

Information and Digital Literacy: A Framework for the University of Bristol

Information literacy and student behaviours

Information literacy refers to the ability to find, evaluate and effectively use information. It is a fundamental requirement for university students at all levels, and one which has reach beyond the academic sphere, as indicated by this definition:

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

There is a common assumption that the generation of students who are digitally native are therefore expert navigators of today's complex information landscape. Research does not support this assumption. A recent JISC project found the following:

[...] pupils described themselves as being good at finding 'quality information' online but when questioned more closely they described processes of discovery rather than evaluation of sources. [...] when questioned more closely the students participating used relatively basic strategies for seeking out and evaluating information online. (White and Wild, 2014, p.9)

This reflects the findings of earlier studies (e.g. Newman, 2008; Gross and Latham, 2012), and also the 2008 CIBER study, which found:

The information literacy of young people has not improved with the widening access to technology: in fact, their apparent facility with computers disguises some worrying problems. (CIBER/UCL, 2008, p.12)

There is then a body of evidence which suggests that students are not as information literate as is widely believed. Their means of finding information are often crude, and they show a limited inclination to view information through a critical lens.

An information and digital literacy (IDL) framework which is specific to the University of Bristol context will help students become better consumers of information. They will develop the skills to **discover** information more effectively, critically **evaluate** the information they have found, and use and **reference** this information with a firm understanding of academic integrity.

The University of Bristol context

In its latest strategy document the University of Bristol describes the following as an "overarching goal" of its vision:

[...] equipping all students with the professional, learning and life-skills to thrive in a rapidly changing and challenging world. (University of Bristol, 2022, p.3)

It is easier than ever to access information from sources which are unsound, unregulated and unaccountable, and the primacy of traditional creators and disseminators of information can no longer be assumed. The arrival of generative artificial intelligence, which allows content of varying quality to be quickly created by algorithm, has only reinforced this situation. Equipping students with the skills to navigate successfully this information environment makes for better, more informed citizens. By teaching students about effective resource discovery and critical engagement with information sources, the IDL framework proposed in this document will support the university in meeting its strategic aim to prepare students for a rapidly changing world.

The university has sought to deliver on its objectives, in part, through the creation in 2017 of the Bristol Futures initiative. The most recent Bristol Skills Framework, developed as part of the Bristol Futures initiative, explicitly draws on guidance and support provided by Library Services regarding academic integrity (particularly how to avoid plagiarism), and in “find[ing] credible information sources and understand[ing] what to trust on the internet” (Bristol Futures, 2020). An information literacy framework developed by Library Services signifies an innovation in the way the Library supports the Bristol Futures initiative in meeting this key part of the university strategy.

Finally, an information and digital literacy framework for the University of Bristol complements work being carried out by the Digital Education Office, in promoting digital capabilities among students (University of Bristol, no date).

The Information and Digital Literacy Framework

The IDL Framework Working Group is indebted to the University of Sheffield, whose own Information and Digital Literacy Framework provided a useful model (University of Sheffield, 2019).

The framework sets out three areas of competence:

1. **Discover** – how and where students look for information to support academic work
2. **Evaluate** – how students engage critically with the information they have found
3. **Reference** – how students incorporate sources into their own work, with due attention to matters of academic integrity

A university degree programme signifies a process of academic development, and for this reason the framework makes use of three levels of capability:

1. **Novice** – students who are new to, or unfamiliar with, current HE education and research practice
2. **Intermediate** – students whom it may be expected have achieved a moderate level of information literacy
3. **Expert** – students whom it may be expected have achieved considerable fluency in matters of information literacy

It is expected that students will progress through the levels of capability during their academic programme. The IDL framework describes the expected level of information and digital literacy for each competence, at each level of capability.

Table 1. The University of Bristol Information and Digital Literacy Framework

	DISCOVER	EVALUATE	REFERENCE
NOVICE	Connects with digital and non-digital information through guided reading and serendipitous resource discovery.	Recognises different types of digital and non-digital information. Is aware of the peer review process, as well as the advantages and disadvantages of using generative AI.	Respects ownership of the work of others. Can quote, summarise and paraphrase. Generates citations and bibliographies.
INTER-MEDIATE	Recognises the value of information from a broad range of digital and non-digital sources, including library databases and subscription sources. Searches beyond the reading list using natural language techniques. Applies guided filters and is selective in the amount and quality of information found. Moves beyond familiar tools and social networks to discover a broader range of views.	Is reflective. Asks questions about context, authorship and intent, within the parameters of the discipline. Is aware of potential sources of bias, especially in new or unfamiliar sources including social media. Is able to identify and critique citation data.	Recognises the difference between original work and existing knowledge. Understands academic referencing in the context of the discipline. Cites and attributes information. Utilises reference management software.
EXPERT	Constructs and reconstructs a search strategy in appropriate subject databases, using subject headings where necessary. Is reflective and iterative. Combines search terms and uses advanced search techniques, including Boolean operators and search filters. Sets auto-alerts and utilises social media aggregators. Is discerning in the amount and quality of information found. Is mindful of the assumptions contained within digital and non-digital resource discovery.	Understands that information is constructed and contextual. Can identify potential bias in an author's view, including financial, political, social or individual gain. Is well informed of the attributes of digital and non-digital information sources that are considered to be academically credible. Can interpret the bibliographic metrics associated with scholarly outputs.	Cites and attributes information, with consideration of the broader context of an author's work. Uses advanced features of reference management software.

The framework in practice

The Library Service will run a series of workshops and provide a series of online tutorials aiming to target the framework's objectives from a non-subject-specific point of view.

However, we suggest that maximum value will be derived if academics work with subject librarians to deliver IDL teaching which is embedded in programmes, and which targets the requirements of that discipline. As experts in the field of information and digital literacy, subject librarians will be able to advise academic colleagues on how to incorporate aspects of IDL teaching into programmes.

Table 2 shows what an IDL programme developed for an undergraduate business course might look like.

Table 2. Mapping BSc management/marketing to the IDL Framework

BSc Management/ Marketing	Content	Framework mapping
First year	<p>Library Search. Using basic search principles such as keywords and phrase searching to find books and journal articles. Using filters to limit results. How to save and email search results.</p> <p>Other sources such as grey literature.</p> <p>Business Source Complete. Introduce concept of peer-reviewed journals. Subject headings.</p> <p>Individual sources such as Financial Times, Financial News and the Economist.</p> <p>Referencing: Cite them right.</p>	<p>Discover – Novice/Intermediate</p> <p>Discover – Novice/Intermediate</p> <p>Evaluate – Novice</p> <p>Discover – Novice/Intermediate</p> <p>Reference - Novice</p>
Second year	<p>Reminder of basic search principles (keywords, phrase searching) and build on this with others such as Boolean, truncation, wildcards, use of synonyms.</p> <p>Library Search. Advanced search using various search techniques.</p> <p>Subject sources: Sage Research Methods, FAME, WARC, Mintel, etc, depending on context of unit. Highlight difference between these and Library Search/Google Scholar. Sources for company and marketing information as well as academic and news sources.</p> <p>Reminder of peer review and its importance.</p> <p>Referencing: reminder of Cite them right. How sources should be referenced and why.</p>	<p>Discover – Intermediate</p> <p>Discover – Intermediate</p> <p>Discover – Intermediate</p> <p>Evaluate – Novice</p> <p>Reference – Novice/Intermediate</p>

<p>Third year</p>	<p>Review and put into practice search principles and identifying keywords/synonyms/related terms for dissertation. Spend more time on this compared to previous years in order to explore in-depth. Introduce further options as needed, for example proximity operators and advanced searching on search engines.</p> <p>Library Search. Setting up search alerts. Downloading results to EndNote Online. ILLs.</p> <p>Subject databases: BSC, IBSS, Web of Science, Sage Research Methods, etc in addition to those covered in second year. Setting up search alerts and downloading to EndNote Online. Advanced use of commercial databases such as WARC and Mintel to extract specific information needed.</p> <p>Features such as Cited by and why this is useful/important.</p> <p>Reminder of other sources such as grey literature, news sources, open access sources, etc.</p> <p>Evaluation of sources using questions about authorship, audience, etc.</p> <p>Using EndNote Online, including Cite While You Write. Reminder about principles of referencing.</p>	<p>Discover – Intermediate/Expert</p> <p>Discover – Intermediate/Expert</p> <p>Discover – Intermediate/Expert</p> <p>Evaluate – Intermediate</p> <p>Discover – Intermediate/Expert</p> <p>Evaluate – Intermediate</p> <p>Reference – Intermediate/Expert</p>
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Next steps

Academics are invited to liaise with their subject librarians regarding how best to incorporate aspects of information and digital literacy teaching into their programmes. Subject librarians may deliver teaching sessions, create online learning materials, or simply advise on how information and digital literacy may be included within a programme.

Contact details for your subject librarian may be found on the library's [Subject Support pages](#).

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