Espoused Theories and Theories-in-Use of Information Literacy: Reflecting for Effective Practice

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What values, beliefs and conceptions (espoused theories) underpin and shape professional practice (theories-in-use) in information literacy education? This study investigates relationships between espoused theories and theories-in-use of information literacy in academic libraries. The paper reports preliminary findings from an in-depth comparative analysis of one library's official policy documents and its instruction resources including an online research tutorial. The findings indicate varying patterns of congruence and incongruence between the library's espoused theories and theories-in-use with incidents of significant gaps. The process of examining espoused theories and theories-in-use provides an evaluative framework for critically analyzing practice with the view of aligning practice more closely with stated goals and rhetoric. The study is therefore presented as a practical method for evaluating tools of information literacy practice in the school library

Espoused theory; theory-in-use, information literacy

Introduction

Does the investment in information literacy education reflect the goals and outcomes we have established for learning? What goals and mission frame the outcomes of information literacy practice? How effective are instruction initiatives in libraries? Are current tools of practice successful in meeting student learning outcomes? What values and paradigms underpin our instruction programs? Will our initiatives and strategies achieve the goals we have for student learning? Do instruction tools provide the "helps" students need? Will programs as designed enable deep learning and understanding? What are the learning outcomes for our libraries? Are curriculum objectives reflected in instruction initiatives? Do current research findings guide our instruction design? Are we really preparing our students for the future? What values, beliefs and conceptions (espoused theories) underpin and shape professional practice (theories-in-use) in information literacy education?

The paper proposes that a process of examining espoused theories and theories-in-use is essential for analyzing relationships between what we believe about information literacy and the outcomes of our actions in instructional activities. The method involves rigorous unpacking of instruction programs via a questioning approach of the multiple beliefs and understandings of information literacy with similar analysis of the varying representations of practice. The findings of the research provide an empirical basis for dialog with librarians about the effectiveness of current instruction tools and practice in information literacy.

Multiple understandings of information literacy

Contradictory conceptions

There may be no easy answers to questions posed above. Firstly for most librarians, little time is afforded for reflection and assessment and the result is what Booth (2006) calls an 'evaluation bypass' where tasks and actions are performed without an understanding of the effectiveness of the actions. Evaluation is however critical for appraising whether what we say about information literacy is reflected in our practices and for ensuring that practices are effective. Secondly, issues relating to information literacy instruction in libraries are not always clear and are rooted in complexity and contradictions. The complexity results mainly from the multiple and sometimes competing approaches, conceptions, models, paradigms and definitions of information literacy which may impact how instruction resources are developed. Lupton (2004) documents the existence of a plethora of understandings, definitions, descriptions and models of information literacy (examples include Bruce, 1997; Lupton, 2004; Marcum, 2002; Pawley, 2003; Todd, 2000; Webber and Johnston, 2000). Conceptions of information literacy include a behaviorist framework, a constructivist, knowledge building approach, a process approach and a relational understanding. The behaviorist tradition posits that learning is the result of observable changed behavior with the learner displaying sequential skills and competencies. There is a focus on behavioral skills and attributes. A constructivist approach to teaching and learning holds that the learner, through interaction and experience with an object or process, creates knowledge (Allen, 2008). Rather than equipping persons with abilities, information literacy is explained and defined as a process of individuals engaging effectively with information to construct knowledge for specific purposes in various contexts. Interventions are understood not simply as strategies for assisting with developing skills but as enabling the construction of new knowledge and understanding. The relational approach offers an alternative understanding of information literacy as a complex array of experiences. It promotes varying approaches to enabling information literacy.

These approaches and understandings give rise to a range of definitions which include being equipped with generic skills, a process of knowing, a process of acquiring new meaning and understanding, and enabling the effective utilization of information for a purpose.

The challenge for librarians is that although these conceptual frameworks are espoused as being essential to developing information literate persons or enabling information literacy, there is little evidence that these varied understandings impact the development of instruction programs. The vibrancy of conceptual approaches does not seem to be realized in the teaching activities in libraries. It appears that most professional practice is influenced by one dominant paradigm which promotes a skills approach to learning (Bruce, 1997a). This approach is linked to the "attributes" of the information literate individual associated with the much espoused definition of information literacy from the American Library Association (ALA, 1989). This understanding of information literacy leads to a

seeming focus on the acquisition of a prescriptive list of skills and abilities as predominant outcomes. "The information user, to be described as information literate, must exhibit behaviors that demonstrate these abilities" (Bruce, 1997b).

In addition while the espoused and much quoted ALA definition is clear that information literacy should be understood on a continuum of *information access* to *effective use of the information,* there has been a tendency to focus and highlight only some aspects of this. Locating and evaluating information have been emphasized to the almost exclusion of ways of using of the found information in constructing new knowledge. It appears that many librarians may not be clear of the espoused values which underpin their instruction activities.

This study provides an evaluative framework for carefully and critically examining instructional activities with a view to aligning these more closely with stated goals.

Research Evidence

In addition to the varying understandings of information literacy which may influence professional practice, recent calls for evidence based practice in the school library suggest links between practice and research findings. Asselin and Doiron (2008) mandate a "new research-based vision for the school library that will accord with current economic and social directions driving educational change". This is echoed by Todd (2008a) who calls for evidence for practice in school libraries. "Evidence for practice focuses on integrating the available research evidence with the deep knowledge and understanding derived from professional experience" (p.40). Geitgey and Tepe (2007) advocate that the first step in the process of evidence based practice is for librarians to know the research that demonstrates how school libraries affect learning (for example *CMIS Research*, 2005; Lance, K. (2001); Lonsdale, 2003; Ontario Library Association, 2006, *School Libraries Work*, 2006; Small, Snyder and Parker's, (2008); Todd, 2005; Todd, Kuhlthau and OELMA, 2003). School libraries indeed make a difference to student achievement (IASL, 2009)! Many librarians are familiar with the rhetoric associated with these research studies. However do these studies affect the design of classroom initiatives and how?

What of the expanding empirical research that examines how students learn via the school library? Bogel (2008) calls for critical appraisal of research to improve student achievement. It is outside the scope of this paper to detail the range of seminal studies in information literacy, and the findings from recent research and scholarship on information literacy and student learning in varied academic environments (for example Bruce, 2007; Edwards, 2006, Heinstrom, 2006a, 2006b; Hultgren and Limberg, 2003, Hyldegard, 2006; Kuhlthau, Caspari, and Maniotes, 2007; Limberg and Sundin,2006; Lupton, 2004; Maybee, 2006; Thomas, 2004; Todd, 2006; Todd and Kuhlthau, 2004). However it is clear that findings from these research studies may also influence the design of information literacy programs. Are current teaching programs in libraries guided by these research findings? Without a process of critical reflection and evaluation, there is the danger of assuming that strategies are effective and continuing to do things the way they have always been done.

Standards

Librarians must also confront the demands of national and regional standards developed to guide instruction programs and student learning outcomes. Explicit in the *Standards for the 21st-Century Learner* (Standards, 2006) is that learners will use the skills, resources and tools school libraries develop to "inquire, think critically and gain knowledge…draw conclusions, apply knowledge to new situations and create new knowledge". There is a clear knowledge construction focus in these Standards. Yet a detailed

and extensive study of school libraries in the state of Delaware indicates that information literacy instruction "typically centers on knowing about the school library, different resources and formats and different strategies in doing effective research" (Todd, 2008). In a survey of 356 academic libraries in the United States, Coulter, Clarke & Draper (2007) found that 70% of respondents base their information literacy programs on the ALA *Standards* (2000). Unfortunately, most of the programs were developing only lower-order location skills in students. There is a focus on finding information and mastery of skills to the detriment of students' engagement with information. Only between 20 and 40% of programs focused on higher order skills of synthesizing and intellectual application in information use.

A challenging situation exists for libraries. What really guides practice in information literacy? What if any are the relationships between these varied philosophical understandings and the professional practice of information literacy? Philosophical understandings of information literacy are rooted in its concepts, definitions, theoretical frameworks and research findings.

A call to recreate

It is within this environment of complexity and contradiction that the school library is asked to "rethink, re-imagine and recreate" (Todd, 2008b) to prepare learners for the future. The paper suggests that an essential prerequisite to recreating is an understanding of what currently underpins tools of practice and whether these tools enable student learning. Since beliefs about what underpins practice come from a variety of sources, there is a need to understand these sources. Reflection on practice is therefore done in the interest of learning, for more effective practice (Argyris, Putnam and Smith, 1985). Booth (2006) advocates a questioning approach to the fundamentals of daily work practice since this is a defining characteristic of a professional. The aim of the process is to identify valid information which makes dilemmas recognizable and which creates tensions to resolve them (Argyris and Schön, 1974).

The seeming dilemmas for librarians which result from the multiple understandings, paradigms, research directions and professional expectations, represent the background for the research project discussed in this paper. Although there is bourgeoning research and discussion literature on varying dimensions of practice in information literacy, little empirical research has been identified on how and whether this practice is linked to the varying conceptual understandings. This research aims at identifying and understanding both the espoused beliefs and the actions of practice. It represents a reality check on information literacy instruction since in essence it asks if what we say about information literacy in our public documentation is reflected in what we do in our practice. Preliminary findings of the study presented in this paper challenge librarians to reflect on conceptions and beliefs of information literacy and evaluate how these relate to the development of programs and actions of practice. The study identified and compared categories of statements derived from a rigorous analysis of espoused values of information literacy and tools of instruction.

Theoretical Framework

Guiding the research is the theoretical framework of Argyris and Schön (1974), theory of action, in which contrasting theories, namely espoused theories and theories-in-use are used to examine professional practice. "Theories of action are the master programs, governing variables, values, theories, beliefs, concepts, rules, routines, policies, practices, norms or skills that underlie actions (Action Science, 2007). Argyris and Schön use the term

theories, not in the sense of physical theories or general principles but as "vehicles for explanation, prediction or control" (p.5). The authors explain that when someone is asked about their behavior in a particular situation, the person usually responds with an espoused theory of action for that situation. This theory involves intentions and is communicated to others. However what determines people's actions are their theories-in-use. Argyris and Schön conclude that persons should not simply be asked about their theories-in-use. Theories-in-use must be inferred from an examination of behavior and representations of action. "Espoused theories are those that an individual claims to follow. Theories-in-use are those than can be inferred from action" (Argyris, Putnam and Smith, 1985, p.82). This distinction between espoused theories and theories-in-use allows for the framing of questions about the conceptions and philosophies which guide information literacy education and whether and how these are demonstrated in the professional practice.

A foundational premise of the framework and research of Argyris and Schön (1974) is that deep reflection on institutional values may assist in addressing challenges and dilemmas in institutional practice. In evaluating theories of action in organizations, Argyris and Schön propose questions which are useful for interrogating espoused theories and theories-in-use. These questions are appropriate also for reflecting on initiatives in information literacy education: Are the theories internally consistent? Is there congruence between espoused theories and theories-in-use? Are the theories effective? Internal consistency relates to the governing variables or essential aspects of a theory. Congruence means that one's espoused theory matches one's theory-in-use, i.e. one's behavior fits the espoused theory of action. A theory-in-use is effective when action according to the theory tends to achieve its governing variables, i.e. what it sets out to do.

The research adopts this framework for reflecting on and evaluating conceptual understandings of information literacy, and how these relate to specific activities in libraries. It adopts the questioning approach utilized by Argyris and Schön (1974). What conceptualizations of information literacy guide practice? There is the assumption that conceptual understandings may dictate the resources and tools developed as well as strategies and pedagogies used. Is information literacy education about developing a set of competencies as understood in the behaviorist paradigm? Do librarians approach teaching and instruction in the context of knowledge actions as in constructivist approaches? Are programs guided by the extensive available research evidence that highlights multiple ways students interact with information? Librarians espouse foundational values of instructional collaboration, knowledge building, curriculum integration, life long learning, and critical thinking. Are these manifested in instructional programs and how? What if any are the relationships between goals and outcomes articulated in professional and academic Standards and implementation in practice? Will students become effective users of information towards creating new knowledge from instruction resources? The research asks whether there is consistency and congruence between the espoused theories and theories-in-use. What goals have librarians set for student learning and are these goals realized in the programs?

Without reflective skills for improving practice, there is the likelihood of professionals being stuck in self-sealing theories and mediocre performance (Gall, 2001). The paper offers a framework for critical appraisal of and deep interrogation of tools of practice of information literacy towards improving performance.

Research Overview

The study investigates the relationships between philosophical/conceptual understandings of information literacy and concurrent professional practice. The purpose is to provide a richer understanding of the relationships between the espoused theories and theories-in-use of information literacy and provide an empirical basis for addressing

Research questions

The principal research question guiding the study is "how is information literacy conceptualized and practiced in academic libraries". The research explored the following to develop a holistic picture of information literacy practice:

- Conceptions and understandings of information literacy as seen in instructional mission statements/statements of purpose
- Information literacy practice as demonstrated in online tutorials
- Relationships between philosophy and practice of information literacy

Implicit in these are other research questions which aim at understanding specific aspects of practice including learning goals and objectives, indicators of critical thinking, knowledge construction and deep learning, as well as teaching/learning strategies employed, and implicit and explicit learning outcomes.

Representations of conceptions and practice

The research asks if and how the theoretical underpinnings, the foundational beliefs and values of information literacy as expressed in official policy documents and mission statements in academic libraries (espoused theories), guide and are realized in the practice of information literacy in these institutions (theories-in-use). In the study, the practice of information literacy is operationalized through a selected sample of online tutorials which provide instruction in a range of dimensions of information literacy including research strategies, using online catalogs to find library resources, using indexes and databases to locate journals and magazines, evaluating sources, avoiding plagiarism and ethical use of information sources through documentation. Information literacy programs boast a variety of instruction resources including subject guides, session outlines, handouts, stand alone credit courses and integrated classes. The online tutorial although only one of many artifacts representing the practice of information literacy was selected because it has emerged as a primary vehicle of practice and in many instances, a proxy for face-to-face instruction. It was the most pervasive form of instruction identified from web sites of over 200 academic libraries. It is presented as an ideal representation of good professional practice. Mission and goal statements typically espouse values, and publicly declare purpose, and thus are intended to guide practice.

Fifteen academic libraries which provide exemplary instruction material in two best practice information literacy databases, (PRIMO, Peer Reviewed Instructional Materials Online and LOEX Clearinghouse's Instructional Resources) provide the sample of institutions being examined in the study.

Method

For the pilot study, one library was selected from the purposive sample of 15 academic libraries for deep analysis. The library's policy statements and instruction resources including the online tutorial were analyzed using a rigorous constant comparative approach (Straus and Corbin, 1998). Firstly, to determine the espoused theories, a range of policy documents including institutional and library mission statements, strategic plan and instruction policies, were analyzed to identify statements and concepts relating to teaching, learning and information literacy. These statements and concepts were labeled, compared and grouped initially into broad categories of teaching/learning outcomes and processes of information literacy. Further comparison resulted in more detailed categories and themes. Labeling of statements was influenced partly by the various dimensions of information literacy found in the literature.

Similar deep analysis was applied to the instruction resources including the online tutorial to construct the library's theories-in-use in relation to information literacy and instruction. Verbatim statements from the tools and resources were recorded and these were labeled and then categorized as different outcomes of information literacy. Table 1 details the further categorization of these statements into conceptual and skills-based outcomes. A number of categories emerged from this analysis.

A questioning approach was applied to the data and broad statements of claims developed from the emerging categories of concepts. Charts detailing the results from the analysis of policy statements and instruction resources were developed and the two sets of claims compared and contrasted (Table 2 documents a section of this comparison). By comparing policy language with documents that show instruction in action, it was possible to evaluate whether the library's instruction outcomes reflected the stated goals for information literacy education.

Table 1: Categories of learning outcomes from instruction resources

Declarative/conceptual	Procedural/skills
Understand research processes • Understand keyword & subject searching • Research as a messy process of construction • Understand research myths • Understand Boolean operators	**Research processes/methods** • Using connectors e.g. Boolean • Developing a research strategy • Focusing on a topic • Choosing/narrowing a topic • Identifying key terms • Identifies key concepts
	Information use • Use information effectively to accomplish a specific purpose
Understand information structure/organization • Understand the structure of indexes and databases • Understand the organization of the Internet • Recognize that knowledge is organized into disciplines that influences the way info is accessed • Know how information is formally and informally produced, organized and	**Knowledge construction** • Organizing research /writing • Developing ideas for writing • Incorporate selected information into knowledge base • Developing a business plan

disseminated	
Understand the use of information resources • Understand the use of the web as an info source • Understand popular vs. scholarly lit • Understand library vs. web • Understand web information • Understand the use of different web tools • Understand the value and differences of potential resources in a variety of formats	**Locating info/Using information sources** • Finding articles • Using [online catalo] to find books and articles • Distinguish between popular and scholarly journals • Identify major types of websites • Use an index to identify articles • Identify the location of books • Read a call number • Choose an index appropriate to information need
Understand ethics of information use • Understand the reasons for copyright • Recognize parts of a citation • Why evaluate?	**Critical thinking** • Resource evaluation • Critically evaluate information • List ways to avoid plagiarism • Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material • Evaluate web resources

Preliminary Findings and Discussion

The study aimed at identifying the espoused theories and the theories-in-use of information literacy of one academic library and assessing the relationships between these theories. Predominant conceptions of the library relating to information literacy were identified. The practice of information literacy as realized in the instruction documents including the online tutorial was also clarified. The evaluation also assisted in explicating the meanings of teaching and learning held by the library and whether these were translated in the instruction program. The findings indicate major differences between the espoused rhetoric of information literacy and the instruction tools. In some instances, the goals of instruction would not be realized by the activities associated with the representations of practice.

Espoused theories: Values of information literacy

Categories of statements which emerged from the analysis of the public documents indicate that foundational values of information literacy including collaborative instruction, curriculum integration, lifelong learning and the enhancement of critical thinking are espoused by the library. These are articulated as essential to the library's instruction program. Variations of statements such as "preparing students for life long learning in the disciplines", "partnering with faculty", "course integrated instruction" were seen throughout the public documents analyzed. The instruction program is guided by *ACRL Information Literacy Standards* (ALA, 2000) and information literacy is defined on a continuum from information access to the effective use of information for a specific purpose. The library makes a bold claim of supporting the university which articulates mission and values of knowledge building and knowledge sharing.

Theories-in-use: Actions of information literacy

Indepth analysis of the instruction documents including the online tutorial indicates a focus on developing and enabling skills and understandings relating to information sources. Categories coalesced around locating and using information sources, understanding the structure and organization of information sources, developing effective search strategies and understanding intellectual property, copyright and plagiarism Information literacy is practiced on a continuum of locating and evaluating information sources with 'information use' operationalized as ethical approaches to sources.

Relationships revealed

Rigorous comparison of the categories revealed connections and major gaps between understandings of concepts in the policy documents and similar concepts in the instruction tools. The following examples illustrate the incongruence between the espoused theories and theories-in-use.

The library's mission supports knowledge creation, and although modules in the tutorial attempt to address conceptual outcomes, a skills approach predominates with a greater emphasis on techniques rather than understandings. There appears to be greater emphasis on developing mechanical skills in relation to finding and using resources rather than the building of knowledge from the found information. This focus on finding and accessing sources seems incongruent with the espoused theory of life long learning in the disciplines. The tutorial does not appear to support disciplinary or collaborative approaches to teaching although these are espoused in the policy documents. A set of generic skills is promoted and these are not visibly contextualized to curricula although curriculum integration is espoused. Critical thinking skills although promoted as integral are encouraged primarily via a prescriptive list of criteria for evaluating information sources and the avoidance of plagiarism.

Table 2. Summary of Claims of Espoused Theories and Theories-in-use

Claims from Policy Documents **(Espoused Theories)**	**Claims from Instruction Documents** **(Theories-in-Use)**
• Information Literacy is defined by the ACRL Standards on a continuum of locating and using information for a specific purpose • Outcomes for instruction include knowledge creation and critical thinking • The library supports the university's mission of knowledge building and sharing	• Information Literacy is practiced on a continuum of locating and evaluating information sources • Critical thinking is encouraged only via the teaching of source evaluation and avoidance of plagiarism • The library's instruction tools focus on locating, understanding and using and evaluating information sources.

Implications for the School Library Community

Although preliminary, these findings indicate the need for rigorous reflection on and evaluation of teaching initiatives in libraries to ensure that there is congruence between espoused goals and outcomes of practice. Many practitioners avoid this process as they view public testing of theories of action as risky since changing goals and outcomes of practice are seen as signs of weakness (Argyris and Schön, 1974). Professionals who are open to testing the assumptions of their theories-in-use tend to be open to possibilities for change in actions. The preliminary findings of this research suggest that the process of evaluating values is indeed risky but is necessary for shining light on what matters, the teaching activities associated with these values. An understanding of how practice is implemented in libraries becomes critical for student learning outcomes. Such reflection and evaluation are useful for clarifying what is meant by information literacy to better align espoused objectives with learning outcomes.

The process detailed in this research is offered as a framework and model for reflecting on and evaluating information literacy values and practice in multiple learning environments including the school library. The paper argues that although the research focuses on the evaluation of online tutorials in academic libraries, it has wider implications for evaluating the complex relationships between understandings of information literacy and different manifestations of practice in all libraries including the school library. The process is therefore presented as

a. A tool for evaluation of all dimensions of information literacy practice in relation to instruction including pathfinders, handouts, online resources and classroom initiatives. This should be done to address issues of consistency and congruence between the rhetoric and the practices.

The teaching implications of this tool are clear since reflection and evaluation are done for more effective practice. There is a critical need to move beyond a focus on finding information to address a more holistic approach which includes competencies, attitudes and dispositions inherent in the foundational values of information literacy. These competencies will focus on the transformation of information into knowledge, the enabling of critical thinking towards building new knowledge. Strategies employed will address multiple approaches of enabling information literacy.

b. A framework for discussing and enriching information literacy agendas in schools in which all constituents are involved in developing agendas (espoused goals) and the realization of these in practice.

c. A tool for identifying barriers and enablers to information literacy development in schools.

Future Work

Ongoing research which involves a rigorous in-depth analysis of policy documents and online tutorials of the sample of 15 institutions offering best practice instruction resources, will provide an empirical basis for dialog to examine and evaluate information literacy practice. The framework will posit guidelines for both policy and instructional design. Interviews will be conducted with key individuals in instruction and information

literacy programs. It is hoped that interviews will provide a richer context to the official documents and online tutorial.

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Statement of Originality

This statement certifies that the paper above is based upon original research undertaken by the author and that the paper was conceived and written by the author(s) alone and has not been published elsewhere. All information and ideas from others is referenced.