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Measuring Success:

Successful Theories and Strategies for Undergraduate Library Instruction

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Abstract

This paper analyses the theories and strategies used by instructional librarians in a collaborative project that provides class-specific instruction to undergraduate students. Undergraduate students enrolled in a Department of Wildlife and Fishers class at Oregon State University were provided instruction in the skills and resources needed to complete a major course assignment. The assignment requires independent research on the environmental and cultural history of a place familiar to the student.

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What is the difference between a learning theory and an instructional theory? Brown observes, “teaching cannot be defined apart from learning” (1980, p. 8). “Your understanding of how the learner learns will determine your philosophy of education, your teaching style, your approach, methods, and classroom techniques” (Brown, p. 8). Nathan Gage observed that “to satisfy the practical demands of education, theories of learning must be ‘stood on their head’ so as to yield theories of teaching” (as cited in Brown, p. 8). So theories of instruction are predicated on theories of learning.

Learning Theories Used by the Researchers

Psychologists have developed four orientations to learning: behaviorist, cognitivist, humanist, and social and situational (Smith, 1999, Learning as a process section). Webster and Rielly (2003) use aspects of the cognitive, the humanist, and the social situational approaches in their library instruction.

A cognitive focus on learning, as put forward by Ausubel, Bruner, and Gagne, is the process of relating new events or items to already existing cognitive concepts—“hanging new items on existing cognitive pegs” (Brown, 1980, p. 70). Meaningful learning is a process of relating and anchoring new material to relevant established entities in cognitive structure, where new material is subsumed under “a more conclusive conceptual system” (Brown, p. 71). Brown goes on, “The ... fact that material is subsumable—that is, relatable to stable elements in cognitive structure—accounts for its meaningfulness” (Brown, p. 71). Brown sees “... cognitive structure as system of building blocks ...” (Brown, p. 71). “Rote learning is the process of acquiring isolated blocks with no particular function in the building of a structure and ... with no

relationship to other blocks” (Brown, p. 71). “Meaningful learning is the process whereby [the new building] blocks become an integral part of an already established category or systematic cluster of blocks” (Brown, p. 71).

Brown argues that “any learning situation can be meaningful if: (a) the learner has a meaningful learning set—that is, a disposition to relate the new learning task to what he already knows, and (b) the learning task itself is potentially meaningful to the learner—that is, relatable to the learner’s structure of knowledge” (1980, p. 71).

This last type, what “Frank Smith has called ‘manufacturing meaningfulness,’ is a potentially powerful feature in human learning” (Brown, 1980, pp. 71-2). The Multicultural Perspectives on Natural Resources course, on which Webster and Rielly (2003) collaborate as instructional librarians, aims for this type of learning. “Students write an ...environmental and cultural history of a place with which they have personal connection” (Webster & Rielly, p. 17). If students have a personal connection with the place they research, they have a structure of knowledge about that place to which they will add new learning.

The environmental and cultural history assignment contains a strong element of humanistic psychology. Humanistic psychology, developed by Rogers, Bloom, and Maslow, focuses on the affective rather than the cognitive domain and takes into account the individual’s self-concept and the emotions that motivate his actions. “The goal of education is the facilitation of change and learning [where] learning how to learn is more important than being ‘taught’ something from the ‘superior’ vantage point of a teacher...”(Brown, 1980, p. 77). So the goal of learning is to develop the whole person. Rogers believed that “if the *context* for learning is properly created, then human beings will learn ... everything they need to” (as cited in Brown, p. 77). The context for the environmental and cultural history assignment “encourage(s) students to

start with what they know and use personal histories, photographs, and interviews as sources” (Webster & Rielly, 2003, p. 23).

A social/situational orientation to learning is also embodied in the environmental and cultural history assignment. The social/situational approach, put forward by Bandura, moves beyond the individual and her cognitive and affective attributes to the social contexts of learning and approaches the learning process as interactions and observations in social contexts (Smith, 1999, Learning theory, Four orientations section). Learning occurs in relationships between people and the environment and is evidenced by movement from the periphery to the center of a community of practice (Smith, Four orientations section). On this view, the purpose of education is the “full participation in the communities of practice and full utilization of resources” (Smith, Four orientations section). In contrast to the social/situational approach is the traditional approach to instructional design which “... assume(s) that knowledge is independent of the situations in which is it learned and used” (Wiburg, 2003, section 8, ¶ 1) For Wiburg, “... knowledge is not an independent phenomena, but situated in the activity, context and culture in which it is developed” (section 8, ¶ 1).

In the social/situational approach, the educator’s role is “... to establish communities of practice in which conversation and participation can occur “ (Smith, 1999, Learning theory, Four orientations section). This orientation goes beyond learners acquiring structures to understand the world, the cognitive view, to learners taking part in a community of practice, as the structured framework. Social theory “... posits that people learn from observing other people,” such observations taking place in social settings (Smith, 1999, Social/situational, ¶ 1). So learning is more than internalization of concepts, “... learning, as increasing participation in communities of practice, concerns the whole person acting in the world” (Smith, 1999, Social/situational, ¶ 9.).

Webster and Rielly, as instructional librarians, “want students [in their class] to explore the breadth and depth of available resources, and...[have] passion for doing library research (2003, p. 17). “The librarian(s) expect students to realize the full range of information available...” (Webster & Rielly, p. 28). This is to say that the librarians want to acquaint the students with the practices of good researchers.

Learning Strategies Used by Researchers and Students

Instructional strategies are predicated on one’s theory of instruction. “A...definition—or theory—of teaching will spell out governing principles for choosing certain methods and techniques (Brown, 1980, p. 8). “A theory of teaching ...will point the way to successful procedures on any given day...” (Brown, p. 8).

What does it mean to conclude that someone has learned something? Webster and Rielly (2003) use success as a determinant of learning. Brown posits four questions that need to be answered to determine that learning has occurred:

1. Specify entry behavior—what does the student already know?
2. Specify the goals of the task—what are the specific objectives?
3. Specify some methods of training—how would you go about the training program?
4. Specify an evaluative procedure—how would you determine whether or not learning had occurred? (1980, p. 65)

Brown defines a strategy “... as a particular method of approaching a problem or task, a mode of operation for achieving a particular end ... (1980, p. 83). Webster and Rielly ask the questions: “Does library instruction affect the students’ information use?” (2003, p. 16), and “Is the library experience successful?” (p. 17). They want to know whether or not their teaching strategies are successful. To determine success, they look at the strategies students use to gather

information from a range of sources, to evaluate the information, to discriminate or select quality information, to document what is used, and to enjoy the research process (Webster & Rielly, p. 23). The study does not go into detail about the instructional strategies used by the research librarians to teach the research strategies they hope their students will acquire.

Students' learner strategies can be determined by the survey students completed. Survey questions were all yes/no but pinpointed specific strategies such as: used library, used library catalog, used indexes/databases, asked library staff for help, asked friend, browsed shelves, used Internet, used Internet search engine, used Internet directory, attended library workshop (Webster & Rielly, 2003, Appendix A, p. 31). The article quotes a student commenting on the difficulty of condensing all the information he collected (Webster & Rielly, p. 27), but the researchers don't say whether this is an oral or written comment or that space is available to add comments.

Effective Learning Theories and Strategies

The article presents an ideal classroom where ongoing collaboration existed between the instructor and the instructional librarians in the course content and the assignments. In light of this collaboration, this writer is concerned that the instructor did not require that students attend the library instructional workshop (Webster & Rielly, 2003, p. 18). Why didn't the instructor simply make the workshop mandatory? Even though students were strongly encouraged to attend and even though the workshop is scheduled during the regular class period, about half as many students who attended did not attend the workshop. Not making it mandatory depreciates the importance of the library instruction and sends mixed signals to the students.

Although there is collaboration between the instructor and the librarians, these instructional sessions are still one-shot affairs. The instruction consists of hour long, hands-on workshop in the library three to four weeks into the quarter (Webster & Rielly, 2003, p. 18). At

these workshops the librarians model the research strategies they want the students to internalize and the students then begin researching their topics with help from the librarians, the instructor, and a graduate research assistant (Webster & Rielly, p. 18). The librarians follows up with the Web page that is customized for the class with recommended information sources, information on evaluating and citing sources that is linked to the instructor's course Web page (Webster & Rielly, p. 18). These strategies tell this writer that the instructional librarians have done their part. It is up to the students to make use of this information.

Researchers as Successful or Unsuccessful

To the thinking of this writer, surveys are the least effective and accurate method for collecting information, although there is evidence of their statistical validity. Another way the researchers could gather information about learner strategies would be to conduct exit interviews on a random sample of students where students could describe their research strategies—trial and error, random browsing, or the more systematic strategy modeled by the instructional librarians. An interesting option would be to also interview students who did not attend the workshops and then compare the responses.

Some survey questions ask students to evaluate their research process and the library workshop, such as “helpfulness of workshop, ease of finding information, enjoyment of research, [and] time spent doing research” (Webster & Rielly, 2003, Appendix A, p. 31). It is unclear what “ease of finding information” actually evaluates: the library, the workshop, the Internet, the student's facility at information searching? The last three questions are unrealistic. It is unrealistic to expect students to know whether or not they have enjoyed doing something they are required to do. How does a student in her mind differentiate between “somewhat enjoyable” and “not too enjoyable” or “somewhat easy” and “somewhat difficult?” (Webster & Rielly,

Table 9, p. 27). Asking students to evaluate whether or not the research took more or less time than expected assumes that students have an idea of the amount time they expected to spend on this assignment to begin with, which to my mind is unrealistic. At any rate these last three questions measure affective behavior and not cognitive strategies.

The outcomes of these three questions, however, determine the instructional librarians unwillingness to conclude that the library instruction they provided was successful (Webster & Rielly, 2003, section 7, p. 29). The researchers conclude that the students' research process was complicated by the workshop (Webster & Rielly, section 7, p. 29) but do not say how they conclude this from the survey. This writer associated this conclusion with the fact that more students who attended the workshop record that finding information was "somewhat" and "very difficult" compared to those who did not attend the workshop, that more time was spent completing the research than expected by those attending the workshop compared with those not attending, and that fewer students attending the workshop found the research enjoyable when compared to those not attending (Webster & Rielly, Table 9, p. 27). These questions are ambiguous to begin with and measure affective learning, not cognitive learning.

"The [library] instruction is geared towards completing a particular assignment rather than acquiring specific skills and competencies" (Webster & Rielly, 2003, p. 23). The librarians say "[they] cannot claim that class-specific instruction has a direct effect on the quality of student work" (Webster & Rielly, p. 29). This may be a limited view of library instruction. Librarians should be more interested in long-term benefits to instruction, not just class- or assignment-specific benefits. The larger goal should be that research skills taught for this class transfer to all other scholarship students undergo in their careers at that university. Librarians are constantly reinventing the wheel if the aim of instruction is solely class, or assignment, specific.

Summary of Findings!! Not the article!!

The article gives attendance at the library workshop, high use of the library, and exposure to material on the librarians' Web site as evidence of instructional success (Webster & Rielly, 2003, pp. 27-9). Students who attended the workshop used the library, its catalog, and databases more, sought help from library personnel more often, and demonstrated more depth and breadth in their cited sources, than did students who did not attend the workshop, and were more willing to put additional time and effort into their assignment (Webster & Rielly, p. 25). The researchers also discovered that the instructional workshop had negative effects. More students who attended the workshop reported that finding information was difficult, that their research took more time and that they enjoyed research less (Webster & Rielly, p. 26).

Conclusions

A one-shot workshop will not achieve the objectives of instruction if they are both affective and cognitive, for example, changing students' behaviors in regard to the library (Webster & Rielly, 2003, p. 17) and their feelings about research in addition to increasing their knowledge base about the depth and breadth of materials available (p. 21). Webster and Rielly believe that "(t)eaching for student success means extending instruction from the single workshop to when and where students need it ... (p. 28), but they do not differentiate between affective and cognitive success.

The opinion of this writer is that if library instruction focused on the increasing students cognitive knowledge about the library and library research, then students' affect, their feelings about the library, would also improve. A good example of this is Loertscher's (2006) *Super Teaching: 15 Think! Models*. The critical learning skills that each model supports are all cognitive, such as evaluate, analyze, synthesize, conclude, infer, interpret, predict, define,

develop, compare, classify. The Why This Model? section, which describes outcomes, does include affective learning, such as develops empathy, builds tolerance, build responsibility and independence, build a sense of achievement, builds group work skills.

To determine the true success of this class' library instruction, librarian researchers would have to follow a cohort of students in a longitudinal study. Do the research skills taught here transfer to other courses that require research papers? If behavioral and cognitive changes regarding the library, the library collection, evaluating information, and expanding the breadth of sources are truly achieved, students will build on their experience with this assignment in future assignments. Learning as "a process of relating new events or items to already existing cognitive concepts—hanging new items on existing cognitive pegs"—will have occurred (Brown, 1980, p. 70).

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