

# **The *information literacy impact framework*: evaluation of modules teaching information literacy in context**

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## **Abstract**

**Introduction.** In 2023, a literature review resulted in the *Information Literacy Impact Framework* (ILIF), created to support effective information literacy (IL) teaching. Here, this framework was used to evaluate two similar modules teaching IL in computing degree programmes. This was also an opportunity to evaluate ILIF.

**Method.** A mixed qualitative approach was used to examine documentary evidence, such as lecture content and learning outcomes, and stakeholder perspectives. Semi-structured interviews were undertaken with the modules' teachers, and with leaders of relevant degree programmes. Questions focused on the ILIF components' implementation within the modules and programmes.

**Analysis.** A thematic analysis of the interviews was conducted. In addition, to achieve triangulation, learning outcomes and lecture content were analysed against the ILIF components.

**Results.** The modules and programmes fulfil ILIF apart from the 'repetition and follow-up' component, which is not explicitly present. The ILIF framework may be a useful tool to help evaluate IL teaching in the context of computing qualifications.

**Conclusions.** Although there are indications of ILIF's usefulness, this will only be proven if it clearly leads to improvements, e.g. in later iterations of these modules. Meanwhile, more could be done to embed reinforcement of IL teaching. There is a call for using ILIF to examine IL teaching away from tertiary education.

## **Keywords**

Information Literacy, Information Literacy Impact Framework, IL teaching, teaching strategies

## Introduction

Information literacy (IL) has become a central component of higher education, equipping students with the skills to navigate, evaluate, and apply information critically in academic and professional contexts (e.g. ACRL, 2017). Universities have increasingly embedded IL into curricula, often through credit-bearing modules (i.e. trimester-long classes) designed to develop students' research, evaluation, and digital literacy competencies. While IL is widely acknowledged as an essential capability for living and working in the digital age (e.g. CILIP, 2018; Neeman, 2025; University of the Highlands and Islands, 2025; Welsh & Wright, 2010), less attention has been paid to how its impact is evaluated. Traditional measures such as assessment scores or attendance provide only a partial picture, overlooking broader outcomes such as confidence, critical thinking, or long-term behavioural changes in learners.

The Information Literacy Impact Framework (ILIF) (Ryan et al., 2024) offers a structured approach to understanding and assessing the impact of IL teaching. ILIF identifies factors such as effectiveness of delivery, relevance to learners, stakeholder collaboration, and sustainability as impacting effectiveness. An earlier systematic literature review on information literacy and society (ILS) (Ryan et al., 2023) identified an abundance of evaluation research in higher education settings. This work advocated research into IL outside of tertiary education, reflecting the idea that IL is situated, context-specific practices (Lloyd, 2012). Building on this, the work presented in this poster sought to critically evaluate ILIF's applicability in practice by mapping it against two UK university modules (one undergraduate, one masters) that explicitly teach IL. Using these modules as a case study, the analysis sought to evaluate both ILIF's generalisability and the effectiveness of IL teaching within existing curricula.

It should be noted that while the other frameworks mentioned here are about what IL actually is, the information literacy impact framework is about how IL teaching can be structured and evaluated.

To understand how the ILIF components exist in current higher education IL teaching, and to seek improvements to IL teaching, two research questions were posed:

RQ1: In what ways, and to what extent, do the modules' design, delivery, and assessment reflect the key components identified in ILIF?

RQ2: What does the comparison reveal about the strengths and limitations of ILIF when applied to university modules?

## Methods

To evaluate ILIF's applicability, a mixed qualitative approach was used to examine documentary evidence and stakeholder perspectives. A second-year undergraduate class and a master's level class were chosen for a case study. Both are in the same Scottish school of computing, have similar content, have run for 3 years, and explicitly address IL.

Firstly, an analysis of each module's learning outcomes (LOs) was conducted to determine how stated expectations for student achievement aligned with ILIF's components. This

provided a baseline for the extent to which the framework was embedded in the modules' intended design.

Secondly, the modules' lecture contents and assessment practices were examined. This enabled an appraisal of how ILIF's components were operationalised in practice, and whether the delivery and assessment strategies reinforced the LOs.

Thirdly, semi-structured interviews with five key stakeholders were analysed thematically. The interviewees were the two academics directly responsible for teaching the modules (referred to here as the module leader [ML] and module tutor [MT]), as well as three leaders of degree programmes (PLs) in which the modules are situated. The interviews explored stakeholder perspectives on the design, delivery, and perceived impact of the modules. In addition, this analysis provided insights into the broader institutional context that shapes IL teaching in this case.

A fourth method was initially developed to include student voices through qualitative surveys and interviews, both at the start and conclusion of the modules. However, no students volunteered to participate in these.

All methods were undertaken to examine key components of IL teaching found in the ILIF study, namely:

- evaluation should be around effectiveness and outcomes
- choice of clear frameworks and structures to measure impact
- ensuring integration and relevance of the intervention
- collaboration between stakeholders
- design of content and delivery methods
- repetition and follow-up
- management buy-in and budget.

Together, these three analysis strands enabled a triangulated evaluation of how ILIF maps onto real-world IL teaching in higher education.

## Findings and discussion

### Analysis in terms of ILIF components

#### Evaluation should be around effectiveness and outcomes

As demonstrated by the learning outcomes for both modules (see Table 1), an understanding of information literacy principles is a main aim of both.

LO	Undergraduate	Masters
1	Demonstrate an understanding of a range	Demonstrate critical understanding of the

	of core theories, concepts and principles of Information Interaction.	principal theories, concepts and principles of Information Interaction.
2	Apply relevant knowledge and skills in the evaluation of an online information system.	Propose and critically evaluate responses to the problems and issues across content, system and user information interactions.
3	Demonstrate an awareness of the problems and issues across content, system and user information interactions.	Apply significant range of knowledge, skills and technique in the evaluation of an online information system.
4	Understand the principles of data and information literacy.	Demonstrate a critical awareness of the principles of Data and Information Literacy.

**Table 1:** Learning outcomes of case study modules

An examination of the learning outcomes showed that the ILIF component of evaluation around effectiveness and outcomes of the teaching is clearly present in LO2, LO3 and LO4, and is implicit in LO1. In practice, assessment of the students' achievements was via two courseworks covering the whole set of learning outcomes, which is more than just IL. However, the coursework requirements reflect the notion that IL is a situated, context-specific set of practices (Lloyd, 2012). In the first coursework, students needed to demonstrate their understanding of 'information interactions theories and principles' via the design and development of a website. In the second coursework, students were required to undertake a self-critique and reflection on their learning from the module, using 'relevant UX and information interaction theories' (which include the IL frameworks mentioned below), models and frameworks.

### **Choice of clear frameworks and structures to measure impact**

The ILIF deliberately does not specify frameworks or structures for measuring impacts. Instead, it is implicit that teachers should choose ones that deliver value for learners and stakeholders. In this case, it is assumed to be valuable or 'impactful' if students demonstrate that they have learnt to apply practical IL learning along with other related learning. Assessment of the students' learning in this case was undertaken using the courseworks described above.

Examination of the LOs and coursework briefs showed that impact-measuring frameworks and structures were not present in the LOs themselves, but were present in the briefs and hence the marking. The coursework briefs were found to have clear rubrics indicating how many marks students could expect from demonstrating different LOs. The average marks across both modules were at a passing level, with the masters obtaining 63% on average for the whole module, while the undergraduates obtained 47% overall. That is, the masters obtained on average 16% higher marks than the undergraduates. According to MT, this difference is explained by differences in how the university grades undergraduate and masters' courseworks<sup>1</sup>. The difference is not ascribed to master's students being more capable or benefiting more from the modules than undergraduate students. However, different approaches to teaching may be needed in future iterations of the undergraduate module.

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<sup>1</sup> The minimum mark for a pass is 40% for undergraduates. The minimum mark for a pass for postgraduates is 50%.

### **Ensuring integration and relevance of the intervention**

The review of lecture content determined that IL teaching in the case study classes is centred on the CILIP (2018), SCONUL (2011), and Scottish IL (Irving, 2011; Irving & Crawford, 2009) frameworks. These IL frameworks are taught along with content on information behaviours, information architectures and understanding others' information/digital literacies in the context of web design.

Hence, the teaching of IL in the two modules was made relevant by integrating it with teaching around related topics that are seen as useful to the students' development and later careers. This was also stated in some of the interviews. Aspects of every learning outcome (see Table 1 above) in both the undergraduate and masters' modules deal with IL concepts, although some do so more implicitly than others. During analysis, consideration of the integration of IL via the LOs suggested the following additional questions to the researchers:

- what is relevant [IL] knowledge? (from undergraduate LO2)
- what [IL] knowledge is significant? (from masters LO3)
- how is understanding of IL integrated into other IL teaching? (from undergraduate LO4 and masters LO4)
- what IL awareness is critical? (from masters LO4)

In the analysis of lecture content, it was noted that classes started with examination of website users' IL. Specific IL frameworks (i.e. CILIP, SCONUL, and SILF) were included as part of the curriculum. In addition, MT stated that feedback during classes identified how students could use IL theories to improve their own courseworks. Each of these examples addresses the questions of how understandings of IL are integrated into teaching other topics, what IL knowledge is relevant and significant, and what IL awareness is critical.

Further, from the lecture content analysis and according to ML and MT, the content covered in the modules introduced relationships between IL and other concepts. For example, the coverage of users' information needs and information behaviours helped develop knowledge of different theories and develop skills that enhance IL. (See Hepworth and Walton (2013) on the relationship between information behaviour and IL.) Teaching the connection between distinct theories helped demonstrate what IL awareness is critical and how it is relevant in numerous contexts. In terms of an IL intervention, both modules ensure that IL is integrated and relevant to the task at hand.

### **Collaboration between stakeholders**

Interviews revealed that collaboration between staff stakeholders occurs in discussions between the ML, MT and the PLs, although the PLs do not decide the modules' LOs or contents. Students do not take part in such collaborations. However, they have some influence via end-of-module feedback and student surveys, and tacitly via coursework marks and ML's assessment of how well the modules have gone. This suggests that not all stakeholders need to

have equal influence on IL teaching. However, foreshadowing ‘repetition and follow-up’ below, it also suggests that such discussions could cover how IL teaching is reiterated throughout degree programmes.

### **Design of content and delivery methods**

As interventions, the two modules are set apart from other forms of IL intervention because they last a full term. Delivery is via 10 sets of weekly 2-hour lectures plus 2-hour practical sessions in which students work on their websites and data-gathering for their courseworks, i.e. a total 40 hours’ contact-time. This schedule provides opportunities to contextualise IL learning that other interventions might not.

The explicit IL content in the modules covers three clear IL frameworks. This content is contextualised in terms of information behaviours and related ideas. Over the 3 years that the modules have been taught, content has moved from considering how websites can present information to a practical task of building an information-presenting website. This shift was inspired by previous years’ outcomes (i.e. marks) and ML’s assessment of how these instances ‘landed’ with the students. It demonstrates good practice by reconfiguring teaching methods according to how well previous instances of the modules have achieved their aims.

### **Repetition and follow-up**

The component ‘repetition and follow-up’ is the only ILIF component that is not clearly present in the modules or the degree programmes in which they sit. According to the interviewees, there is no explicit tracking of IL learning in the degree programmes, although students are often told that continued use of IL concepts could benefit their later studies. This is undertaken to help boost their confidence in their own IL skills. Given the absence of a formal avenue for repetition and follow-up of IL learning, a possible improvement to the degree programmes is the development of such teaching aims. This could involve changes to both the programme and module LOs, especially the modules investigated in this study. However, it might be better to change related guidance underpinning the formal LOs.

### **Management buy-in and budget**

According to ML, the initial resource commitment, i.e. ‘buy-in’ by the university was 80 hours of development time, although this was funded from an external source, a regional ‘city deal’. Ongoing direct costs to the university include salaries for ML, MT and the PLs as well as staff involved with moderation and administration of the modules, and facility and technology costs. Staff time is also allocated for updating modules as required. An implication of the original external funding is that the modules might not have existed without this impetus, or might not have been developed as far as they had been by the time of the first iteration. In any case, the lesson for those teaching IL is that development of effective IL teaching needs budget for both developing teaching and related assessment methods, as well as resources for delivery of the teaching and marking.

## **Conclusions and next steps**

In considering RQ1, ILIF's components are all present in the modules' teaching and assessment to varying degrees, apart from 'repetition and follow-up' which is not explicitly present. Concerning RQ2, the study examined and, to some extent, validated the ILIF framework in practice. However, ILIF will only be fully validated if it is shown to clearly lead to improvements in this IL teaching or if others not connected with this instance state that it helps them evaluate their IL teaching, leading to improvements in future delivery.

The indications at present are that ILIF has been a useful lens for the consideration of improvements to this IL teaching. Both modules will run again in early 2026, and improvements are already under consideration. For example, the gap between the average undergraduate and masters' marks might imply that different teaching methods are needed. Importantly, the study has also revealed that repetition and development of IL teaching should be considered for the entire degree programmes.

The next steps for this research should try to include student voices. Future research should consider IL teaching outside tertiary education, and include additional perspectives such as those of learners and employers. It would be worthwhile comparing outcomes from other geographical populations. It is also worth investigating if a framework can be effective even if only some parts are implemented.

This work has examined an instance of IL in higher education teaching. It is anticipated that further work examining the other contexts identified in CILIP (2018) – namely everyday life, citizenship, non-tertiary education, the workplace, and health – would amplify IL's contribution to living and working in the digital age.

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