Much of the discussion around open educational resources focuses on issues of cost and access. These are certainly important issues, as starkly documented in the Florida Virtual Campus Survey. While access to affordable learning materials makes for a great selling point for open educational resources (OER), it is also recognized, though perhaps not as widely, that the real value of OER lies in the potential for pedagogical innovation—open pedagogy and open educational practices. This pedagogical innovation creates opportunities for more active and deeper learning. While saving money is an immediate appeal of OER, the larger part of open education as a reform movement lies in opening up the processes of learning.

Information literacy is also an educational reform movement, as stated in the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education. Educational reform is also what Zurkowski advocated when he coined the term information literacy. The theme of reform occurs throughout discussions of information literacy over the past five decades. It is valuable to take that historical view in order to see the cycles and trends in the evolution of the concept.

Taking the historical view uncovers an interesting parallel. Open education has also been under discussion for five decades and has gone through its own cycles and trends as it has evolved as a concept. While it has evolved in parallel...
with information literacy, there have also been connections all along, particularly in the areas of “learning how to learn” and lifelong learning. This chapter explores the parallels and connections between open education and information literacy throughout their histories to consider what the movements can learn from each other and how they may work together going forward. This is particularly relevant to open pedagogy as information literacy can enable the advance from open resources to open processes and open pedagogy.

INSPIRATION AND METHOD

The inspiration for this chapter came from Resnick’s 1972 article, “Open Education: Some Tasks for Technology,” which presented a description of information literacy two years before the term was coined. This led me to look further into the research and writing on open education from that time period and over the subsequent years and to take a similar look at the literature on information literacy since the 1970s. The use of literature was selective rather than exhaustive. The history of open education has been reviewed recently by Morgan, Hendricks, and Weller, Jordan, DeVries, and Rolfe. Their work was used to identify important papers. A few histories of information literacy have been published over the years, and those were likewise used to identify seminal work. Citations in significant papers yielded further work for examination. ERIC, LISTA, JSTOR, and other databases were also skimmed for useful work.

The resulting collection of literature was examined for parallels and connections. Since connections were found in the initial literature search, the expectation was that open education papers would address information literacy concepts and vice versa, although they may use different terminologies. Other commonalities may surface. Lessons from the parallel movements may be applicable to each other, and lessons learned over time may be useful today.

DEFINITIONS

Information Literacy

Information literacy was initially defined by Paul Zurkowski as the ability to use tools and resources to mold information to solve problems. Definitions of information literacy have evolved over time, but the basic formula of content, technology, and purpose is consistent throughout. In later writings, he highlighted evaluation and ethics as important aspects of information literacy.

In 1983, A Nation at Risk was published. It was antithetical to the philosophy of open education, and even though it said, “Learning is the indispensable investment required for success in the ‘information age’ we are entering,” it made no mention of information literacy. It is significant, however, in that it inspired librarians to take up the cause of information literacy since the report
Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how overlooked libraries and librarians entirely. The library community latched onto the term “learning society” in *A Nation At Risk* and detailed the library’s role in it. They pointed to over-reliance on packaged information in textbooks and under-utilization of original research and primary source texts as a problem in education.\(^\text{12}\)

Kuhlthau defined information literacy “as comprising library skills and computer literacy.”\(^\text{13}\) This definition is very context- and technology-specific, which suited her audience and purpose in a review of K-12 library media centers. She also expanded on this definition to incorporate processes (identify information needs, find, access, and evaluate information) and characteristics (persistence, attention to detail, skepticism) of information literacy and set its ultimate purpose as facilitating lifelong learning. The American Library Association (ALA) formalized the definition as the ability “to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information”\(^\text{14}\) and said that it was fundamental to a democratic way of life. Doyle\(^\text{15}\) added “from a variety of sources” to the definition of information literacy, emphasizing that information is multimedia and not limited to texts of a certain type. Pettersson\(^\text{16}\) further developed the understanding of information literacy as incorporating multiple other literacies and emphasized the communicative aspect, that literacy involves being understood as much as understanding. Mackey and Jacobson\(^\text{17}\) called information literacy a metaliteracy, following Pettersson in recognizing that information comes in many media forms and flows through many media channels, both of which evolve over time. Information literacy then involves understanding those forms and channels, how they work, and when and how to use them. Shapiro and Hughes\(^\text{18}\) expanded on the ALA by positioning information literacy as a liberal art, necessary to live as a free person in modern society. The ACRL\(^\text{19}\) added a learning component to the ALA’s formal definition, as well as an ethical component related to the “economic, legal, and social issues” of information use. Elmborg\(^\text{20}\) expanded that with critical information literacy, which raises awareness of the social, political, and economic contexts of the information environment. Gibson\(^\text{21}\) repositioned the definition from skills to a mindset built on creative, critical, and reflective thought. Belshaw\(^\text{22}\) pointed out a problem in that these growing understandings of information literacy were making it too big to know—“too ambitious in scope, too wide-ranging in application and not precise enough in detail to be useful in an actionable way.” Nevertheless, the various models have value in various contexts. The latest official definition, from the *ACRL Framework for Information Literacy for Higher Education*,\(^\text{23}\) is:

Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how
information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning.

The Framework replaced 2000’s *Information Literacy Competency Standards for Higher Education* in 2016. The *Standards* were considered by some as being mechanistic and prescriptive, so the Framework took a more flexible and philosophical approach. It was built around six threshold concepts:

- Authority Is Constructed and Contextual
- Information Creation as a Process
- Information Has Value
- Research as Inquiry
- Scholarship as Conversation
- Searching as Strategic Exploration

The definition and concepts above tie together many of the strands of information literacy that have developed over the years. Key points here are that it is integrative, addressing the many forms and channels of information, and that it frames literacy as the ability to participate, which has implications beyond reading and writing.

**Open Education**

![Figure 2.1](image)

The current landscape of “open.” CC BY 4.0
Open education has had shifting connotations over the years. Stacey’s Current Landscape of Open, shown above, visualizes the many aspects of open as it relates to education, a few of which will be addressed in this chapter. In the current US context, the term open is most often attached to open educational resources, and beyond the US it is attached to both resources and practices. Open is also part of open pedagogy and open access. We can get a broader view by looking at it over the course of the last half-century. Jordan and Weller categorized the shifting themes in open education research over the decades, moving from open education in schools in the 1970s through distance education and open learning (1980s), e-learning and online education (1990s), open access publishing (1990s), open educational resources (OER) (2000s), social media (2000s), and massive open online courses (MOOCs) (2000s), to open practices (2000s).

The 1970s conversation around open education was largely about open classrooms and teaching in that environment, but a philosophical aspect was present as well. Discussions of open education shifted to focus more on open universities and distance education in the 1980s, with online education gaining more prominence in the 1990s. Student-centered teaching and increasing access to education are strands that connect back to earlier research. Another way of increasing access is through open access (OA) publishing, which feeds into OER. OA and OER were enabled by the growth of the web, which also drove social media and MOOCs. Open practices, one of the latest trends, looks at how open content can be used in open environments and inspired some re-examination of the history of openness in education.

Peter and Diemann took a long view of openness in education, tracing the history since the twelfth century. They noted that social and technological changes at times inspired periods of openness of various sorts in education but that open practices became formalized and institutionalized. Over time, control shifts away from learners in favor of other stakeholders in educational systems. Open tends to close.

Open education was a movement in the US in the 1960s and 1970s in response to various calls for educational reform and was expressed in elementary classroom organizations and procedures. Spodek found defining open education difficult and described it rather in terms of assumptions, that learning is active, creative, nonlinear, and driven by inquiry. Barth considered the open classroom to be a superficial expression and that the underlying philosophical beliefs were key. Resnick said that the movement was essentially about a free and open society with open access to knowledge and defined it by learner agency. Defining it prescriptively is a problem because it is not one particular method or practice but rather varied processes arising from a philosophy held in common by open educators. These processes can be called open pedagogy. Paquette listed the core principles of open pedagogy as autonomy and interdependence, freedom
and responsibility, and democracy and participation. Noddings and Enright, like Barth, defined open education in terms of the beliefs of educators, noting that these tied to principles of progressive education as practiced and preached by Dewey and Piaget and others.

In the 1980s and 1990s, open and distance education became conflated as institutions like the Open University—open in the sense that it was open to all with no entry requirements—became a driving force in distance education. Guri-Rozenblit clarified the distinction, noting that open access is a characteristic of open learning, but it is a descriptive aspect separate from an open philosophy. Due to the nature of distance education, however, it was necessary for institutions to work to develop independent learning skills. Curran reduced open and distance learning to the initials ODL, implying they are one thing. He also implied a connection with information literacy in pointing out that distance education led to an emphasis on developing the independent learning skills of students. Kinman examined the challenges of moving toward open learning, which at that point was widely taken to mean the use of independently accessed self-paced modules, although he recognized that there was more to it. He found that many students, particularly the ones with greater needs, said they preferred traditional lecture-style education formats. He also noted, somewhat paradoxically, that modularized learning was actually less open. All content was contained in the modules, and no learner agency was involved in the learning process. Fraser and Deane pushed back on the conflation with distance learning, emphasizing open as a philosophy and the importance of learner agency. The goal is “for the student to become an expert learner—strategic, self-regulated and reflective.” This is necessary because, in an environment of growing knowledge abundance, a person’s knowledge base will always be incomplete. It is more important to “have an understanding of the concepts and principles of the discipline, have the ability to apply this understanding to novel situations and the wherewithal to seek out the information that is needed.” Independent learning skills are necessary in the workplace as well as in life and should be intentionally developed in educational institutions.

Wilson discussed Knowles’ model of a Lifelong Learning Resources system, which represents a nexus between information literacy and open education. Knowles’ assumptions about lifelong learning align with open educators’ beliefs about learning, and his list of skills for lifelong learning are a restatement of general information literacy skills. Wilson saw open learning in terms of access, as in open-admission institutions, and specifically looked at open and distance higher education in the UK and Australia. One thing she pointed out was, “Many of the principles of information literacy and adult learning theory have been incorporated into the innovative materials developed for open learning courses.”
The Cape Town Open Education Declaration\textsuperscript{42} was a call to commit to the advancement of open education. It encouraged people to participate by developing open resources and open education policies. The intention was to promote better learning and more accessible education, and to “give more control over learning to the learners themselves,” echoing Resnick. Its strategies for advancing open education included:

Educators and learners: First, we encourage educators and learners to actively participate in the emerging open education movement. Participating includes: creating, using, adapting and improving open educational resources; embracing educational practices built around collaboration, discovery and the creation of knowledge; and inviting peers and colleagues to get involved. Creating and using open resources should be considered integral to education and should be supported and rewarded accordingly.

While Cape Town emphasized OER, open educational practices, or open pedagogy, have also been an important issue in open education over the past decade. Open pedagogy has been defined as teaching and learning practices that use and produce OER,\textsuperscript{43} although Ehlers and Conole note that “the vision… is to achieve a situation in which resources are no longer the sole focus” and that the objective of open education is not just knowledge but also civic and digital responsibility, an objective shared by information literacy in the view of Shapiro and Hughes.\textsuperscript{44} It is not necessary to define open pedagogy in terms of OER, however. Woodward defined it “as a blend of strategies, technologies, and networked communities that make the process and products of education more transparent, understandable, and available to all the people involved,”\textsuperscript{45} which essentially restates Resnick’s definition and frees the practice of open education from a product, OER.

Weller\textsuperscript{46} pointed out that the web made knowledge and information abundant and easily accessible, while most traditional teaching practices grew in an environment of knowledge and information scarcity. Instructivist pedagogy is suitable to scarcity, but other approaches are more appropriate to information abundance. These include resource- and problem-based learning, constructivism, connectivism, and communities of practice, all of which are part of open pedagogy.

One of the defining characteristics of open education is learner agency. This was central to the open classroom movement, which tried to make space for and foster student curiosity in the classroom. It is also core but sometimes overlooked in the OER movement. The real benefit of open resources comes not from free textbooks but from the freedom of students to be involved in the development,
curation, and maintenance of open resources—activities that exercise information literacy skills.

**CONNECTIONS IN LITERATURE**

Now that the definitional histories of open education and information literacy have been described, let us look at the various connections between the two throughout the past five decades, and beyond.

[T]hese criticisms of the traditional form of American college teaching are now generally recognized. The conventional method tends to make the student responsible to the course rather than to the subject matter of the field, to separate him from the literature of the subject, and to inculcate a deference to the authorities which have been set up, rather than to develop critical discernment and independent judgment. Modifications of the system, designed to secure a greater measure of responsibility and independence on the student’s part and an adjustment of the program to the differences which exist between individuals, are being effected in many places…. This means that in place of specific assignments and set lectures, the student is directed to the literature of the subject, and the instructor becomes an aid in acquiring and understanding this knowledge rather than its source and final end.

As the preceding quote from 1940 illustrates, long before open education and information literacy were coined as terms, the core issues were present and under discussion. The references to student responsibility, independence, and freedom point to the central value of open education—“putting control of the learning process as much as possible in the hands of the learner.” Notice too, how many of the threshold concepts from the ACRL Framework are indicated. Authority, inquiry, and scholarly conversation are all clearly present in Branscomb’s quote, and the value and processes of information and strategic exploration are implied. This quote was cited by Breivik and Gee in their seminal text, *Information Literacy: Revolution in the Library*, and is indicative of the long history of alignment between open education and information literacy.

**1970s: “Messing about” and the Birth of Information Literacy as a Term**

The connection is apparent in many of the writings on open education from the 1970s when *open* meant giving students the freedom to explore their own interests. For example:
Through “messing about” with his immediate environment, [the student’s] manipulations advance from a general, nearly random search to a more planned and specific search for. This connects to information literacy, specifically in the aspects of identifying information needs, from the old ACRL Standards and searching as strategic exploration from the current ACRL Framework. The “messing about” raises information needs, and the searching becomes strategic exploration as the information needs become more focused. The implication here is that students are less instructed in what will be on a test and more guided through learning processes—learning how to learn. Open educators sought to find ways of developing the full range of each individual’s capacities and of doing so while putting control of the learning process as much as possible in the hands of the learner himself.

This view defines the core attribute of open education as learner agency—learner control over the learning process. This can be seen as another way of saying “learning how to learn,” which is foundational to lifelong learning and which has a direct connection to information literacy, as evidenced in these two quotes from Resnick:

[Intensive attention to the development of skills of learning itself—that is, of the skills that will enable people increasingly to learn on their own, without the need for highly systematic or carefully programmed instruction.

Those individuals who will be in the best position to control their own learning experiences are those who command the greatest range and depth of “learning skills.” The more that individuals can organize bodies of knowledge, search texts or other presentations for useful information, and analyze new skills in order to “program” their own acquisition sequences, the more they will be able to learn independently of organized programs and skilled teachers.

The learning skills Resnick calls out are all components of information literacy. Organizing information, finding and accessing information, and evaluating information are common to most understandings of information literacy. Resnick continues:

…teaching strategies of learning from texts would take precedence over the design of a set of ideal instructional texts on certain widely studied topics.
Here, Resnick is saying that developing information literacy skills is as important as building content knowledge. Like Branscomb and Peterson, Resnick said this before information literacy was coined as a term.

Likewise, in 1972 Peterson wrote:

> I would suggest that in the context of life-long education the aims of basic education should be to increase the capacity of each individual to understand, to modify and to enjoy his environment and to do so by adapting the content more nearly to his actual interests and the method more nearly to those methods of self-instruction which are of use to him in an adult situation.\(^{53}\)

Peterson, like Branscomb and Resnick, was writing about information literacy before Zurkowski proposed the term, also identifying it as the cornerstone of lifelong learning. Note how Peterson's aims of education, “to understand, to modify and to enjoy his environment” in pursuit of continual intellectual growth, are reflected in Zurkowski:

> Information has value in direct proportion to the control it provides [the user] over what he is and what he can become.\(^{54}\)

Zurkowski’s seminal paper began the development of information literacy as a concept. He approached it from a business and economic perspective, but this key quote implies something beyond commerce. Information Has Value is one of the threshold concepts in the ACRL Framework. Our understanding of value has evolved since Zurkowski, but control over what one is and can become implies transformation, which occurs through education in various forms. User control over the transformation ties to open education, mirroring Resnick’s core attribute. Even though Zurkowski had a very different perspective on information literacy than we use today, the connection to open education was there from the start.

**1980s and ’90s: Information Literacy as a Skill Set**

Kuhlthau connected information literacy to inquiry-based learning, aligning with the open education ideals of student-directed learning:

> Getting students to become intellectually engaged and to participate with a sense of ownership is the goal of the broader view of library instruction.\(^{55}\)

“Sense of ownership” here is another term for learner agency, allowing learner input to and control over the learning process.
Breivik and Gee detailed the case for information literacy and its place in the curriculum. Something that they point out repeatedly in their book is that information literacy is a set of learning skills and that developing this set of learning skills will enable people to continue to learn throughout their lives.

To any thoughtful educator it must be clear that now, and in the future, teaching facts will be a poor substitute for teaching people how to learn—that is, giving them the skills to be able to locate, evaluate, and effectively use the information for any given need.  

This quote reflects Resnick’s point that learning how to use texts is more important than learning content. According to Breivik and Gee, the best way to develop these skills is through learner-driven inquiry.

Educators have said for years that students need opportunities to learn by discovery—to develop concepts from specific data by starting with an initial problem and thinking it through to a conclusion.  

No one instructional approach can be effective for such a wide range of needs; no one textbook or single reading assignment can be effective with thirty students of widely divergent abilities. One way to individualize the teaming process is to have students learn from information in libraries and other resources in the wider community. Students can deal directly with topics close to their areas of interest and choose materials appropriate to their individual reading levels.  

Breivik and Gee advocated for open approaches to education as the way to develop information literacy skills, but they did not make an explicit connection to open education in their book. One could speculate that the reason for this was political. Open education endured a great deal of criticism in the late 1970s and was considered dead as a movement by the early 1980s. It probably would not have served the nascent information literacy movement well strategically to be connected to a movement then considered discredited after a recent backlash. In any case, their advocacy was effective in that similar language carried through to the ACRL Information Literacy Competency Standards for Higher Education:

[Information literacy] enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning.
To take fullest advantage of problem-based learning, students must often use thinking skills requiring them to become skilled users of information sources in many locations and formats, thereby increasing their responsibility for their own learning.\(^6\)

While this showed a practical connection between information literacy and open education, there was a philosophical one under discussion as well. Shapiro and Hughes saw a societal imperative for information literacy:

…an extended notion of information literacy is essential to the future of democracy, if citizens are to be intelligent shapers of the information society rather than its pawns, and to humanistic culture, if information is to be part of a meaningful existence rather than a routine of production and consumption.\(^6\)

Resnick likewise highlighted freedom and democracy as central to open education, noting that “the heart of the open education challenge lies in the vision of an open society.”\(^6\) The freedom of open education was not just freedom within the classroom and curriculum, but rather a matter of “increasing the degree of control the individual exercises over the shape of his own life.”\(^6\) Control was also cited by Zurkowski\(^6\) as the core value of information, giving us another connecting thread.

**Convergence in Practice**

In today’s education environment, there are examples of connections between open education and information literacy in practice as well as in literature. Some courses tie learner agency and information literacy by having students develop and curate course content with the instructor’s guidance.\(^6\) Some courses exercise digital and information literacy skills in the development of open resources.\(^6\) Jhangiani had students build a question bank to accompany an open textbook, an exercise that explores information literacy concepts of authority, inquiry, and scholarship from novel perspectives.\(^6\) Open Learning, an open online professional development “faculty collaborative” that explored open in many senses of the term as it relates to education, prominently featured the ACRL Framework.\(^6\) It can be beneficial to both movements to find synergies in working in tandem.

**LESSONS LEARNED**

Open education and information literacy have had a common goal throughout their history, a goal of empowering learners. They both sought to put the learner in control of the learning process, to develop independent learning skills so
that people could be lifelong learners. The movements would do well to make a connection through their common cause.

We should not lose sight of the fact that open education is more than OER. OER could be considered a byproduct of open educational practices. OER advocacy should emphasize the pedagogical possibilities of open practice at least as much as the cost savings of open resources. Barth⁷⁰ and Mai⁷¹ pointed out how open education in the 1970s shifted from a movement to a marketing label and became a product line to be promoted. In the process, it shifted from something interesting and innovative to something mundane that did not live up to its promise. This was because the prescriptions and products offered by vendors were no substitute for the philosophies of teaching and learning held by open educational practitioners.

There is something similar happening now. OER is promoted as a cost-saving measure and a way of improving accessibility to educational materials. These are important aims, of course, but publishers have co-opted the language of OER in marketing their programs. Their goals are market share and profitability though rather than learner empowerment. The transformative power of open education is in what learners can do with open content and in the opportunities it enables to revise and remix, to engage in active learning, and learning through curating and producing.

With this broader view of open education, we could look past textbook-based teaching to a “pedagogy of abundance.”⁷² This form of pedagogical approach is in line with Breivik and Gee’s recommendations for developing information skills. This means that engaging in open practices develops information literacy. The information literacy movement is also pursuing a broader vision, as marked by the ACRL’s recent transition from the Standards to the Framework. It is my hope that in recognizing the historic common goals of open education and information literacy, we can develop connection, cooperation, and synergy between the movements.

ENDNOTES


25. Stacey, “Global Education Commons Steward.”


41. Wilson, “Developing the Adult,” 265.


44. Shapiro and Hughes, “Information Literacy.”


50. Ibid., 71.

51. Ibid.

52. Ibid.


57. Ibid., 37.

58. Ibid., 38.

59. Noddings and Enright, “The Promise of Open Education.”

60. *Information Literacy Competency Standards*, Association of College & Research Libraries.

61. Ibid., 5.


64. Ibid., 76.
71. Mai, “Open Education: From Ideology to Orthodoxy.”

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