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Information literacy now: Examining where we are to understand where we are going

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Abstract

Librarians have long been at the forefront of information literacy (IL), helping to develop and codify definitions and standards and advocating for its importance across situations and domains. The explosion of attention to mis- and disinformation in recent years has highlighted the need for these skills and competencies. At the same time, critics have raised and lamented the focus on processes and tasks over critical thinking and questioned the efficacy of IL instructional programs. The current landscape of IL seems to be defined by a continuous evolution of the concept, along with calls for more interdisciplinary research and attention to the psychological and neuroscience aspects of information evaluation.

Introduction

Since the term information literacy (IL) was coined by Paul Zurkowski in 1974, librarians have forged a role for themselves advocating for the development of the skills and competencies associated with IL, helping to define and codify those skills and competencies, and establishing their value within a larger framework of information interactions. In 1989, the American Library Association's (ALA) Presidential Committee on IL issued its Final Report, which defined IL as being able to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." Over time, various professional associations around the world built on the ALA definition to create their own definitions, standards, and

frameworks of IL (see, e.g., ACRL 2000; ACRL 2016; CILIP 2018; IAUTL, 2015). These conceptualizations of IL were accompanied by a proliferation of related literacies, including news, media, financial, health, and digital literacy. While each of those focuses on how information is created, evaluated and shared within a specific subject area or realm, IL might be seen as the umbrella term spanning these more specific areas.

Librarians' championing of IL is often framed around its perceived benefits to individuals and society. The ALA report asserted that IL is "crucial to citizenship" and "needed to guarantee the survival of democratic institutions," but also that it could help to address "many longstanding social and economic inequalities." Likewise, in declaring October IL Month, then—President Barack Obama (2009) emphasized the importance of IL by declaring that "an informed and educated citizenry is essential to the functioning of our modern democratic society." Some scholars developed arguments that IL should be understood as a human right (Muniz-Valezquez, 2023; Sturges & Gastinger, 2010; Taylor & Jaeger, 2021).

In the early part of the millennium, librarians were somewhat preoccupied by the extent to which IL and its related competencies were recognized and appreciated outside of the field of LIS. These concerns were perhaps most prevalent among academic librarians who typically rely on invitations from course instructors to provide instruction (Saunders, 2012). However, as the challenges of mis- and disinformation came into greater focus over the last decade, so has attention to the skills and competencies needed to identify mis- and disinformation increased. Indeed, librarians were quick to embrace a role in the battle to combat mis- and disinformation, noting that as information professionals, their expertise could help people better navigate and evaluate information. Many writers argued that libraries are the natural outlet for supporting IL education (Alvarez, 2016; Banks, 2017; Rosa, 2017; Taylor & Jaeger, 2021).

However, IL has also been problematized within the field of library and information science. Critics pointed to approaches to IL that reproduced prevailing systems of power, including conceptualizations limiting information users to consumers who have no role to play in the creation of information and reducing IL itself to a set of tasks and processes (see, e.g., Budd, 2008; Drabinksi & Tewell, 2019; Elmborg, 2006; Lloyd, 2005; Pawley, 2003). At the same time, some critics were questioning the practical impact that librarians could have on issues such as mis- and disinformation, noting that little research existed to demonstrate the effectiveness of IL instruction (Lazer, et al., 2018; Sullivan, 2019), especially when that instruction focuses on the checklist criteria approach to evaluating information (Wineburg & McGrew, 2019). Others questioned whether librarians had the necessary educational background to shape and deliver instruction meant to affect how people interact with and evaluate information (Sullivan, 2019a; Sullivan, 2019b; Swanson, 2023). Indeed, some studies suggest that librarians feel unprepared to conduct IL instruction, especially related to mis- and dis-information, in part due to this lack of knowledge (Julien & Genuis, 2011; Walter, 2008; Wheeler & McKinney, 2015; Young et al., 2020), which aligns with previous research showing that instruction and pedagogy are not widely taught in LIS programs (Anderberg et al., 2018; Saunders, 2015). Against this backdrop, the current landscape of IL could be described as one in which librarians are extending into new knowledge areas in an effort to improve their instructional approaches, even as they continue to refine and redefine the concept of IL itself. The challenges of mis- and disinformation are shaping much of the current discourse.

Current Landscape

While proponents of IL emphasized its importance and relevance, including its potential to empower people, initial conceptualizations, such as the ACRL's (2009) IL Competency Standards for Higher Education, tended to focus on processes such as search and location over more critical thinking skills like evaluation. When they address critical thinking, standards like these often relied on checklist approaches that replicated dominant systems of thinking, such as equating markers of authority such as author credentials and peer review with trustworthiness. Even as search engines becoming increasingly intuitive and most people express confidence in their ability to find relevant information on their own, research suggests librarians focus much of their instruction on search tasks and too often reduce evaluation to checklist criteria (Lim, 2020; Saunders 2013; Saunders, 2018).

Recognition of the limitations of earlier conceptualizations of IL have helped to spur the development of critical IL, an approach that both "considers the sociopolitical dimensions of information and production of knowledge; and critiques the ways in which systems of power shape the creation, distribution, and reception of information" (Drabinksi & Tewell, 2019). In other words, critical IL asks that people not just find and evaluate information but think about the systems and structures within which that information is created and shared, including whose voices are included and whose are excluded from the commercially published and scholarly communications, and how authority and expertise are defined and valued. It also recognizes that information is often commoditized, and surfaces questions about who has the ability to pay for information and thus who has access to information. Critical IL acknowledges the ways in which the systems of production and dissemination of information take part in and replicate systems of oppression, but it also pushes people to not only recognize, but challenge and change these systems (Tewell, 2016). In a review of the literature, Cuevas-Cerveró, Colmenero-Ruiz & Martínez-Ávila (2023) demonstrate that critical IL has been linked to social justice, social responsibility, and human rights; critical thinking; anti-racism, anti-sexism, and anti-homophobia studies; and addressing mis- and disinformation. Librarians are finding ways to integrate critical IL into their instruction both to raise awareness of some of these oppressive systems and to empower learners to push back against them.

While critical IL offers important theoretical and conceptual grounding for IL, several research studies have emerged that provide a base of evidence of the effectiveness of IL instruction. For example, one study demonstrated that media literacy instruction reduced the effects of media bias on high school students (Babad, Peer, & Hobbs, 2012). Another showed that young adults with higher levels of media literacy assessed information more accurately than their peers, and were better able to differentiate between misinformation and evidence-based information (Kahne & Bowyer, 2017). Several other studies have likewise found at least modest gains from explicit IL instruction across different age groups (Austin et al., 2015; McGrew et al., 2019; Perry, 2019; Sádaba, C., Salaverría, R. & Bringué-Sala, X, 2023).

As the focus on combatting mis- and disinformation grows and more emphasis is placed on the need to evaluate information, librarians must be aware of which evaluation strategies and approaches are most effective. Critics have long challenged checklist approaches that often rely heavily on proxies for trustworthiness, such as author credentials, and emphasize vertical reading, which involves a close reading of the source material with an emphasis on presentation of the information, clues about authors and publishers, and purpose or bias. Such approaches have dominated library instruction, but several studies have shown the efficacy of lateral-

reading, a journalistic fact-checking approach to information verification that involves tracing information back to its source and confirming facts in several outlets (Brodsky et al., 2021; Fendt et al., 2023; McGrew et al., 2019; Wineburg & McGrew 2019).

Other research suggests that warning people that information might be inaccurate before they engage with new information, sometimes referred to as information inoculation or pre-bunking, can reduce the effects of misinformation or make them "more immune to misinformation" (Lewandowsky & van der Linden, 2021, 348). Motz, Fyfe and Guba (2023) found that teaching psychology students to categorize information claims according to various logical fallacies and biases improved their critical thinking and ability to evaluate information. Another strand of research suggests that people make better judgements about information when they can rate its trustworthiness on a scale rather than being asked to make a binary judgement (Guilbeault, Woolley, & Becker, 2021).

Similarly, Sinatra and Lombardi (2020, 124) argue for having students plausibility judgements or "a tentative and provisional judgement about the truthfulness of explanations" when evaluating scientific information, as these provisional judgements leave room for considering opposing evidence and arguments. It is worth noting that research on information evaluation and related areas of mis- and disinformation happening outside of the field of library and information science does not always use the term IL. Nevertheless, the findings of these studies are relevant to and should inform the work of librarian providing IL instruction. Goodsett (2023) offers a useful review of some of the major approaches to misinformation interventions across the fields of library science, education, psychology and communications, and considers how they might be integrated into library instruction.

Neither this article nor that by Goodsett (2023) does more than scratch the surface of the relevant literature, either within or outside of LIS. However, the range of research relevant to IL from other fields outside of LIS only serves to highlight the interdisciplinary nature of the topic, and the need for librarians to push their boundaries and explore these areas. Indeed, Sullivan (2019a; 2019b) warned that research in fields such as psychology, behavioral science and neuroscience calls into question many of the traditional library instruction methods for information evaluation. He noted that while librarians were quick to claim a role for themselves as the challenges of misinformation garnered more attention, library instruction was slower to evolve and often did not account for the rapidly changing nature and issues of scale in how information (and mis- or disinformation) is created and shared online, including a better understanding of the information infrastructure and issues such as algorithmic bias (Head, Fister & MacMillan, 2020; Noble, 2018).

Perhaps more importantly, Sullivan (2024) notes that in these earlier discussions of combatting misinformation, librarians were focusing on strategies that did not, or did not fully, consider the psychology and neuroscience of how people interact with information, such as cognitive biases, heuristics and systems thinking. Similarly, the field of LIS has paid little attention to the role emotions play in how individuals interact with and evaluate information (Hewitt, 2023; Hicks and Llyod, 2021), despite research that suggests that emotions can influence people's susceptibility to mis- and disinformation (Martel, Pennycook & Rand, 2020). In his book, Knowledge as a Feeling, Swanson (2023) provides an introduction to some of the neuroscience and psychology that impacts impact people's thinking, including how they evaluate information and use that information for decision-making. In particular, he outlines many of the automatic and subconscious processes that underlie much decision-making, explaining how heuristics and

emotions influence those processes and also how the conscious brain will rationalize decisions after they are made.

Another interesting area of study centers on what Gorichanaz (2021; 2023) describes as taking a virtue ethics approach to the study and application of information behavior and IL. Among other things, this approach emphasizes intellectual humility, or the recognition that "a particular personal belief may be fallible, accompanied by an appropriate attentiveness to limitations in the evidentiary basis of that belief and to one's own limitations in obtaining and evaluating relevant information" (Leary et al., 2017, p. 793). Indeed, research shows that media literacy and intellectual humility are correlated (Lin, Chai & Liang, 2022) suggests that people with higher levels of intellectual humility are better able to evaluate information (Leary et al., 2017), and more likely to consult multiple sources of information, spend more time reviewing results, and are excited by the discovery of new information, while those with lower humility are more likely to find information that confirms their existing beliefs (Gorichanaz, 2023; Koetke et al., 2023). In approaching information evaluation, library instruction has often emphasized skepticism of sources. While useful, such skepticism does not always seem to overcome confirmation bias, or the tendency to believe information that aligns with a person's worldview, regardless of its overall evidentiary soundness or basis in fact. By turning some of that skepticism inward and questioning one's own beliefs, intellectual humility might better address some of these issues. This approach might pair well with the plausibility or probabilistic approaches to evaluating information, which also allow for ambiguity and potential error. As Gorichanaz (2021), LIS would do well to explore these areas further, including how one helps learners to develop intellectual humility.

Declarations

Ethics approval

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