

Implementing Information Literacy Models for Learning Environment

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ABSTRACT: *This paper explains the concept of Information literacy models outline design, how to use IL models based on education and implementing of Information literacy models in learning system, through an interconnected developmental information literacy based model for learning, at the core of education in environment. The implementation of the system encourages education modules design that systematically, consistently and incrementally develops information literacy capabilities across entire teacher and learner education course structures, thereby facilitating teacher education students to graduate as critical thinkers, problem solvers, informed decision makers and independent, self-directed lifelong learners.*

Keywords: Information Literacy Models, Learners and Higher Education

Received: 29 July 2018, Revised 4 October 2018, Accepted 10 October 2019

DOI: 10.6025/jdp/2019/9/1/1-7

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1. Introduction

Learners today face a daily explosion of information resources and the challenge of using these resources effectively and responsibly. Information literacy instruction (ILI) requires a shift in focus from teaching specific information resources to a set of critical thinking skills involving the use of information. Information literacy models in an learning setting includes a variety of instructional approaches, such as information seeking and design library assignments, use for learning and plan instruction, problem solving approach, teaching strategy and produce learning opportunities. Those running formal ILI programs consider curricular objectives, invoking combinations of instructional solutions over a period of time.

This review investigates information literacy (IL) models and the supporting learning theories. The purpose of this literature review is to identify elements of current literacy models that will be helpful in investigating the concept of learning system. The

review includes a summary of reviews in the field, a survey of current IL models, and a discussion of how the models reviewed contribute to the field of IL learners. It begins by defining the field of IL and investigating how different models such as education teachers and learners' of library and information science approach this topic.

Information literacy models included in this review have been accomplished by Ranaweera (2008), Association of College and Research Libraries ACRL (2006), Adebayo (2017), American (1997), Andretta (2006), Fitzgerald (1999), Klebansky and Fraser (2013), Lamb, Smith, and Johnson (1997), Pappas, Woolls (2003). Information search Process Kuhlthau, 1989), Stripling and Pitts research Process model (1998), Pathways to Knowledge Information Skills Model (Pappas and Tepe, 1995), standards, Information literacy (1999), The Big6 (Eisenberg and Berkowitz, 1990) The big six problem solving approach is a teaching strategy that can take everyday situation and create learning opportunities from them. This approach is collaborative in nature and uses interactive application to engage group of learners full by introducing real life simulated problems to be solved. These model included assessing information literacy abilities teachers and educators, impact of information literacy skills on specific learning objectives, and evaluating the role of models in information literacy.

Definition

The concept of information literacy has come out of the work of many organizations. Paul Zurkowski is commonly attributed as the coiner of the term in 1974 and since then, IL has been widely investigated. Many definitions of IL are grounded in the American Library Association's work. Marcum (Marcum, 2002) credits Breivik with creating the first consolidated model of IL in the 1980s. Marcum observes that Breivik's framing of IL from within the context of lifelong learning expanded the concept of IL beyond library instruction and incorporated concepts such as skill-based learning and problem-based learning.

Information Literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning (The Prague Declaration, 2003).

Information Literacy (IL) definitions tend to focus on the series of tasks and concepts related to information seeking and use while educational definitions of literacy tend to focus on the role of various literacies on learning.

Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning.

2. Information Literacy Model

The literacy models selected for this review include a foundational approach, conceptual, and meta-models. It includes models from both the information science and education fields and attempts to include models from around the world. This section begins with brief accounts of the literacy models and concludes with a cross-model comparison of the IL models, concepts and contexts. The analytical section includes an identification of common themes, a discussion the role of skills, concepts, and contexts in IL models and concludes with a discussion of how the reviewed models use elements of information.

In general IL definitions span three primary areas. First, many models discuss IL from the perspective of a foundational approach to teaching and learning. From this perspective, IL is seen as a lens that can be used to teach a number of topics and skills. Second, many models discuss IL from the perspective of a set of skills and concepts that form the foundation of an information literate individual. Third, some models view IL as less of a thing and more of a dialogue between individuals, documents, and contexts. Many IL models do not fit neatly into one of these three areas, meaning that it is becoming increasingly difficult to discuss IL as a unified concept.

3. The ACRL Model

ACRL bases their definition of information literacy on the 1989 ALA presidential report. The ACRL standard breaks information literacy into five main areas: Know, Access, Evaluate, Use, and Ethical/Legal (ACRL, 2007). These broad areas are then broken down into performance indicators which focus on both skill and awareness based indicators. For example, under the area of use, the standards indicate that an information literate student "defines and articulates the need for information (ACRL, 2007)."

4. ACRL Standards and Information Literacy Elements

ACRL bases their definition of information literacy on the 1989 ALA presidential report. The ACRL standard breaks information literacy into five main areas: Know, Access, Evaluate, Use, and Ethical/Legal (ACRL, 2007). These broad areas are then broken down into performance indicators which focus on both skill and awareness based indicators. For example, under the area of use, the standards indicate that an information literate student “defines and articulates the need for information (ACRL, 2007).” Specific skills under this directive include ability to speak with others about your information need, ability to develop a research question, ability to identify key concepts, and the recognition that information combined with original thought leads to new information. The ACRL standards discuss curriculum integration from the perspective of adapting general skills such as using structured classification systems to find information to discipline specific skills including the use of LC subject headings in determining search approaches.

5. Stripling and Pitts Research Process Model (1988)

This model guides students through the stages of creating a research paper. The 10 steps begin with choosing a topic and end with creating and presenting the final topic. This process may involve reorganizing ideas or inventing a new framework of old ideas until pieces fit logically into the learner’s mental model. Pitts finding was that instruction in information seeking and use must be integrated with content for subject matter learning to occur.

- Choose a broad topic
- Get an overview of the topic
- Narrow the topic
- Develop a thesis or statement of purpose
- Formulate questions to guide research
- Plan for research and production
- Find, plan, evaluate sources
- Evaluate evidence, take notes, compile bibliography
- Establish conclusion-organize information into an outline
- Create and present a final project.

6. Information Search Process (Kuhlthau, 1989.)

The Information Search Process Model (ISP) was first published by Carol Kuhlthau in 1989. Kuhlthau’s work emphasizes the role of learners’ feelings, thoughts, and actions throughout the research process. Kuhlthau’s approach is a holistic approach that focuses on the user’s entire range of experiences during the research process. Therefore ISM enables users and educators to identify the thoughts and feelings that generally occur at each stage in the research process. So they can work to remedy or avoid feelings of confusion or upset. Kuhlthau’s model of the search process differed from previous models in her investigation of how the researcher felt during the research process and how the emotional state could influence how the investigations proceed. She summarized her approach as follows “The Information Research Process in a Holistic learning process encompassing the affective experience of students as well as their intellect. Students experience within the process must be clearly understood in order for learners and media specialists to design library assignments and plan instruction that encourage rather than impede learning”. The ISP Model:

- Task definition
- Topic selection
- Pre focus exploration
- Focus formulation
- Information collection

- Search closure
- Starting writing

7. The Big6 (Eisenberg and Berkowitz, 1990)

The Big 6 and Super 3 models were first published by Mike Eisenberg and Bob Berkowitz in 1990. The Big 6 and Super 3 models emphasize students working smarter during the research process, not harder or faster. Eisenberg and Berkowitz claim that the tasks Big 6 provides are present in all successful research assignments. If these items are addressed, possibly out of the designated order, than the user will be led through the research process in a way that is effective and easy to understand/ teach. It is the most popular model for information skills. It includes the following steps:

- Task definition
- Information seeking strategies
- Location and access
- Use of information
- Synthesis
- Evaluation

The big six problem solving approach is a teaching strategy that can take everyday situation and produce learning opportunities from them. This approach is collaborative in nature and uses interactive application to engage group of learners full by introducing real life simulated problems to be solved. It promotes critical and analytical thinking skills by applying the learner's own expertise and experience to the initial problems solving and information retrieval.

8. Pathways to Knowledge Information Skills Model (Pappas and Tepe, 1995)

The Pathways to Knowledge Model was first published by Marjorie Pappas and Ann Tepe in 1995. Designed for children and young adults, Pappas and Tepe the importance of questioning and authentic learning that focuses on collaborative real world experiences. Their focus is on nonlinear process for finding, using and evaluating information. The stages in this model include:

- Appreciation and Enjoyment
- Pre-search,
- Search,
- Interpretation,
- Communication and evaluation.

9. The Seven Pillars of Information Literacy: The Core Model

The Seven Pillars model was developed through the work of the Society of College, National, and University Libraries (SCONUL) in the UK in the late 1990s (SCONUL Advisory Committee on Information Literacy, 1999). The seven pillars model defines two aspects of information skills, the realm of study skills (in which students employ tools for information acquisition) and conceptual skills (in which a student is aware of how information is produced and used). The Seven Pillars model includes the following primary skills (SCONUL Advisory Committee on Information Literacy. Developing as an information literate person is a proceeding, all-encompassing process with often simultaneous activities or processes which can be included within the seven pillars of information literacy. Within each "Pillar" an individual can develop from "novice" to "expert" as they progress through their learning life, although, as the information world itself is continually changing and developing, it is possible to move down a pillar and additionally progress up it. The expectations of levels reached on each pillar may be different in various settings and for various ages and levels of learner and is also dependent on experience and information need. Any information literacy advancement should along these lines also be considered with context of the broad information landscape in which an individual works and their personal information literacy landscape.

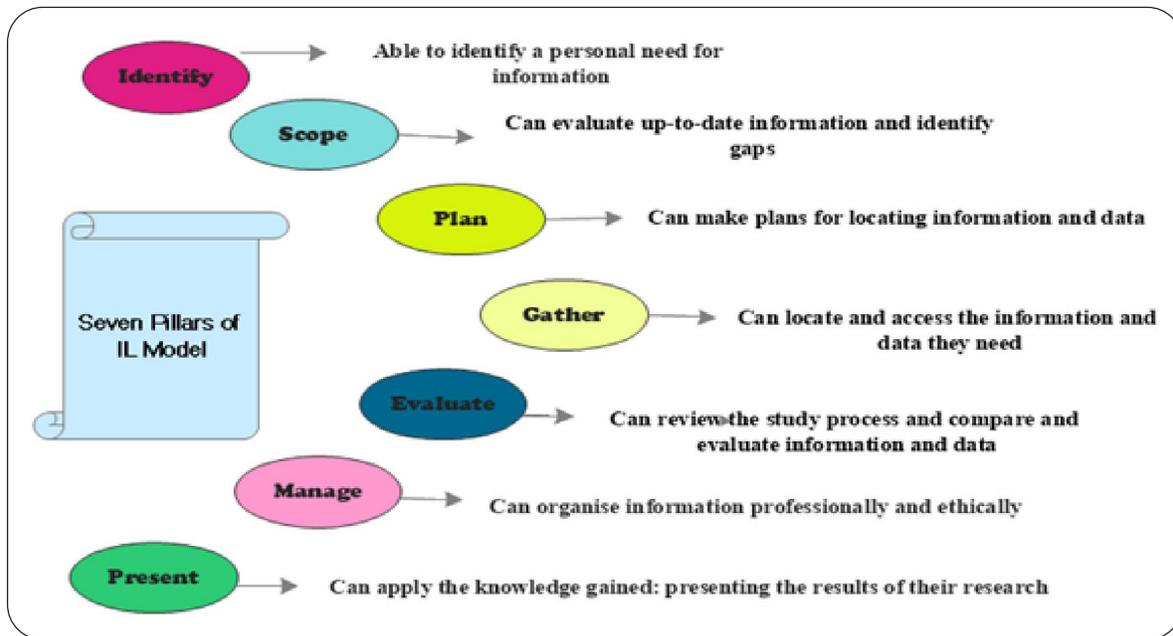


Figure 1. Individual personal Information literacy landscape

10. The 8W's Model

The 8 W's Model was first published by Annette Lamb in 1990. Lamb's work put an engaging spin on the research process. Lamb's approach is an inquiry or project-based learning/community based learning approach that focuses on instructional material that is relevant to the student's interests and everyday life. Therefore 8 W's Model is flexible and caters to the needs of each individual child.

Wondering, wiggling and weaving are the first three steps of the eight-stage learning model that teaches students to connect their personal thoughts and ideas about their world with genuine research and action. A project based learning environment gives the student the opportunity to explore, it involves wondering about a social issue, wiggling through information, and weaving elements together.

- **Watching** (Exploring) asks students to explore and become observers of their environment. It asks students to become more in tune to the world around them from family needs to global concerns.
- **Wondering** (Questioning) focuses on brainstorming options, discussing ideas, identifying problems, and developing questions.
- **Webbing** (Searching) directs students to locate, search for, and connect ideas and information. One piece of information may lead to new questions and areas of interest. Students select those resources that are relevant and organize them into meaningful clusters.
- **Wiggling** (Evaluating) is often the toughest phase for students. They're often uncertain about what they've found and where they're going with a project. Wiggling involves evaluating content, along with twisting and turning information looking for clues, ideas, and perspectives.
- **Weaving** (Synthesizing) consists of organizing ideas, creating models, and formulating plans. It focuses on the application, analysis, and synthesis of information.
- **Wrapping** (Creating) involves creating and packaging ideas and solutions. Why is this important? Who needs to know about this? How can I effectively convey my ideas to others? Many packages get wrapped and unwrapped before they're given away.

- **Waving** (Communicating) is communicating ideas to others through presenting, publishing, and sharing. Students share their ideas, try out new approaches, and ask for feedback.
- **Wishing** (Assessing) is assessing, evaluating, and reflecting on the process and product. Students begin thinking about how the project went and consider possibilities for the future.

All of the models listed have the advantage of organizing a plan for teaching research to students. Teachers can pick and choose which plan works best for her and her class. The 8W's Model is a great way to teach kids research in a fun way that they will pique their interest. I think they would end up enjoying the experience instead of dreading it. It teaches students step by step in an unthreatening approach.

11. Strengths and Weaknesses 8 W's Model

There are several positive aspects of using the 8Ws model for this unit. When using a model the learning is student centered. With the 8Ws model it is easy for the media specialist and the teacher to help keep students on task. Students have a good idea of what they have done and what yet needs to be finished. Harada and Yoshina state in *Inquiry Learning through Librarian-Teacher Partnerships*, "A model or framework for the information search process defines the skills and competencies that learners need to master if they are to become effective locators, evaluators, and users of information."

12. Conclusion

A number of models are proposed at National and International level emphasizing the integration of information literacy within the curriculum. These are all model considered as a basic platform for all the nations to execute information literacy amongst learning skills for students. Even though these models are fundamental education still there is a need to establish a model to facilitate quality improvement in education. The division of IL into context dependent models (e.g. digital literacy, media literacy, environmental literacy) in part is based on the idea that IL is a teaching and learning. The idea of context is relevant to this literature review in that the impact of the digital environment and digital documents are of key to understanding the role that metadata plays in the reviewed IL models. Information literacy is a continuous process which is a fundamental competency skill of the 21st century associated with information practices and critical thinking in order to deal with the complexities of the current Information environment.

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