal, recorded
- ❖ Experienced as being able to critique a scoping search in grasping the 'information landscape'
- ❖ Experienced as a joint iterative process of discovery of a subject information landscape
- ❖ Experienced as having a complete grasp of the Information Landscape sufficiently to identifying the research gap
- ❖ Experienced in helping students to grasp underlying theories which will better guide their understanding of the information landscape
- ❖ Experienced in continually widening an awareness of a student's information world
- ❖ Experienced the library as a source and means of discovery

Summary and Conclusion

The study's findings give us a reasonably detailed perspective on the contexts in which professional, scholarly and research information is searched for and applied by the University of West London's academic staff. The methodology of phenomenography allows such a perspective to be developed with sufficient structural variation to show the different

ways in which information literacy is experienced, yet with a sufficient unity for us to obtain a grasp of how the contexts inter-relate.

The methodology also allows us to make use of its findings practically. By application of variation theory (Åkerlind, 2008) we can sketch out and create Information Literacy development resources which will assist less experienced academics to expand the skills and awarenesses they need.

One somewhat unexpected outcome from the study was the widespread use of the library's discovery tool. Although there is a key role for systematic literature searching in their work, academic staff usually value timesaving and simple tools, ones that would be useless in the hands of more inexperienced academics (and students) who would not know the keywords, key authors and sources to create a quick, simple but highly focused and accurate search, and would not have the quickly and surely applied critiquing skills necessary to make sense of the result. An Information Literacy developmental programme focusing on speed, accuracy, subject knowledge application and rapid critique would be a fascinating challenge for the Library Service to develop.

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Appendix – Survey Free Text Comments

In general terms, how would you describe the role of scholarly and research information in your work?

Very important but it depends how you define 'research' and 'scholarly' - with more and more practice-based research being presented in alternative formats to written journal articles, there is some nuance to be made here.

It's very important for post-graduate teaching, and for my own research.

I aim to keep up to date in my discipline as it relates to the modules I teach and the modules in the course

In support of practical experience in a fast developing field

It is fairly limited due to nature of role and time commitments

The importance is to identify trends in the fields I teach.

Essential - it plays a key role in all aspects of my professional life, both as a lecturer and in my external role as a data analyst.

Extremely important. I try to publish twice a year.

It makes the knowledge used in the teaching materials evidence based.

It critically informs both my level 6 and 7 module content and focus.

It is there to help contextualise, support and provide evidence for topics taught and writing my own pieces.

It is of utmost importance. This just not reflect on my own research outcomes but also in the teaching practices, which are crucial in postgraduate teaching pedagogies.

Essential to teaching and career development

I supervise PGR and teach PGT and UG research methods so I am continually looking to refer students to relevant sources. As an active researcher I am also using them extensively myself.

Vital in preparing for teaching and writing papers.

essential to provide evidence based knowledge which is current to the students

Provides a broad, accurate and up-to-date framework

My role is completely research focussed. Undertaking research and supporting others with research applications - research literature/ info key to developing good research proposals and informs my teaching was doing systematic review currently incomplete

Important to ensure teaching and learning resources remain current and evidence based. To ensure as a registered professional I remain aware of any changes

It is vital as it is what informs my teaching and keep my content relevant and up to date

essential to keep up to date

I would describe the role of scholarly and research information as crucial.

It is critical for two reasons. Firstly, to stay completely up to date. Secondly, to develop a better personal understanding of the subject matter in order to improve the quality of my teaching delivery.

important to inform thinking for research and teaching

Mostly for lesson prep

It is essential to support teaching and supporting students

Central to my teaching, research, public speaking, consultancy and external engagement

Central, but not without critical evaluation in terms of validity, reliability, and transferability.

Updating and enriching the content of lectures and other taught materials.

DESCRIPTIVE AND ANALYTICAL OF PRIMARY SOURCES

The role of scholarly and research information is essential in my job. Nursing Education should be evidence-based.

I cannot do my role properly without it

important to the evidenced based practice that we teach

If by information what is meant is something like 'knowledge' then I would say that what I acquire through reading or scrutinising/extracting/absorbing/borrowing is 100% of my work, with added flashes of inspiration as supplements

To the research element of my role fundamental both for my research and for that of the students I supervise

Extremely important for keeping me updated and knowledgeable in my field.

Scholarly and research information underpin both research and teaching (you NEED it for the former and it really helps the latter)

To evaluate the application of theory in practice

if you are thinking about papers, books, bid information etc. - it is crucial!

imperative.... it underpins academic research

Vital to research and to teaching

Generally used to inform my teaching, with rare opportunities to actually use it to support my own research.

I generally use scholarly and research information to make my teaching more current and relevant and help students progress their assignments and final projects / dissertation

In mathematics the literature serves as our foundation for new findings

A very important source of information to know what others have been doing or new results

I use research information as well as scholarly information to prepare my notes and for teaching purposes. I am fortunate to be linking with hospitals who are all very researched focused .

Mainly used for publications and teaching preparation

Very important as the subjects I teach need to be based on best available evidence and up to date material.

It is essential as we need to ensure our teaching resources are all evidence based and up to date.

Very important to inform teaching/practice

How, and in what contexts, does scholarly and research information support and enrich your work? How has it contributed to your achievements?

My work spans journalism, music writing and academic research, and scholarly information support enriches it all, giving authority and depth. It's a major part of my achievements as a writer and academic.

At the moment it enriches my teaching as I don't have time to do any research.

At this stage, the work informs me of where to look to enhance my teaching knowledge. I trust that in the future this will contribute to my research results.

It has played a key role in how I have structured and focused both modules overall and specific sessions. Both in terms of academic research and recent case analysis, the international environment law and the research methodology modules respectively would have lacked the varied material and range of analysis that students have found stimulating. Equally, the critical need for reflecting the developing body of legal opinion and decisions would be impossible without accessing and utilising current research.

It has helped in the writing (continued writing) of a book

informs teaching practice and course design

Keeping up-to-date with the state-of-the-art. Finding new areas of research, identifying research gap. This also helps in suggesting dissertation topics to our students. The students in turn enjoy working on relevant, timely topics.

a wider understanding of developments in my field

Teaching - the inclusion of scholarly and research information is essential to the design and delivery of teaching. Research - My main obstacle to doing research is workload but if and when I get time to do any, scholarly and research information is again essential. In addition identifying the gaps in academic knowledge is essential in identifying research goals

Offers confidence in work presented, in it's validity and appropriateness for students. It expands knowledge and expertise, it underpins the skills and care strategies I teach and how I teach too.

We have used evidence to support our baby friendly initiative and gather support for this. I have contributed to book chapters and further study which has required research information

It keeps my practice up to date but also ensure I am teaching up to date and relevant content. It also helps me to teach others to use literature if I am familiar with it myself

published a number of books and contributed chapters- these feeds into teaching material

Ensuring I am up to date and have an understanding of the current academic debates.

Scholarly and research information are vital aspects of the modules that I teach and enrich my work by providing credible and updated data.

The better I understand a subject, and greater my insight is, the better the learning experience for the students. I believe this is reflected in the learning materials that I am to produce.

Enables my work to be evidence-based and is central to my publication and research achievements.

enriches thought, writing, teaching, presenting, working with Trusts

Central to my teaching, research, public speaking, consultancy and external engagement

It underpins it all, so without it there would arguably be no achievements (or at least significantly fewer).

Scholarly and research information support my work but also my studies at UWL. I am currently enrolled into a PGCert PAP and they have contributed to my achievements and will be the basis

for my application to FHEA. In terms of my current job, I cannot imagine myself teaching a clinical skill or a topic without the latest evidence based research information.

The information allows me to teach material on a different level...it allows me to engage students in debate and allows me to encourage them to think beyond the material in front of them

Keeps me informed, practice and teach safely and transfer EP skills

quality and standards of teaching, informs clinical practice.

There is no work without it because even when not consciously deployed it is there intertextually. "The book [work] doesn't stop on the library shelf", as Roland Barthes once said. It is the main prop for my career and insofar as I have achievements they are attributable to this prop, without which I would be a mere purveyor of opinion.

All research needs to be contextualised within the academic literature of the discipline to which it belongs

I use recent research examples in my teaching and supervision of students at L6, L7, L8 levels. It has helped me to identify research gaps and put research grants in niche areas.

My main uses of scholarly and research information is in developing literature reviews for research articles and in finding teaching resources that I can use in the classroom. Without these two things I would be basing my research and my teaching on guesswork/experience.

research information helped me to include 3 of my papers to REF. I am also teaching my students using the research informed teaching technique.

I use it to create lectures and write papers

It helps me to convey the latest trends to my students

In terms of teaching, I need to update teaching materials constantly with the latest research and industrial development. For research, I need to find the latest research findings via literature searching.

Informs all of my learning materials which are updated for every module delivery. Certainly contributed to module evaluations by students.

Evidence based content and supported me to progress in my academic career

Important for external credibility

In nursing, medical information is changing all the time. I need to be able to use the latest research/information to ensure that the students are prepared for practice.

What do you think you might be able to achieve if your information skills were better than they are?

It's more about having enough time to pursue the research

I might be able to access more topical, recent music industry reports.

More publications

I would like to have confidence in doing systematic, conceptual and umbrella literature reviews.

Potentially develop useful research in my field

I would be less anxious when accessing databases as sometimes it can be overwhelming.

Increased academic output, writing papers and presenting at conferences

Finding relevant articles and spending less time assessing abstracts.

I think that I am very competent in my information skills.

If I was more familiar with the university's library and resources, I would be able to gather valuable academic and research data far quicker than I do at the moment, which would improve my efficiency

Happy with my level of skills

If it was better than it already is, it would enable me to write my own paper for publications.

Get more data

I am very confident with my research skills

I am confident that I have all the research and information skills I need to access the necessary research and data.

I would be faster at accessing and finding the information I want/need therefore speeding up my ability to create outputs

it's time that I'm lacking

I consider my information skills up-to-date. However, I were to make them better, I would be to achieve find deep-rooted research problems rather than surface level ones.

Faster publication

know exactly where to target

lots but it is about freeing up time to invest time in this

I am relatively satisfied with my skills but I need sufficient time to maintain them and utilise them effectively.

More publications

A more efficient use of existing research

being more accurate in the subject I teach and being a more innovative teacher

Better research output

Find the right information or the information I need, faster.

better search strategies - ensuring targeting correct literature

publication of papers

Enhance my ability to find further information and also save time by being more efficient and effective

Possibly more publications and working towards a doctorate

I feel skilled in this

I could begin to look at undertaking research.

I cannot think of anything at the moment.

I would be a better lecturer.

working more quickly

it's more about time, more time to read and dig out sources

I have excellent IT skills

I don't know

Most importantly, it would probably save me time.

Not sure

MORE OUTPUT

High quality teaching.

More extensive information from literature review.

Publish papers

Be more resourceful and engage in more research based activities

more efficient and skilled processes

I can't think of anything

I would save more time

It will definitely help to speed the process of acquisition and analysis of the information gathered.

At the moment I still do a lot of the work manually - I might be more efficient if I made better use of online storage and collation.

I could explore new ideas for innovative researches

Enhanced efficiency, giving me time to do other stuff.

I am not sure what you mean here... I think I could do with better search techniques (generally not just databases)

Faster more efficient searches

Unsure. Possibly more confidence that my searches are exhaustive.

excellence

Publish more articles

PhD

avoid repeating what has been already done

Better time management and organisation

It will give me the confidence to start a PhD programme

I have access to other university like University of Oxford Bodleian library

I think we should have regular slots with experts like Marc to improve skills in using and use of information skills

Not too sure what the question is? Information skills is linked to critical thinking .

I'd be faster and that would mean a great deal to me. I spend (and it seems like a waste) a lot of time just searching

More publications

I would produce more scholarly outputs like literature and/ or systematic reviews

Complete research and scholarly activities quicker

Better time management and more effective use of search engines.

I think time is more of a hinderance than research skills. I am chair of a research ethics committee, so have pretty in depth knowledge of research methods and current information in a range of health related topics. h

Your Information Skills - List three databases, catalogues or websites you use regularly.

British Library Catalogue, Gallica (Bibliothèque Nationale de France), Academia.edu

I mainly use UWL Library SUMMON search, and also Music Ally.

Google scholar, journal websites, Naxos

Summon (material in the university that students can use), general Google (scholarly reports and webpages)

Mintel, Marketline, Passport

CINAHL, Academic Search Elite, Cochrane Database of Systematic Reviews

EBSCOHost, Proquest. ONS

UWL Summon, FAME, Mintel

British Library, Gallica, Summon

Mintel. Anthropological Index Online. British Library Search Engine

Emerald Insight, Science Direct and EBSCO

CINAHL, Medline, Cochrane

University Library, Google Scholar, Internet in general

Mintel. Jstor, Scimago

Westlaw, LexisNexis and Practical Law

Summon, IEEE Xplore, Science Direct

Wiley, researchgate, Taylor & Francis

sage publications, JSTOR, CORE

Google Scholar, UWL Library, Zotero

Google Scholar; ResearchGate; Livemusicexchange

JSTOR, C21 Music Practice website, SOAS library

CINHAL, Academic Search Elite, ERIC

UWL library, Elsevier and Macmillan

EBSCOHost, the Lancet and SAGE

Cinahl, medline, summon

CINAL, Maternity and Infant Care and NICE

CINAHL, Medline and the UWL library

MIDIRS, Summon but I also do a lot of following sources found in key texts , Google key websites- RCOG, NICE

Lexisnexus, Practical Law, Kortex

Lexis, Westlaw and Wiley Online Library

PsycInfo; PsycArticles, GoogleScholar

CINAHL, google scholar, Pychinfo, PubMed

CINAHL, Medline, Elsevier

Google Scholar, Summon and the Library catalogue

IEEE digital library, ACM digital library, google.com

Summon, Box of Broadcasts, LexisNexis

Cochrane, Cinahl and Pubmed

use library search engine for quick search, G.P practice notebook, NICE guidance and CKS NICE guidelines. I have joined BMJ journal and use this search. Use medical databases, cinahl, medline cochrane.

jstor, British Library catalogue, summon

I use Summon on the library website, I use Pubmed and Ebsco host I also use the journals of the British Psychological Society through their website as I as I am a member

CINAHL, PUBMED, ACADEMIC ELITE,

JSTOR, EBSCO host, Google Scholar

google scholar; Elsevier; Researchgate

Summon and Google Scholar searches

google scholar, Summon, library catalogue

cis/isurv

IEEE Xplore, ACM digital library, Elsevier ScienceDirect

Mathscinet, arXiv, Zentralblatt

Google Scholar, IEEE Xplore, general search on internet to find relevant papers, then find them

CINHAL. EBSCO MEDLINE

CINAHL Complete, Google/ Google Scholar, NICE clinical guidelines

EBSCOHost, CINAHL, ETHOS

Briefly describe the database's content. Then say: Why it is useful. In what ways is it easy to use. In what ways is it difficult to use.

The British Library catalogue lists less widely available books which aren't necessarily available online on UWL Summon, for example.

UWL Library SUMMON. It's very easy to use, with a clear filter menu at the left. It's the one I encourage my students to use, and I teach them how to filter it, save their search etc..

Market and Business insights

I can get fast and easy full-text access to top journals. I find it easy and straight forward to use because I can vary my search terms and the information comes up. I may find it a bit overwhelming at times, when all the information is generated but I believe that this is due to my human nature.

Lots of data on a wide variety of topics but often complicated to navigate with almost too much information depending on the topic

Summons. Useful for general research and other articles. Relatively easy to use, although identifying suitable search criteria is more challenging.

British Library - I use the British library catalogue to order books and manuscripts to read for my research.

User friendly, helpful data well presented. Limitations of research not always clear.

It contains a lot of literature or resources about nursing and healthcare. It is very straightforward to use in my opinion.

Mintel - reports and data within industries

All three are specifically legal data basis, providing access to both specific case law, analysis, alongside research papers, government reports, etc. I find no issues re use and access.

It is UWL's own database. Helps academics and students to be linked directly with the resources

CORE is a portal with all open access research and journal databases very useful

I use Google Scholar more than Summon because Open Access often means it is a single click to a PDF from the search. Where it is necessary to use the university subscriptions I therefore tend to do it through the institutional login on the publisher's website rather than the library website (Sage, Springer, T&F, CUP etc). My work is very interdisciplinary and uses a lot of disparate sources. I also use quite a few open access online journals such as Dancecult and Journal on the Art of Record Production.

Google Scholar offers an initial gateway

JSTOR has a huge catalogue of papers. Sometimes there is so much that identifying the best search parameters can be hard.

EBSCO Host-includes Cinahl and Medline plus psychology and other branches which means I can go into it and select those and it will search them all. I don't really look anywhere else so I might be missing something better or that would add to my search.

It's content is health care related. It is one we use to teach out students how to perform literature searches, it contains relevant literature for nursing

MIDIRS- useful as already filtered for maternity

Lexisnexis contains articles, precedents, case law and statutes. It's useful as up to date. It's difficult as you have to use the right search terms to find what you want which can sometimes be difficult.

The contents of the database include cases, legislation, journals, commentary etc. The database is important because it is a good source of academic data.

Lexis contains, among several very useful publications, Halsburys Laws. Halsburys contains absolutely up to date material on both law and procedure. It is unsurpassed in its detail. It has a fairly good search function, although it can produce an unhelpfully large number of search results on occasions. Its one main difficulty is that its content is difficult to scroll through quickly.

CINAHL - mostly nursing articles, worldwide. Easy to add limiters. Once you start adding lines in the search, the yield is more likely to say none found. Add it all to the first line with Boolean Operators and Truncation and it works well.

CINAHL: easy to use, straightforward, contains the best health literature available. Difficulties: none, however I am probably not aware of all the available functions.

I have only just recently started using Summon...and I wish I had realised how user-friendly it is. The ease of finding information that is relevant to my teaching and to my research is excellent. I have not come across anything yet that has made it difficult.

For my purposes, mostly journal articles. I often indirectly come to use it in my own research because I access it so often for research-led teaching. I use it in a very improvised way mostly and like to burrow down into individual journal issues having landed there because of a particular article. Useful for full-text access and for copying citations to share with students..

Pubmed has a good range of Primary research and systematic reviews

I work in health and medicine, CINAHL is quite useful for health and medicine. I am very familiar with it, having taught students about using it. No issues.

JSTOR covers a huge range of resources. It is quite easy to use and easy to click on the settings, so that you can be more selective in identifying literature.

Google search is a well-known database and normally I find whatever I need for my civil engineering research. It is not difficult to use at all as long as I have the searching skills.

Used when I know what document I am looking for. Useful as the 'cited by' tool is very easy to use, whether or not we have access is (usually) immediately visible.

CIS includes books, guides and codes relevant to the construction industry that can be downloaded and used as reference material - It is easy to use even though key words bring a large number of results. It is very useful and easy to use when you are looking for a specific book or document.

IEEE Computer Society publishes high quality journals and conferences which are included in the library. It is very useful for researchers to catch up the latest findings. The library is quite easy to use and

Mathscinet and Zentralblatt bot contain reviews of papers in published over the past many decades. The reviewers are written by mathematicians for mathematicians. Cross referencing etc included. Very reliable data base. arXiv is for preprints so very up-to-date but more varied quality as not peer-reviewed.

IEEE Xplore, place where I can find IEEE journals, transactions, conference papers. Easy to use: simple search by paper title, or author surname

Mainly health/nursing related journals. I can usually pick up something interesting here on a subject matter. Full text articles easier to get hold of. Frustrating that it gives me articles that are sometimes irrelevant and maybe that is the way I search

Nursing and healthcare content. Not the easiest to use - subject headings, mesh and keywords all a bit confusing. Have tried to replicate searches and ended up with different findings.

CINAHL Complete database has articles in hundreds of nursing journals. It is useful as it provides lots of information that is not available free of charge on the internet, it is reliable, it is easy to use and refine the results, and can be accessed anywhere with internet access. The ways in which it is difficult to use is that it presents some journals that are not accessible to us or that UWL does not subscribe to.

UWL: all content available via the library including journals, databases and books. Useful as it is so extensive; the search function is very easy to use; I don't really find it difficult to use.

Information on treatment of HIV. The information is well organised and is really upto date. I get regular emails when new policies have been added, and reminders to look at the changes. It is not difficult to use, but is only available to members of BHIVA so has cost implications.

This is useful as a source of primary data through digitalised historical source materials.

Music Ally. This gives a good, quick, current snapshot of industry debates. However, the articles are rather light-weight - more like headlines really.

National and International market research: Adds layers of supporting/challenging context to professional insights and experience

Proquest, a number of different databases and very useful for information from the Financial times

FAME. Easy to use due to my knowledge of companies and the search criteria I need. I find it difficult to use as the interface is not intuitive.

Gallica is the digital library of the French National Library. It is extremely useful for my research. Great to look for old newspaper articles, or books by typing in key words.

Working in the humanities and arts, I read a lot of books as well as journals, particularly as a substantial amount of primary research is published in edited collections. eBook access is very useful in this regard.

ResearchGate provides wider context

Academic Search Elite - as I like to click on choose databse and expand my research to ERIC and British Education Index particularly when I am researching about teaching methods

The Lancet has the BF series (among others) which seems to be easy to search through on the website.

This is main database used in midwifery as maternity specific. Often overlaps with CINAHL. Can search for specifics for midwifery and further divide results to drill down to find the required information

Practical contains useful notes, articles and commentary on case law and statute. An excellent quick resource. Again it can be difficult to use if you don't input the right search term.

Corruption Related material. This is useful as it provides contemporary research into many of the difficult questions surrounding corruption. It is easy to sue thanks to a well designed an intuitive website. Difficulties may arise as there is no advanced search function on that website (so you have to have an idea of what you are looking for to actually be able to find it).

I refer students here to watch documentaries etc., as some of them learn better this way. The content is excellent. The only difficulties arise if I am not clear enough about what I am looking for.

Easy to search for resources for teaching

PUBMED is useful as I feel it has more technical and recent papers in it, compared to CINAHL, especially science papers and it feels more diverse. Sometimes it is more tedious to use because of the layout.

Elsevier searches are more related to my scholarly researches and I can search by author name and variable keywords in different journals related to my speciality.

Useful as it is so broad. The amount of detail in widening/opening a search can make things both easier and more difficult. Still sometimes get results that I feel my options should have ruled out.

BRE group - Building research establishment website that includes important information regarding Sustainability and assessments of buildings. It is easy to use though the content is quite broad. It is good to know what specifically you are looking for.

author, year, title, topic , It is useful when searching for up to date information in Ophthalmology

Medical related articles and research. I can work out easier whether the paper is primary research. This database seems to give me what I ask for. Always easier to use from my desk than from home because the machine at work gives me free access immediately

Google/ Google Scholar is useful in that you can quickly search for information from many journals and it is free to use. The difficulties of using it include not being able to refine the results,

some journals need to be paid for to access them, and some of the journals are not peer reviewed.

EBSCO: content is a variety of databases related to education and healthcare; it is useful because you can search so many databases at one time: it is easy to use the search function and enter search terms; it is not always clear how to save searches or retrieve them including all results..

A vast range of information about research ethics, applications, legislation. Really good templates which help students submitting applications for the first time. It is not always intuitive, so several searches need to find the information.

This database offers a daily/weekly email briefing/update which can draw one's attention to articles which one wouldn't have normally found in a regular search or bibliographic search. It can reveal some surprising items.

IBIS World gives good snapshot reports of different industries in the UK and abroad, such as Sound Recording and Music Publishing. This is easy to use, with good graphics, and one that I'll recommend to my students.

National and International market research: used to inspire students to research markets - especially those they have no experience of working in.

Cochrane Database of Systematic Reviews is database of systematic reviews of research. In my role as a health care professional this is quite important as it provides what is thought to be at the top of the research hierarchy. I find it easy and straight forward to use. I just need to know my topic, do the search to see if any review has been done in the field. I can add limiters to address what I am looking for. It is straightforward to use for this reason.

Office for National statistics, It is easy to navigate with basic but well evidenced and validated data

MINTEL. Market intelligence that points to trends in various industries. Easy to use but the information seems to be limited.

Summon at UWL is a great resource, but I do not recommend it to my students because they are likely to find it confusing. It is difficult for the untrained undergrad to know the difference between a book review or an abstract and to realise that just because something shows up in the Summon search, it doesn't mean that the article is available, it might just be the abstract, for example. When I

British Library Manuscripts - Has some very ancient and rare finds

sage often most papers I seem to find are sage published

The importance of Zotero is more diffuse than a single database or website - the fact that reference manager citations are embedded in most publisher websites and there are many Zotero databases that are accessible and searchable is important to me.

Livemusicexchange has many dedicated sources for my subject area

SOAS library has many items relevant to my field of work: ethnomusicology. It is straightforward but there are many items which are only hard copy.

SAGE videos (in fact the whole site is good) on all sorts of research info but I can't seem to log in with my university login and had to create my own profile.

NICE provides updates clinical guidance and pathways for practice. These can be easily accessed to provide immediate guidance

Kortex contains the academic books chosen. Excellent way of obtaining the latest edition. It is difficult to use as you have to read online.

Google Scholar: Useful for covering wider fields. Easy to use as can filter quickly for currency.

Education resources for (in my case) corruption studies. It is useful as it presents easily relevant (pedagogically sound) material designed to be easily accessible and understandable. Its use is limited to subscription users only and that limits its usefulness for those that do not subscribe.

I really only use this for teaching purposes. That is to find texts useful for set and further readings. I find it especially useful for Dissertation students who say "there is nothing published about X" because I can usually find a list in 10 minutes with a but of not very sophisticated searching.

The BPS journals are more specific to the work of my PhD students although I use these journals too.

Google Scholar is massive but it tends to just skim the surface and doesn't offer any refinement criteria. So I use it for 'quick and dirty' searches, when I am looking for a particular paper or a particular author. It doesn't really work for finding themes or similar papers.

Researchgate which is mainly related to the authors names. Again I did not find any difficulty because I am using the three catalogues for searching regularly and due to my experience in research.

Google Scholar- very useful, only unhelpful if we do not have a paper I need.

Used to check what students have access to. Can't think of any difficulties. Very straight forward.

Historic England website. Provides an excellent resource regarding historic buildings, heritage and guides on how to deal with relevant issues. Fairly easy to use with well established content.

Database content , is helpful when carrying out a literature search on a topic area

Thesis availability and health related topics. Can pick up full text easier from credible sources. I like the broad range of subjects on here. No more difficult than other databases.

Much easier to use, search engine that is intuitive so easy to use. Good broad limiters like year of publication. Not difficult at all.

NICE clinical guidelines are recommendations on the appropriate treatment and care of people with specific diseases and conditions within the NHS in England and Wales. They are useful as they are specific and evidence based and relevant to the UK context. I cannot think of difficulties.

Holds research degree dissertations. I find this database easy to use.

NICE; It has access to journals and databases for evidence based resources. It is easy to utilise the search term but the scope of databases/journals is not as extensive as 1&2 database: you may not be able to access all search results so easily.

Access to health related Journals/articles. Easy to use, I suppose I am very familiar with it. It could be a bit of a challenge for first time users.

What advice/techniques or 'tricks' would you pass on to a colleague to help them use information searching tools?

Sign up for academia.edu updates/emails. Use a referencing tool.

I'd say use key word searches in SUMMON. And browse the Database for industry reports, or JournalTOCS to get the latest scholarly research in your area.

Ensure you challenge students to assess the quality and timing of the research

Stay calm. Try not to be in a hurry. Keep a written trail of your search and also save an electronic copy.

Sometimes it is useful to go straight to the academic journal and search from there.

Don't be afraid to google it.

Use the advance search and boolean combinations

Keep using it and practicing using it. You will never learn how to appreciate its use until you gain confidence in using them.

Show them via live demo

Be ready to use a variety of search phrases.

Use Summon rather than Google Scholar.

Ask your librarian

sometimes confusion in what is available as open access

don't really have any - always looking for some

Persistence in exploring keywords and search terms - there are lots of strategies but the key factor in common to all is lateral thinking and trying to understand the logic of language and the way search engines use it.

Follow all threads; information is often quite a few clicks away

Using database in addition to summon is a great way to expand your research

Have some basic understanding first so that your research can be focussed, otherwise you will confuse yourself

Look through the references of publication you're reading, it might include something you've missed especially if it's a book.

Use the guidance provided by the library. Sometimes full text isn't available but if searched using the web, a full text can sometimes be found.

be perseverant and keep practicing. The more you use them the easier it gets!

start with Midirs and a key up to date text- google for key documents from eminent organisations. Summon useful to find things

Ensure they use the best key words possible to find what they want.

Unfortunately, I have none to give.

Consider range of search terms. Ask UWL library staff for assistance, advice and training.

focus, be clear on your boundaries (inclusion, exclusion)

Truncation is a saving grace!

Patience and determination

None if they are academic colleagues as they probably know what I do. Boolean operators if non-academic colleagues.

Tenacity pays off, just because you do not encounter something in 2 minutes does not mean that you would not find exactly what you were looking for (and then some) in 2 hours - or even 2 days. I guess this goes to my previous point, that if these skills were better, you would save time.

More to students-summon search, location of databases, ask Susan if unclear

USE PRACTICAL LAW IN THE FIRST INSTANCE

Do not complicate your search terms

Know the basis of search strategy

I use library quick search mostly for quick searches and then filter - very helpful function - front page of library.

I couldn't do so really as my methods are not governed by any system.

I always advise my PhD students to engage with their specialist librarian as their skills are superb

Have a clear inclusion and exclusion criteria for search. Do not search more than two databases simultaneously.

Don't try to be an expert on all of them. Find one that initially speaks to you (maybe one that seems user friendly). Then once you have used that tool a few times, try another one and compare.

Use different keywords and search for several catalogues.

I'd usually start with Google scholar for a generic search, then move on to specific databases

I am not sure I have tricks actually - when doing systematic reviews, I would say document absolutely everything you do, every steps you make

practice improves your skill

Don't ignore Google Scholar.

For teaching - focus on full text only. Learn the boolean operators. Also, learn what character (?, *, etc) is used to indicate 'all terms including this prefix/suffix'

Use key words carefully and try to narrow your searches to avoid time wasting. Stay focused on what you are actually looking for and don't get side tracked by other interesting topics :)

use various iteration of keywords to get better results.

know what you want to find

Thanks to the library for giving a talk every semester to PG students about the literature searching skills. That is very helpful to students. It might be also beneficial to academic staff if such a talk can be arranged to academic staff as well.

Key words are the key!

the search phrase in Google should be structured as: (surname of the first author only):(title of the paper)

Think about the key words and search strings you could use to generate the most relevant results, use of limiters and exclusion/ exclusion criteria. Always read abstracts.

Use the PICO tool and seek for help if struggling to understand the process used to retrieve the desired literature

I think make your own user guide and then refer to it- there are often gaps between searching and I always forget between

Use UWL library system and seek advice from the librarian

I'm not the most proficient in techniques. So I don't have any tricks. I would love to know how to be more proficient in using the databases to save time.

Seek the help of your subject librarian!!

Keep practising or doing it as it gets better with time. Save your searches so that you can come back to them if needed. Also, ask searchable questions.

Use the databases regularly to ensure the teaching resources they provide to students are up to date.

Using the asterisk in searches to get all iterations of a term; ensure your search terms are appropriate.

Familiarise yourself with the search engine before you need it. It is not good to try to learn when you are in a hurry!