A New Model for Evaluating the Online Tutorial: Does Your Tutorial Reflect Your Mission?

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Introduction

The online tutorial has emerged as a ubiquitous representation of information literacy instruction and often is the visible face of these programs. Academic libraries currently boast an expanding array of tutorials which are presented as effective alternatives and supplements to face-to-face instruction. A growing body of literature exists about the design and evaluation of the online tutorial (Atwater-Singer & Metcalf, 2006; Dewald, 1999; Hrycaj, 2005; Tronstad, Phillips, Garcia, & Harlow, 2009). Typically, evaluations focus on the quality of the tutorial or its effect on student learning. Quality questions ask whether it is engaging, easy to navigate, and up-to-date. Effectiveness questions ask whether students mastered the content or learned as much from the online tutorial as from a live class.

This paper suggests another approach to evaluating the tutorial and asks new questions of librarians. Given the central role that the tutorial has come to play in instruction programs, it is important to go beyond the typical questions. Does your instruction program do what your mission statement says it should do? Does the online tutorial reflect the library's mission and goals for information literacy? Why does this matter?

The paper therefore examines the online tutorial in relation to the mission and goals of the library's instruction/learning program. By comparing policy language with documents that show instruction in action, we can evaluate how well practice matches philosophy. Such evaluation is useful for clarifying what we mean by information literacy and for adjusting practice in order to (1) better align our objectives with our goals, and (2) assure that instruction is designed to achieve these objectives, or (3) revisit the mission statement.

Looking for Answers

The quest for answers to the above questions emerged from a larger research study aimed at examining relationships between philosophy and practice of information literacy in academic libraries. What goals and beliefs underpin and guide the practice of information literacy in academic libraries? The research is guided by the framework developed by Argyris and Schön (1974), namely espoused theories and theories-in-use, which they use to examine professional practice. Theories of action are explanations arising from unconsciously or consciously held beliefs, values, theories, concepts, rules, policies, norms or skills which are utilized to describe or predict action. Argyris and Schön 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. What we see in people's actions, however, are their theories-in-use. This framework helps to explain relationships between what can be observed in people's actions and their beliefs about those actions. Foundational to the framework of Argyris and Schön is that congruence between theories-in-use and espoused theories will increase professional effectiveness.

In our quest to find answers, we turned to representations of philosophy (espoused theories) and practice (theories-in-use) of information literacy. We explored mission statements and other official policy documents that typically espouse values and publicly document purposes and vision of excellence (Hardesty, Hastreiter, & Henderson, 1988).

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'Preparing students for lifelong learning', 'enhancing critical thinking', 'developing their information literacy', and 'integrating information literacy in the curriculum' are phrases seen in libraries' mission statements, but are these goals reflected in the *practice* of library user instruction? For evidence of practice, there are descriptions of how instructional programs are implemented, handouts and session outlines, and tools such as online tutorials (as shown in Table 1).

The online tutorial, though only one of the many artifacts representing practice of information literacy in academic libraries, was selected because it has become somewhat of a proxy for face-to-face instruction and because it aims to provide instruction in a range of dimensions of information literacy. From understanding the differences between scholarly and popular journals, to developing searching skills, to the ethical use of information, the online tutorial is presented as a tool for enabling the teaching of both concepts and skills. An examination of over 200 academic library web sites showed that the online tutorial is a most pervasive method of instruction.

Table 1: Range of Documents Identified on Academic Library Web Sites

Types of Official Documents	Representations of Practice
- University Mission - University learning goals - Library Mission/goals - Library Strategic Plan - Library Instruction Policy - Information Literacy definition - Information Literacy learning outcomes - Instruction mission/goals	- Tutorials - Self-paced research - Library Orientation - OPAC - Database specific - Topics e.g. plagiarism - Class/subject specific - Workshops - Guides: Subject; Research - Class web pages/course - Technology guides e.g., how to use Refworks - Database guides e.g., how to search ERIC - Course related instruction - Course integrated collaborative instruction - Print handouts - Videos - Credit courses

Presented here is an example of an analysis of one library's policy statements related to teaching and learning, and of the actual instruction program as represented in instruction-related documents, subject and research guides, and online tutorials. Using a constant comparative approach (Strauss & Corbin, 1998), policy text contents were labeled, compared, and grouped into broad categories. Themes emerged from further comparison. Labeling of concepts was influenced partly by various dimensions of information literacy found in the literature. Similar deep analysis was done of the library's online tutorial. Table 2 shows how some of the textual content was categorized and labeled.

Table 2: Verbatim Statements from Policy Documents & Online Tutorial of One Academic Library

Statements/Concepts	Evidence (Document)	Outcomes/Process Categories	Action Theory
Partnering with teaching faculty	Strategic Plan	Process: Instructional	Espoused
Integrate IL competencies in curriculum	Strategic Plan	Process : Instructional	Espoused
Prepare graduates…life long learners	Strategic Plan	Outcomes: Knowledge-based	Espoused
Collaboration of teaching faculty and library faculty	Instruction Policy	Process: Instructional	Espoused
Basic/Advanced classes in subject areas	Library Instruction: Info for Faculty	Process: Mode of instruction	Espoused
Effective' , 'true' IL as collaboration	Instruction Policy	Process: Instructional	Espoused
Preparing students for lifelong learning in disciplines	About Information Literacy	Outcomes: Knowledge-based	Espoused
Critical thinking; resource evaluation	About IL	Outcomes: Critical thinking	Espoused
Identifies key concepts for information need	About IL	Outcomes: Skills	Espoused
Locate and critically evaluate information sources	Online Tutorial: Introduction	Outcomes: Skills; Critical thinking	In-use
Identify types of information sources and understand the use of these	Online Tutorial Module1	Outcomes: Skills; Knowledge	In-use
Understand the use of diff. web tools; web search strategies	Module 5	Outcomes: Skills; knowledge-based	In-use
Use databases and indexes	Module 4	Outcomes: Skills	In-use
List ways to avoid plagiarism	Module 6	Outcomes: Skills	In-use
Recognize parts of a citation	Module 6	Outcomes: Skills	In-use
Using connectors e.g. Boolean operators	Module 2	Outcomes: Skills; Knowledge	In-use
Choosing, narrowing a topic; identify key terms	Module 2	Outcomes: Skills	In-use
Library vs. web	Module 1	Outcomes: Knowledge-based: Critical thinking	In-use

In analyzing the tutorial, a more detailed description of the content allows one to separate parts that seek to teach skills from those that deal with concepts. Table 3 shows that while the balance is in favor of skills, many concepts are also integrated in the tutorial.

Table 3: Categories of Verbatim Knowledge/Skills-based Outcome Statements Retrieved from Online Tutorial and Other Instruction Tools

Declarative/conceptual	Procedural/skills
Understanding 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 • Reviews/refines search strategies • Research skills • Choosing/narrowing a topic • Identifying key terms • Identifies key concepts for info need • Constructs effectively designed search strategies
	Information use • Use information effectively to accomplish a specific purpose
Understanding 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 disseminated	**Knowledge construction** • Organizing research /writing • Developing ideas for writing • Incorporate selected information into knowledge base • Developing a business plan
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]catalog 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 • Evaluation of Internet resources • Evaluate web resources

WHAT ANSWERS HAVE WE FOUND?

Statements and claims which emerged from the analysis of policy documents of one academic library suggest espoused theories which include being guided by the Association of College and Research Libraries' *Information Literacy Competency Standards for Higher Education* (2000), the integral role of information literacy in the institution's curriculum, preparation of students to be life-long learners in disciplines, instructional goals of knowledge building, enhancement of critical thinking, and the essential role played by collaborative instruction in effective information literacy. Information literacy is defined on a continuum, from information access to information use.

Themes which emerged from the analysis of the online tutorial are more varied. Information literacy as practiced is also seen on a continuum, from locating and evaluating information sources to information use operationalized as ethical approaches to sources. The library adopts a range of conceptual and skills approaches, but with greater emphasis on techniques rather than on knowledge building and conceptual understandings. Critical thinking skills are encouraged primarily via evaluation of information sources. There is little indication of deep learning leading towards knowledge creation and lifelong learning.

A summary of these interpretations is presented in Table 4. The analysis of the data implies a few connections and some major gaps between the espoused theories and theories-in-use of information literacy in the academic institution. The library's espoused theories about information literacy are explicit, but the theories-in-use are not so explicit. The library's mission supports knowledge creation, but the tutorial does not explain the information cycle and how that relates to students' inquiry based projects. Although modules in the tutorial attempt to address conceptual outcomes, a skills approach predominates. There is an emphasis on locating sources. The focus on finding and accessing is incongruent with the espoused theory of life-long learning in the disciplines. The online tutorial does not appear to support disciplinary or collaborative approaches to teaching although these are espoused values of the institution. The tutorial promotes a set of generic skills not contextualized to the curriculum. Furthermore, critical thinking, although an espoused value, is not enhanced beyond strategies to avoid plagiarism and the evaluation of sources.

Table 4: Summary of Findings

Statements/Claims emerging from policy documents (Espoused Theories)	Statements/Claims emerging from instruction curriculum documents including subject guides, online tutorials (Theories-in-use)
1. Knowledge creation and knowledge use are integral to the University's mission. 2. The University Library supports the University's mission. 3. Preparing students for life-long learning in various disciplines is a goal of the Library's Instructional Program. 4. Library instruction and information literacy instruction are presented as vehicles for developing lifelong learning. 5. Instructional collaboration is the basis for effective information literacy 6. The integration of information literacy competencies in the curriculum results in successful teaching. 7. Information literacy is defined and conceptualized on a continuum of finding and using information appropriately 8. Information literacy learning outcomes focus on a range of skills and competencies, procedural and conceptual. 9. Varied instructional modes and models are essential for effective instruction 10. Outcomes for information literacy instruction are guided by the ACRL Standards	1. Information literacy instruction is practiced through varied modes. 2. Instructional collaboration is practiced primarily through subject and course related guides. 3. Curriculum integration is practiced in select and isolated cases. 4. The Library's instruction program includes a range of skills-based and knowledge based learning outcomes. 5. Information Literacy is practiced on a continuum of finding and evaluating information sources. 6. Critical thinking is encouraged via the teaching of source evaluation and avoidance of plagiarism.

Asking Your Own Library the Question

As part of the presentation at the LOEX conference, audience members were invited to participate in an exercise after they were introduced to the rationale for examining a library's instruction program in terms of the concepts of espoused theory and theory-in-use. Selected policy statements from our sample library were handed out (see Appendix I), and participants were asked to identify elements of the policies that they felt were relevant to information literacy. A discussion followed. Next, excerpts from the sample library's tutorial were projected, and a worksheet was distributed (Appendix II). The audience analyzed the tutorial content in terms of the information literacy elements being taught. The audience was invited to discuss their conclusions about how the tutorial reflected, or failed to reflect, the library's mission and instructional goals.

Following this exercise, Tables 3 and 4 were distributed to show the completed analysis for our sample library. Audience members were invited to use the handouts as templates upon their return home to guide their own effort to determine the degree to which their library's instruction program reflects the library's mission and goals. To highlight how this approach differs from the usual quality focused evaluation of tutorials, "Criteria for Evaluating Self-paced Tutorials" was distributed (Appendix III).

Applying the Method to More Cases and Looking Ahead

As part of a larger research project, the online resources PRIMO (Peer Reviewed Instructional Material Online) and LOEX Clearinghouse's Instruction Resources will be used to select cases that represent best practice for systematic study. Together these two databases document good information literacy practice and include a sufficient scope of tutorials. Fifteen institutions have been recognized in both databases as providing exemplary instructional material. An initial assessment of these institutions indicates that they all offer a full spectrum of instructional methods including online guides, face-to-face instruction, and online tutorials. Their mission statements and online tutorials will be analyzed in the manner described above, and the results will be shared with the profession.

The value of this study lies in its holistic approach to evaluating online tutorials as part of the overall information literacy instructional program of a library. An examination of how tutorials support the mission and goals can reveal mismatches, which can then be corrected. The current trend in online information literacy instruction seems to be for comprehensive tutorials to take a back seat to short, stand-alone learning objects that use sound, animation, and live action in order to capture the attention of millennials. One can speculate that the more fragmented the online instructional materials become, the less cohesive the library's information literacy online presence will be.

For the slides accompanying this LOEX session, look under Presentations at http://www.comminfo.rutgers.edu/~varlejs/varlejs.html.

References

Association of College and Research Libraries, American Library Association (2000). Information Literacy Standards in Higher Education. Retrieved March 31, 2009 from http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm

Argyris, C. & Schön, D.A. (1974). *Theory in practice: Increasing professional effectiveness.* San Francisco: Jossey-Bass Publishers.

Atwater-Singer, M. & Metcalf, S. (2008). The begetting of information literacy tutorials: Third-wave tutorials for the iPod generation. In T. Valko & B. Sietz (Eds.), *Moving Targets: Understanding Our Changing Landscapes* (pp. 59-62). Ypsilanti, MI: LOEX Press.

Dewald, N. (1999). Transporting good library instruction practices into the web environment: An analysis of online tutorials. *Journal of Academic Librarianship 25*, 26-32.

Hardesty, L., Hastreiter, J., & Henderson, D. (1988). Development of college library mission statements. *Journal of Library Administration*, 9(3), 11-34.

Hrycaj, P. (2005). Elements of active learning in the online tutorials of ARL members. *Reference Services Review 33*, 210-218.

Strauss, A.L. & Corbin, J. (1998). *Basics of qualitative research: techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.

Tronstad, B., Phillips, L., Garcia, J. & Harlow, M.A. (2009). Assessing the TIP online information literacy tutorial. *Reference Services Review, 37*(1), 54-64.

Creation of a rich virtual environment with significant information resources, services, and tools to support research and learning and easy and powerful navigation and finding tools will integrate the Libraries into the university's research and learning programs... By partnering with the teaching faculty, information literacy skills will be integrated into the curriculum to ensure that students graduate with the skills for their careers and for lifelong learning. Library's *Strategic Plan, 2006-2011*

Library research, information-seeking, and information management skills are important components of information literacy necessary for academic success, for competing in the workplace, for lifelong learning, and for everyday life. The key to the successful development of information literacy skills is the collaboration of teaching faculty and library faculty in supporting university-wide learning goals. As an integral part of the research and instructional programs of the university, librarians of the University Libraries provide Library Instruction & Tutorials for students, faculty, and staff that facilitate the development of an information literate community and that promote the Information Literacy Competency Standards for Higher Education developed by the Association of College and Research Libraries. The University Libraries have a commitment to research and development of new modalities for facilitating information literacy. *Instructional Services Mission*

Mission Statement

The University Libraries support and enrich the instructional, research, and public service missions of the University through the stewardship of scholarly information and the delivery of information services.

Vision Statement

The Libraries aspire to provide outstanding information resources and services that advance research and learning, support the University's goal to be among the top public AAU institutions in the country, and serve as an essential information resource for the state and beyond.

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APPENDIX II: A NEW MODEL FOR EVALUATING THE ONLINE TUTORIAL:
DOES YOUR TUTORIAL REFLECT YOUR MISSION? WORKSHEET FOR ANALYZING A TUTORIAL

LOEX

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Policy statements relevant to information literacy	How does the tutorial match the policy statement (note specific content/location)	Categorize tutorial content as teaching a skill or a concept, or both

Instructional aspects:

1. Learning objectives -- clear, appropriate (SMART)

2. Completion time commensurate with educational value

3. Tone of address appropriate

4. Format is challenging but not frustrating

5. Adequate feedback and reinforcement built in

6. Contact information for more help from librarian

Content:

1. Error-free, factually accurate, no broken links

2. Presentation is logical, well organized

3. Material is presented in manageable chunks

4. Vocabulary is jargon-free, terminology is up-to-date

5. Concepts are explained, examples are relevant

5. Contents of each module clearly indicated

6. Holds interest

7. There are links to a glossary and other aids (e.g., how to evaluate

  a web site, how to cite)

Technical aspects:

1. How-to-use directions up front and clear

2. Easy to navigate -- you can see where you are and how to move elsewhere

3. Screens are readable, uncluttered, require minimal scrolling

4. Color -- not distracting, not a barrier to color-blind users

5. Print can be enlarged (other assistive technology for visual

  impairment can be applied)

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