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CCT 693
Design Project – Notes on research & planning
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Notes on research and planning

Initial Project Description

Overview:
My project will be a participatory action research (PAR) project that aims to enlist a constituency group to help me develop and eventually implement, evaluate, and promote an addition or alternative to the traditional one-shot library orientation. The PAR project I envisage will require that I venture outside the library walls in order to recruit both students and instructors willing to try out a problem-based learning variant of the library orientation.

Audience:
The audience for this project is three-fold: students, my fellow librarians, and faculty. The benefit to students participating in the PAR is making explicit the need to think critically about their information needs – be that a PBL scenario, a research assignment, or some personal information need. However, the project will also provide an opportunity for other instruction librarians to learn about PBL and perhaps help to open up a dialogue about our instruction practices. Faculty will be involved either directly or indirectly as their students report back on the PBL sessions.

Rationale:
My interest in this topic is driven by disillusion with what we offer students in the one-shot library orientation and my personal belief that the problem-based learning approach is a better alternative.

I. Partial literature review –- PBL, collaboration, and library instruction

Byerley, S. L. (2005). Library instruction: online or in the classroom? *Academic Exchange Quarterly, 9,* 193-197. Retrieved April 14, 2006, from Expanded Academic ASAP database.

This was a small study that compared learning outcomes (as measured by pre- and post-test scores) for three groups of students: Group A completed an online tutorial, Group B attended face-to-face library presentation, and Group C completed both kinds of library instruction. They found that although learning occurred in all groups, Group C showed a significant difference in learning outcomes. I read this article as much for the description of the research design as the content and came away with some good ideas about good and bad design.

Carter, E.W. (2004). 'Doing the best you can with what you have:' lessons learned from outcomes assessment. *Journal of Academic Librarianship, 28*, 1, 36-41.

Discusses the generation and evolution of assessment at The Citadel Library. The authors developed pre- and post-tests that they applied to students in different disciplinary groups over time. Particular attention was paid to wording of the items, at which they improved every time they ran the assessment. Makes the point that assessment doesn't have to be a

instrument that is subjected to sophisticated multi-variant or other statistical analyses – you can start where you are with what you have. The authors also make the point that few people have tracked students long enough to know whether any of the information literacy instruction they received actually made a difference in the long term.

Cooperstein, S.E., and Kocevar-Weidinger, E. (2004). Beyond active learning: a constructivist approach to learning. *Reference Services Review, 32* (2), 141-148.

This article discusses constructivist learning by reference to four principles. It was helpful in describing the ways that these principles can be applied to actual library instruction sessions and contained a few sample exercises.

Hacker, D.J. and Dunlosky, J. (2003). Not all metacognition is created equal. *New Directions for Teaching and Learning, 95*, 73-79. Retrieved April 8, 2006 from Ebscohost EJS database.

This article reviews the use of metacognition as a learning strategy. It defines a framework of metacognition consisting of types of verbal reports and levels of verbalizations. The article was useful because it gave examples of good "prompts" that one can use in the classroom or instruction session. I appreciated the fact that the author provided a caveat that 'metacognitive probing may be effective only when students have acquired a sufficient amount of knowledge in the content area in which the problem solving is to occur.'

Hearn, M.R. (2005). Embedding a librarian in the classroom: an intensive information literacy model. *Reference Services Review, 33, 2*, 219-227.

This is a valuable article on how one professor/librarian dyad combined to teach a basic English course on writing and research. The librarian participated in eight sessions that covered topics like introduction to the library, using reference books, using online sources, constructing citations, etc. The presentations were done in class with Blackboard being used as a tool for grading, posting of grades, and access to handouts, PPT presentations, and other documents used in the course of the class. The article stresses the need for a good "fit" between professor and librarian in terms of style and personality.

Hung, W., Harpole Bailey, J. and Jonassen, D.H. (2003). Exploring the tensions of problem-based learning: insights from research. *New Directions for Teaching and Learning, 95*, 13-23. Retrieved April 8, 2006 from Ebscohost EJS database.

I was very glad to have discovered this article because it discusses several of the concerns I have picked up in the literature about problem-based learning -- specifically, the depth versus breadth issue, the higher-order thinking versus factual knowledge acquisition issue, and the long-term effects versus immediate learning outcomes. The article is a small literature review in itself and may lead me to other articles of note.

Johnston, A.K. and Tinning, R.S. (2001). Meeting the challenge of problem-based learning: developing the facilitators. *Nurse Education Today, 21*, 161-169. Retrieved April 8, 2006 from Academic Search Premier database.

Although this article is helpful with regard to discussing the role of the facilitator in PBL, it deals more specifically with the efficacy of using a "group reflective practice" strategy to ease professors from chalk 'n talk situations to that of facilitator. The article suggests that

not all instructors will want to try PBL, but for those that do, developing a kind of support group – the reflective practice group – has value.

Johnston, A.M. and Jent, S. (2005). Library instruction and information literacy – 2004. *Reference Services Review, 33, 4*, 487-530.

This will be an extremely valuable article for me to read. It is a selected annotated bibliography of recent work in instruction in information literacy. The top topics for 2004 included the use of course management systems like WebCT and Blackboard in library instruction, assessment, cognition, constructivism, and at least one series in a major journal on problem-based learning.

Malefant, C. and Demers, N.E. (2004). Collaboration for point-of-need library instruction. *Reference Services Review, 32*, 3, 264-273.

This article appeals to me on a number of grounds: it describes the kind of collaboration between an instructor and librarian that I myself envisage, and the example given by the authors is a course on "Issues in Science and Technology"! It is particularly valuable because it recounted how the collaboration developed over time and how both the instructor and the librarian had to adjust their initial plans based on what happened with the students.

Nutefall, Jennifer, & Ryder, Phyllis Mentzell. (2005). Teaching research rhetorically. *Academic Exchange Quarterly*, *9*, 307-312. Retrieved April 14, 2006, from Expanded Academic ASAP database.

This is another article that deals with collaboration between writing faculty and librarians. There seems to be a particular affinity between the writing-across-the-curriculum movement and practitioners and librarians who 'teach' information literacy. The article describes a fairly new (2003) program that was developed at George Washington University and appears to be very successful.

Ondrusek, A., Dent, V.F., Bonadie-Joseph, I. and Clay Williams. (2005) A longitudinal study of the development and evaluation of an information literacy test. *Reference Services Review, 33, 4*, 388-417.

I am interested in this article because it discusses the issue of testing or evaluating information literacy knowledge and skills, which is eventually going to be part of my PAR project. Although I wasn't all that taken with the instrument they developed, it was very instructive to read about the details of the test construction and the efforts they made to ensure its validity and reliability. Like most librarians, the authors thoughtfully included the instrument in the appendix for others to test out or tweak.

Portmann, C.A. and Toush, A.J. (2004). Assessing the effects of library instruction. *Journal of Academic Librarianship. 30*, 6, 461-465.

Reported on the design of a quantitative study to ascertain the influence of library instruction (the one-hour session!) taught by a trained reference librarian to community college students. Sample was a so-called "convenience sample" – all the students in an upper division Sociology class (38 students). The librarians administered pre- and post-tests to measure the influence of the training/orientation on skills and usage. Results indicated that there as a significant change between the pre- and post-test scores on library

usage, but not on library **skills**. There was a full discussion of the study design, methodology, and analysis that will be of great assistance to me in my project.

Segers, M., Van den Bossche, P., & Teunissen, E. (2003). Evaluating the effects of redesigning a problem-based learning environment. *Studies in Educational Evaluation, 29,* 315-334. Retrieved April 8, 2006 from Academic Search Premier database.

This article caught my eye because of a few sentences in the abstract: "how can students learn by doing what they do, when they do not know how to do what they have to learn?" Although a bit convoluted, I think this means by jumping straight into online database searching, for instance, how will students come to learn the concepts associated with effective searching? They will be retrieving lots of results, but doing is not the same thing as knowing what you are doing – in terms of search techniques. The article discusses a quasi-experimental comparative design, consisting of two randomized student groups: one experimental group and one control group. Again, seeing how the study was designed will be invaluable when it comes to my own efforts at evaluation.

Weiss, R. E. (2003). Designing problems to promote higher-order thinking. *New Directions for Teaching and Learning, 95*, 25-31. Retrieved April 8, 2006 from Ebscohost EJS database.

The discussion dealt with how to design effective PBL problems and was more useful to me than looking at the two actual sample problems that were provided. Although much of this was familiar ground to me by now, it still helps to have some things pointed out again, such as asking: "What am I trying to accomplish by assigning this problem?" I may need to separate out specific skills in learning how to research and write problems that zone in on those particular skills, rather than using a general problem and hoping it will somehow address all the facets of learning to research well.

II. Using the Cycles and Epicycles of Action Research framework as a planning tool for this PAR.

a. My plan is to begin the process at the Proposing and Planning actions cycle. It is necessary to begin at this stage because I have a practice I would like to try out in order to see whether its effect on students will produce better outcomes than are currently the case with our standard one-shot orientations. The long-term aim is to offer PBL sessions enough times to make it possible to compare the outcomes of PBL sessions with the traditional one-shot sessions. [more to come]

III. Problem Definition

a. The crux of the problem is that the current one-shot orientation model does not and cannot produce in students the kind of critical, systematic change in understanding that could lead to thoughtful, productive research skills. The present model tries to cover too much in too little time. [more to come]

IV. Descriptions of actions to be taken, including constituency building

a. There are several ways that I could go about forming a group of students and possibly interested instructors to help me pilot the PBL model.

    i. Start with instructors -> I know several English and Reading instructors who would be interested in this kind of pilot project. The English instructors regularly schedule orientations for their students and, in some cases, schedule an additional session with hands-on exercises for a particular assignment.
    ii. Approach instructors who have taught in the so-called "learning communities", i.e. paired-courses taught by a 'content' instructor and a 'skills' instructor. (This approach was being pushed a few years ago.)
    iii. Start with students -> By means of posters and handouts try recruiting students who already come to the library. Use the student newspaper as a recruiting tool. Sponsor a mini-open house at which food is served and attempt to find students who will agree to come to pilot PBL sessions.
    iv. Re-institute library workshops. These were hour long presentations on topics like "Evaluating Web sites", "Finding articles in ProQuest", etc. that were originally offered during the no-contact hour on campus. Promote the idea of a PBL workshop at these workshops until there are enough students willing to commit to a three session pilot program.
    v. [more to come]

b. Once the core group of students has coalesced, I will need to build in a few introductory activities that can be called "ice breakers" but will have the effect of helping everyone to get comfortable around each other and to start functioning as a group.
c. The PBL approach will be minimally explained and the students will jump right in with an ill-structured scenario. All of this will need to be thoroughly planned even though it may look on the surface to be spontaneous. I do have the sessions somewhat planned already but will be ready to change and adapt them depending on the work with the students.
d. Following the first mini-PBL experience, I will reveal more of the pedagogical and philosophical underpinnings of PBL and ask for their support in designing and testing out the next problem or scenario. Right now I am thinking that this process will have at least three iterations, leading toward a) full understanding of what a PBL approach is meant to accomplish, and b) facility and ease in using search strategies and tools – the intellectual and mechanical sides of the research process. [more to come]

V. Reflection and dialogue

a. I am imagining this epicycle to be jointly conducted by myself and the students at the close of the three sessions. [more to come]

VI. ----Implementation of the action----

By implementation of the action, I mean whatever the PBL 'product' the students and I have come up with will be offered to instructors in addition to or in lieu of the standard one-shot. It will need to be conducted a number of times over at least one semester in order to become something that I am comfortable doing and in order to adapt and improve it. The evaluation design will also have been created by this time so that I know what kinds of information and statistics to collect. [more to come]

VII. Begin evaluation cycle

a. The decision will be made at this point whether to do a formative or a summative evaluation. I think the Weiss book will be very valuable here as well as the articles I will have collected on assessment and outcomes. A research question was stated in the Segers, et al., article has a lot in common with what I think will be the thrust of my research design: "Does the new learning environment [PBL approach] when compared with the regular situation [the standard one-shot] lead to: 1) a better structured knowledge base and 2) a better application of knowledge in new and authentic problem solving situations?
[more to come]

VIII. Measures to be used

a. TBD (to be determined) but will almost certainly include the *ACRL Information Literacy Competency Standards for Higher Education*, which can be behaviorally assessed.

IX. Data to be collected

TBD

X. Methods of analysis

TBD

XI. Dissemination of results

TBD

XII. Integration of results into practice

TBD

XIII. Reflection and dialogue

This phase will lead into the next action -- TBD