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Article

Approaches to information literacy conceptualisation in primary, secondary, and higher education contexts: A review of current scholarly literature

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Abstract

The information landscape of the 21st century demands that students are prepared to be responsible information users and creators, which requires information literacy (IL) proficiency. Underlying conceptualisations of IL influence instructional practices and students' learning of these skills within primary, secondary, and higher education contexts. Responsive to the variation in approaches to conceptualisations of IL in the digital age, this article examines contemporary scholarly articles that conceptualise IL in these formal learning environments. Through a qualitative systematic literature review, 38 articles were examined with an inductive analytical method to understand how current conceptualisations of IL are approached within these educational settings. Analysis of results yielded five primary approaches to IL conceptualisation: (1) developing contextual frameworks, (2) comparing recognised models, (3) evaluating stakeholders' perceptions, (4) considering academic disciplines' information principles, and (5) advocating for information practice to inform frameworks. Collectively, this study points to an evident but necessary dynamism of IL conceptualisation.

Keywords

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1. Introduction

Information literacy (IL) is an essential academic and life skill, especially in today's ever-expanding, increasingly complex information landscape (Cunningham & Rosenblatt, 2018; Perdew, 2016; Polizzi, 2020). Indeed, scholars have long argued that democracy and citizenship are dependent upon an information literate citizenry that is well-informed and actively engaged (Cloudesley, 2021; Lupien & Rourke, 2021). Consequently, developing students' IL proficiency is crucial for preparing responsible information users and creators in scholarly, work, and everyday learning contexts (cf, Hirsh, 2022; Pawley, 2018).

Formal IL learning can begin in primary education and continue throughout higher education and beyond. Foundational IL development is essential within the primary and secondary educational contexts in order to scaffold students' progress through higher education and transition to lifelong learning beyond academic pursuits (Goldstein, 2020). Therefore, this literature review explores IL approaches situated throughout these contexts to better

understand how this concept is conceptualised throughout a young person's formal schooling experiences.

The conceptualisation of IL should form the basis of instructional practice and attendant skill sets that students learn; however, there appears to be no internationally agreed upon IL construct around which to orient its conceptualisation. Scholars, educators, librarians, and professional organisations have put forth myriad definitions and models for understanding IL as a concept. Without a clear consensus around conceptualisation of the literacy itself, it seems that implementation of its practice will remain challenging. Therefore, there is a need to understand why there are numerous interpretations of IL, particularly in the primary, secondary, and higher education learning environments. This contemporary literature review of published scholarly work, which includes international literature, aims to contribute to this problem space in the field of IL to answer the following research question:

How is the conceptualisation of primary, secondary, and higher education IL approached?

It is important to note the emphasis on the word 'approach' because this study is not squarely a review of IL conceptualisation. Rather, we posit that this broader perspective to analysing the approaches to IL conceptualisation (rather than the more granular view of the conceptualisations themselves), has the potential to shed light on why the concept of IL is manifested through variant definitions and models. To foreshadow, an examination of the included literature revealed five current trends in approaches to IL conceptualisation, which will be expanded upon in the results and discussion sections.

2. Literature Review

Since its introduction as a concept during the 1970s, scholarship on IL has flourished, particularly since the turn of the 21st century (Pinto et al., 2010). Previous surveys of the extant literature illustrated that the scope of IL scholarship is wide, covering theoretical and scientific studies of IL's conceptualisation, practice, and pedagogy across a range of academic disciplines, learning contexts, and communities (Bruce, 2000; Nisha, & Varghese, 2021; Pinto et al., 2010; Rader, 2002; Virkus, 2003).

It is evident that one particular area of interest to scholars is defining what IL means and interpreting how this concept is demonstrated in conceptual models of skills and dispositions. Babu (2008) as well as Mokhtar and Majid (2008) summarised some of the many IL definitions, frameworks, and programs that have been put forth by professional organisations and government agencies around the world. Kay and Ahmadpour (2015) summarised the more recent literature's IL definitions and models, which ultimately informed their own comprehensive and generalised IL framework.

Consequently, scholars have wrestled with these variant conceptualisations of IL. Taking a chronological approach, Behrens (1994) reviewed the evolution of IL definitions and elucidated how advances in information communication technologies strongly influenced the revisions and transformations of these first historical interpretations of the concept over time. A decade later, Owusu-Ansah (2005) argued that this continuous development of IL definitions is unnecessary as they all point to a similar set of skills and dispositions. While an interesting argument, the question remains: why does a continued need to reshape or redefine IL as a concept persist?

In their literature review, Lloyd and Williamson (2008) identified context (educational, workplace, and community) as an influential factor contributing to the differing manifestations of IL conceptualisation. Saranto and Hovenga (2004) further demonstrated conceptual differences of IL within a specific context through their analysis of IL definitions in health informatics scholarship. Limberg et al. (2012) argued that IL conceptualisation is influenced and varied

according to theoretical perspectives (phenomenography, sociocultural theory, and discourse analysis) that emphasise different aspects of the concept in practice. Todd (2017) reflected on the state of IL scholarship and recognised that the multitude of existing definitions and frameworks point to the diversity and complexity of IL as a concept. Furthermore, the author concluded that rather than viewing these varied conceptualisations as clashing, the future of IL depends on bringing together this multifaceted picture of IL.

There is a dearth of articles that specifically explore approaches to IL conceptualisation, specifically embedded within the primary, secondary, and higher education contexts–which is why this analysis is merited. Moreover, a broader lens of inquiry that considers the approaches to IL conceptualisation, rather than the definitions and frameworks themselves, can demonstrate why IL needs to be a dynamic concept.

3. Methods

To contextualise the methods of the following literature review, it is helpful to begin with an overview of the evolution of this research project. The initial desire was to gain a better understanding of contemporary IL conceptualisations throughout the primary, secondary, and higher education realms: how IL is defined as well as translated through frameworks, models, and dispositions in these educational contexts. The ultimate end goal was to survey the recently published scholarly literature focused on interpreting what IL is as a concept. However, as the articles selected from the search process, which is outlined below, were reviewed it became clear that current IL conceptualisations are diverse and wide-ranging. Consequently, it was further questioned: why is there such variation in how IL is articulated among scholars? A broader survey of this literature selection revealed themes in approaches to IL conceptualisation, which shed light on this inquiry and are further explained in the resulting qualitative systematic review according to the methods outlined by Grant and Booth (2009).

Two library science-specific databases (Library Literature and Information Science Full Text and Library, Information Science and Technology Abstracts), two education-focused databases (Education Database (ProQuest) and Eric (ProQuest)), as well as two general search engines (University of Kentucky Libraries' discovery service and Google Scholar) were surveyed for this literature review. The searches were conducted up until February 2021 and limited to only scholarly, peer reviewed, and English-language articles published between 2010 and 2021 in order to capture the current IL perspectives for the research question. When the databases and search engines allowed, limiters were used for these parameters to narrow search results. Combinations of subject and keyword searches were performed with the following terms: information literacy, education, information literacy standards, conception, standard, framework, K-12, primary education, secondary education, elementary school, middle school, high school, universities, colleges, higher education, postsecondary education, and pedagogy.

Since IL is a broad, widely published upon topic, strict inclusion criteria were applied in this literature review. First, only articles specifically concentrated on the description and development of IL definitions, standards, frameworks, models, and perceptions as well as centred in primary, secondary, and higher education learning contexts were included. While IL skills are related to other concepts (critical IL, media literacy, digital literacy, health IL, financial literacy, and visual literacy), only articles exclusively focused on IL were included for the purpose of this scholarly inquiry. Articles dealing only with criticism or opinions of established IL frameworks, the state or assessment of students' IL skills, the effects of IL standards or frameworks on students' IL skills, and IL teaching practices were excluded for a limited set of articles focused on objective narratives and studies conceptualising IL.

Titles and abstracts in search result lists were reviewed according to this inclusion criteria for selecting articles. Every effort was made to be systematic, but due to the generalised nature of

the research topic, the authors had to make subjective judgments about relevance based only on what was described in titles and abstracts as well as what was discovered within the order of articles presented in the case of search engine result lists. As a result, 38 articles were identified that fit the criteria and were, therefore, included in this literature review.

An inductive analytical method for examining IL conceptualisations was used, allowing the literature to drive the results. After closely reading each included article, low-inferential descriptive codes were applied to emergent approaches to IL conceptualisation as well as any referenced IL definitions, frameworks, and student dispositions (Miles & Huberman, 1994). These codes were then reviewed jointly by the first and second author to identify the major themes, which are outlined in the subsequent results section.

4. Results

Analysis of inductively generated descriptive codes yielded five primary approaches to IL conceptualisation:
  (1) Developing contextual frameworks,
  (2) Comparing recognised models,
  (3) Evaluating varied stakeholders' perceptions,
  (4) Considering academic disciplines' information principles, and
  (5) Advocating for information practice to inform frameworks.
It is important to note that the approaches to conceptualisation outlined above are not mutually exclusive. While some articles reflected more than one approach, each article was classified according to what was considered to be its primary or most predominant theme.

Articles that focused on the importance of developing contextual IL frameworks occurred with the highest frequency. This subset of literature stressed the importance of conceptualising IL through frameworks specific to national, local, or individual contexts as students encounter information within their surrounding and personal information landscapes. Articles comparing the IL dimensions set forth by professional organisations and scholars occurred with the second highest frequency.

Recognition of stakeholders' differing IL perceptions and consideration of the varied information principles of academic disciplines in IL conceptualisations were the third and fourth most frequently occurring themes, respectively. Articles identifying the multifaceted concepts of information practice for inclusion in IL standards occurred with the least frequency.

Broadly speaking, the extant scholarly literature on IL appeared to be most empirically situated within the higher education context, which was reflected in the majority of articles that fit the inclusion criteria for this review pertaining to the higher education information environment. Only one article focused specifically on the primary education context, five articles were centred in the secondary education context, and four considered both the primary and secondary learning environments. One article concentrated on the secondary and higher education contexts, and only two articles covered the entire formal learning spectrum from primary through higher education. Interestingly though, there appeared to be no significant connection between contextual focus and approach to IL conceptualisation. Each theme included articles with attention to all of these formal learning environments. See Table 1, below, for a complete list of the included literature according to theme and contextual focus.

Table 1: IL Conceptualisation Literature by Theme

Article	Contextual Focus
Approach 1: Developing contextual frameworks	
Adam, Burgess, McPhee, Olson, & Sich (2018)	Higher Education
Batool & Webber (2019)	Primary Education
Bhatti (2012)	Higher Education
Carini (2016)	Higher Education
DaCosta & Dubicki (2012)	Higher Education
Dolničar, Boh Podgornik, Bartol, & Šorgo (2020)	Secondary Education
Hanchinal & Hanchinal (2018)	Primary and Secondary Education
Hicks & Lloyd (2016)	Higher Education
Hinchliffe, Rand, & Collier (2018)	Higher Education
Hulett, Corbin, Karasmanis, Robertson, & Salisbury (2013)	Higher Education
Naluai (2014)	Primary and Secondary Education
Ngo & Walton (2016)	Secondary Education
Piloiu (2016)	Higher Education
Shenton & Pickard (2014)	Secondary Education
Approach 2: Comparing recognised models	
Burns, Gross, & Latham (2019)	Primary, Secondary, and Higher Education
Eubanks (2014)	Primary, Secondary, and Higher Education
Folk (2016)	Higher Education
Hicks & Lloyd (2020)	Higher Education
Martin (2013)	Higher Education
Ranaweera (2010)	Higher Education

Robinson & Bawden (2018)	Higher Education
Sample (2020)	Higher Education
Approach 3: Evaluating varied stakeholders' perceptions	
Anyaoku (2016)	Higher Education
Bury (2016)	Higher Education
Cope & Sanabria (2014)	Higher Education
Cunningham & Williams (2018)	Secondary Education
Fázik & Steinerová (2020)	Higher Education
Hofer, Townsend, & Brunetti (2012)	Higher Education
Yu, Abrizah, & Sani (2016)	Secondary Education
Approach 4: Considering academic disciplines' information principles	
Berman (2013)	Higher Education
Gordon & Bartoli (2012)	Higher Education
Klebansky & Fraser (2013)	Higher Education
Kuglitsch (2015)	Higher Education
Monge & Frisicaro-Pawlowski (2014)	Higher Education
Shenton (2013)	Primary and Secondary Education
Approach 5: Advocating for information practice to inform frameworks	
Jacobson & O'Keeffe (2014)	Secondary and Higher Education
Kohnen & Saul (2018)	Primary and Secondary Education
Lenker (2016)	Higher Education

5. Discussion

Each article included in this literature review provides a valuable contribution to the current discussion of primary, secondary, and higher education IL conceptualisations. Examples from

each theme are highlighted in the discussion below. These examples were chosen because they were the most illustrative of the category.

5.1 Approach 1: Developing contextual frameworks

Of the 38 articles found to fit the inclusion criteria, 14 papers focused on the importance of developing contextual frameworks for IL. Practically speaking, a focus on the contextual meant that these articles argued for the necessary attention to the national, local, or individual contexts in which IL will be practiced. Conceptualising IL according to specific information environments acknowledges the diversity of information values, meanings, and structures within various information contexts.

In the first illustrative example, Hicks and Lloyd (2016) argued that sociocultural approaches to developing IL frameworks are key to creating inclusive IL models that are contextually aware of the information landscape and respective of diverse, intercultural viewpoints and information practices. From their perspective, a sociocultural approach is one that derives the conceptualisation of IL as directly shaped by communities' information understandings, sense-making, and cultural practices. This perspective is markedly distinct from more individually oriented, or behaviourist and constructivist approaches to IL.

A second illustrative example comes from Naluai (2014), in which she described the Hawaiian Kamehameha Schools' librarians' development of a contextual IL framework by translating the themes from Eisenberg and Berkowitz's Big6 model to traditional Hawaiian concepts and values. The Big6 model is a six-step inquiry framework that is often cited and utilized within primary and secondary education IL contexts and comprises the following dimensions: task definition, information-seeking strategies, location and access, use of information, synthesis, and evaluation (Naluai, 2014). Above all, Naluai highlighted that the translation of this model directly situated IL within the Hawaiian sociocultural information context in order to bring awareness to and pass on these information practices to the next generations of students.

At the state level, DaCosta and Dubicki (2012) described the 2009 development of the 'IL Progression Standards' for colleges and universities in New Jersey. The impetus for creating these standards was the passing of the Lampitt Law in 2007, which required a comprehensive state-wide transfer agreement to help support students' transfer between higher education institutions in the state, particularly from two- to four-year colleges. New Jersey librarians acknowledged that IL was an important skill for supporting students in this transition. Therefore, these state-wide IL standards offer a consistent model from which IL is conceptualised across New Jersey higher education institutions as well as facilitate equitable IL learning opportunities and development for all students in both two- and four-year colleges.

In a last illustrative example of this approach to IL conceptualisation, Shenton and Pickard (2014) posited that students' diverse lived experiences influence their relationships with information, and these individual information contexts are a critical consideration in IL conceptualisation. In their article, they advocated for students to develop their own IL models based on their personal information needs and experiences rather than solely relying on prescribed, established IL frameworks. These authors provided a structure and areas for students to consider in developing their IL models based on their various information roles, needs, searching, and use. The intention is that students develop these models at the secondary school level, but that they are meant to be adaptable as students' individual information experiences advance over time.

The emergence of this theme and the fact that nearly 37 percent of the articles focused on this approach to IL conceptualisation was a surprise, considering the number of existing established IL models produced by professional organisations and scholars. Interestingly, all the articles,

except for one, cited and drew on recognised IL models, yet there appeared to be no consensus between the dimensions of these contextual frameworks presented in the literature. The benefits of these contextual frameworks, however, are that they recognise the diversity within the information landscape and argue for the learning of the necessary IL skills specific to varied environments, particularly at the national, local, and individual levels.

5.2 Approach 2: Comparing recognised models

The second most frequent theme that emerged from the review was articles whose approach to IL conceptualisation was based on comparing recognised models of IL. Of note, the models reviewed were not limited to specific contexts, thereby offering the possibility of having a broader impact on IL instructional practices and learning.

In the first illustrative example of this theme, Burns, Gross, and Latham (2019) compared the IL competencies and dispositions in two recently revised library frameworks: the Association of College and Research Libraries' (ACRL, 2015) 'Framework for Information Literacy for Higher Education (Framework)' and the American Association of School Librarians' (AASL, 2018) 'National School Library Standards for Learners, School Librarians, and School Libraries (Standards)'. Through their one-way crosswalk analysis, they found that differences in the dispositions, language, and priorities between these frameworks do not allow for a clear continuum of IL instruction across primary, secondary, and higher education. Burns et al. argued that school librarians should consider incorporating Framework concepts into high school IL instruction in order to prepare students for higher education. At the same time, academic librarians should be mindful of the IL concepts and practices that students learn in primary and secondary education from the Standards and accommodate the IL instruction of first-year university students accordingly.

Similarly, Eubanks (2014) reviewed the IL-related Common Core State Standards and reflected on the implications of these primary and secondary education, or K-12 in the United States, learning standards for IL instruction at the higher education level. While IL is not directly referenced or defined in the Common Core State Standards, some of the Standards include IL-related skills. Consequently, more K-12 students are exposed to IL skills as conceptualised within these Standards and according to the problems-based educational approach of the Common Core curriculum. Eubanks called for higher education institutions to consider implementing this problem-based rather than typical one-shot approach to IL instruction to better align with students' K-12 IL development as experienced as a function of the Common Core State Standards.

Despite focusing on the same concept, it is evident that IL is manifested differently by various professional organisations and scholars in their IL models. In the third illustrative example, Hicks and Lloyd (2020) studied IL discourse in established higher education frameworks and textbooks, including A New Curriculum for Information Literacy (ANCIL) (Secker & Coonan, 2011), Framework for Information Literacy for Higher Education (ACRL, 2016), Metaliteracy (Mackey & Jacobson, 2011), and Seven pillars of Information Literacy (SCONUL, 2011) as well as 16 IL textbooks. Ultimately, Hicks and Lloyd found contrasting IL conceptualisations within these frameworks. IL is described with outward-facing or inward-facing narratives that position IL learning as establishing control over the information landscape or mitigating individuals' insufficient skills to encounter information, respectively. IL is also defined as practiced according to set principles, or agile, characterised by flexible standards responsive to the evolving information landscape.

In comparing the dimensions of recognised IL models produced by professional organisations and scholars, the literature in this second theme revealed similarities, but also notable differences between conceptualisations. Ultimately, these studies' comparatively induced

recognition of the variation and often disconnect in these models highlighted the impact that different IL conceptualisations can have on IL instructional practice and learning.

5.3 Approach 3: Evaluating varied stakeholders' perceptions

The third most prominent theme that emerged was seven articles that evaluated different stakeholders' perceptions of IL– namely, those outside of the library and information science field. In other words, in this theme, the argument was that it is not just library and information science professionals that conceptualise IL, but rather that other stakeholders' attitudes can make equally valuable contributions to IL constructs.

In the first illustrative example of this theme, Cope and Sanabria (2014) conducted a qualitative study to better understand faculty perceptions of IL. The authors completed twenty interviews with faculty from a variety of academic departments at the College of Staten Island and the Bronx Community College. Although faculty defined IL according to general rather than disciplinary conceptualisations, faculty considered students' IL practice within their subject disciplines. Faculty emphasized students' abilities in evaluating the information context, synthesising and using information, as well as producing and examining empirical evidence according to the information values and methods for specific fields of study. Ultimately, Cope and Sanabria (2014) argued that library practitioners should consider faculty's perceptions of IL as entwined with their disciplinary practice rather than a separate discourse in IL conceptualisations.

In the second illustrative example, Cunningham and Williams (2018) conducted a phenomenographic study evaluating seven stakeholders' (students, parents, teachers, librarians, IT personnel, administration, and leadership) perceptions of IL in an international middle school. All stakeholders identified IL as "a process of using IT tools" and as a "set of information skills" (Cunningham & Williams, 2018, p. 18). However, each stakeholder group recognised different skills pertinent to IL. Interestingly, thirteen additional IL characterisations were put forth by the stakeholder groups with no overlap between groups' reporting. Cunningham and Williams concluded that the differences in IL conceptualisations among these stakeholders point to a need for identifying and valuing these various understandings in order to develop sustainable, inclusive IL programs.

Above all, this trend to approaching IL conceptualisation in the literature illustrated the importance of recognizing the number of stakeholders involved with IL. Because the literacy is most often conceptualised and practiced within the library and information science field, librarians clearly offer a valuable perspective for understanding IL. However, IL stakeholders are not just limited to librarians– they also include faculty, teachers, students, parents, and education administration. A lack of consensus among all stakeholders, even within each specific group, was most evident from the literature, again suggesting that IL conceptualisations might well be best situated within individuals' specific information landscapes and the values and practices within those environments.

5.4 Approach 4: Considering academic disciplines' information principles

A total of six articles considered specific academic disciplines' varied information principles as they put forward their conceptualisation of IL. These six constituted the fourth most prominent theme that surfaced from the review. Broadly speaking, this subset argued that while IL is often defined within library and information science contexts, IL can (and should) take on additional elements when considered within distinct academic disciplines.

Berman (2013) addressed the American Library Association's (ALA) Association for College and Research Libraries' (ACRL) Science and Technology Section's IL Standards Review Task

Force's five-year review of the 'Information Literacy Standards for Science and Engineering/Technology' (ALA/ACRL/STS, n.d.) according to the field of e-science in the first illustrative example of this theme. IL in the science, engineering, and technology contexts requires an emphasis on collaboration, creation, and production of data and information in the information landscape; critical thinking skills; integrated and scaffolded IL instruction directly in the curriculum; and an expanded view that includes additional literacies, like technology, digital, visual, and data literacy. Berman (2013) stated as follows:

> We must continue reframing our narrative in order to expand the boundaries of what is 'information literacy'. It is time to shift the framework away from thinking about information literacy as a complicated, insulated system, and begin thinking about it as a complex system that is interactive and iterative, a system that is diverse, made up of multiple interconnected elements (skills, knowledge and behaviours); and a system that is dynamic, one that can adapt, change and grow through experience. (p. 168)

In this second illustrative example from this subset, Monge and Frisicaro-Pawlowski (2014) argued that IL frameworks are designed for students' success in academic settings rather than adequately preparing students for the workforce where learning in this context is a fundamentally different experience. From this vantage point, meaning and applicability of library and information science IL conceptualisations need to be taken into consideration when operationalised within other academic disciplines and even contexts beyond academia. Ultimately, these authors called for librarians and faculty to collaborate on creating disciplinary-specific IL standards, which will reflect the practices of the profession and informal learning that students will encounter in the workplace that students can more easily apply to their information needs outside of the scholarly context.

While IL is perhaps most often conceptualised within the library and information science field, the papers in this theme stressed that approaches to IL conceptualisation should not be siloed but constituted according to the information standards and values of specific academic disciplines. The literature principally argued that scaffolding IL concepts within academic disciplines better supports students' learning. By directly incorporating IL within academic disciplines, the applicability of these concepts to the diverse nature of information practice is made more explicit to students.

5.5 Approach 5: Advocating information practice to inform frameworks

Only three articles concentrated on incorporating information practice concepts into IL conceptualisations. These articles led with the guiding premise that we live in an information age; we are constantly surrounded by and face information not just in academic, but also in social and everyday contexts. These circumstances of the current digital information environment are the driving force for approaching IL conceptualisation through information practice. Articles that took this approach appeared to lean towards what seminal library and information science scholars have long argued: that the information landscape of today's 21st century digital era is complex as well as continuously expanding and evolving, which requires that IL recognises the resulting diverse interactions with information (cf, Hirsh, 2018). Therefore, IL cannot just be conceptually limited to a set of skills and dispositions that individuals realise within academic learning environments but must be viewed as a process that pervades all information encounters. In other words, IL must be actively conceptualised within and reflect the realities of experiencing information in all contexts.

In the first illustrative example of this theme, Kohnen and Saul (2018) argued that students' intentional and incidental interactions with information are largely ignored in primary and secondary IL education, leaving students oft unprepared for information seeking and experiencing the information landscape outside of the classroom. The authors conceptualised

information along a continuum of intentionally motivated consumption of information for diverse purposes and incidentally or unintentionally encountering information in various contexts. Yet, prescriptive IL practices introduced or demonstrated to students in primary and secondary education do not address these types of information interactions outside of the academic environment. Kohnen and Saul (2018) advocated for attention to this continuum of intentional and incidental information acquisition in primary and secondary IL education.

Taking a more politically grounded approach, Lenker (2016) drew attention to motivated reasoning as an impediment to processing political information and an important consideration for IL when conceptualised as the ability for democratic citizens to make informed decisions in the second illustrative example. Motivated reasoning acknowledges that prior beliefs and biases can influence the types of information that individuals accept or dismiss, which is particularly apparent with political information. Lenker (2016) emphasized that motivated reasoning often goes unnoticed and argued that IL instruction should bring awareness to motivated reasoning and include developing students' abilities to process political information.

Outside of the formal education context that this literature review is focused in, it is worth noting that Lloyd (2017) argued that IL is considered from dual perspectives of theory and practice, which traditionally have not been reconciled in IL scholarship. As a result, this particular piece puts forth a conceptual model that integrates these diverse attitudes toward IL. According to Lloyd's argument, information environments are shaped by social, physical, as well as epistemic and instrumental modalities that influence the literacies of information needed to experience the information in these environments. Operationalised IL exists within and also influences the information environment, forming a broader information landscape with IL enacted.

In a more recently published paper also outside of the initial scope of this review because of its recent publication, Rath (2022) surveyed academic librarians about their IL conceptualisations and identified key factors that influenced these perceptions. While nearly all academic librarians described IL in terms of information practice in personal interviews, their written IL definitions did not necessarily focus on practice. Rath grounded the study in the reality that IL theory is often unconnected with IL practice and vice versa in the scholarly literature. It is also worth noting that the ACRL only recently revised its IL conceptualisation with a more practice-centred focus in the (2015) Framework for Information Literacy for Higher Education. Although the Rath study clearly aligned with the theme of approach 3, Rath's observations also shed light on a potential reason as to why there are fewer examples of conceptualising IL through practice in this particular study.

Although this last approach to IL conceptualisation included just a few articles, they offered a significant consideration for IL constructs. This is because these articles situated IL as an active practice– showing that individual agency impacts the engagement with and use of information, necessitating the need for ongoing, situated practice to be incorporated within IL frameworks.

6. Limitations

This review captured a specific moment in time of the past decade's, published, scholarly literature that is focused on approaches to IL conceptualisation in the primary, secondary, and higher education environments and limited to the period during which the search was conducted. We recognise that the topic of IL has had a long, scholarly conversation with many valuable contributions that were published before the timeframe of study for this review as well as outside these formal learning contexts and were not included in this analysis. Moreover, given the dynamic nature of IL as a concept, scholars may well have contributed to this conversation beyond the time constraints of this review.

While strict inclusion criteria were outlined and followed from the onset of this literature review, it

is important to acknowledge the inherent subjectivity that cannot be completely eliminated when searching for and selecting articles. The included papers are limited to those discoverable with the databases, keyword combinations, and limiters that were used in the searching process; accessible as University affiliates; and applicable to the research question– all of which are subject to epistemological and other forms of bias.

7. Implications and Conclusion

Today's information age is defined by the omnipresence of information—including constantly changing and rapid consumption, production, and circulation. IL training on the mindset and skills required to productively and ethically engage the current information landscape cannot be limited to a specific age nor stage of learning. For these reasons related to the nature of the phenomenon itself, this review covered the most recent scholarly conversation within the past ten years on approaches to IL conceptualisation in formal schooling contexts. Each article included in this review and the themes that grew from the analysis highlighted how *varied* extant conceptualisations currently are when it comes to approaching the topic of IL. Taken together, these identified approaches to conceptualisation point to IL as a necessarily dynamic concept, particularly in the primary, secondary, and higher education learning environments.

While there are no agreed upon IL definitions and constructs established by scholars, librarians, educators, and professional organisations, this literature review suggests that IL models and perspectives need indeed be variable today. The complex information landscape is experienced differently according to the diverse information contexts as well as individuals' lived experiences and position to information. Consequently, we suggest that IL needs to be collectively defined and characterised for the information environment in which it is being operationalised. For example, for a rural school district hoping to provide its students with IL education, we suggest that they start by asking themselves: What are the current information needs and practices of our students, in and outside of the classroom, today? Or in the case of an urban university setting, institutional leaders might ask themselves: if it is not the university library website that students are using to find and read information for their classes, what search engines are they using and how can be they be better supported to employ both discipline specific IL practice *and* everyday good search strategies. Perhaps seemingly quotidian as study implications, this study did reveal a highly variant range of approaches to conceptualisation—and we conjecture that this variety may well be what is making its conceptualisation and enactment so much of a challenge in the present day. As this study was specifically focused on identifying the approaches to conceptualisation in the current IL scholarly literature, further studies would do well to analyse the content of these IL conceptualisations within thematic category to identify any patterns within these approaches.

Above all, IL conceptualisations must acknowledge the diversity of information values within and across the global landscape and academic contexts as well as recognise the varied impact of individuals' agency and communities' influence on information practices in order to support inclusive IL frameworks and constructs. Students' preparation to successfully navigate information within their diverse academic and everyday environments of the 21st century depends on it.

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