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PROMOTING ACTIVE LEARNING IN THE ELECTRONIC CLASSROOM: MAKING THE TRANSITION FROM PRESENTATION TO WORKSHOP

May Jafari and Anthony Stamatoplos

Background

With the completion of IUPUI's new electronic library, bibliographic instruction librarians faced both new and familiar challenges. To meet these challenges, instruction librarians have begun to consider new and more appropriate methods of teaching library skills to their students. This article highlights a new approach to teaching the library portion of English composition, W132. In this article, we discuss style changes in instruction and point out issues related to active learning and the electronic classroom.

Indiana University-Purdue University Indianapolis (IUPUI) is a public, four-year urban university of some 27,000 students. About 98 percent of the students are Indiana residents and 55 percent are part-time students who work and have family obligations. There are 1,400 full-time and approximately 800 part-time faculty employed at IUPUI. Through its parent universities, IUPUI offers 179 degree programs in more than 200 fields of study. With programs in the arts, sciences, and professions, IUPUI is one of the most comprehensive public institutions of higher learning in Indiana. IUPUI was formed in 1969 when Purdue University and Indiana University merged their Indianapolis operations.

Our involvement with the W132 bibliographic instruction program began in 1991 in the old university library that was built in 1971. The library included three floors (75,812 square feet), subscribed to over 4,000 journals, and maintained a collection of approximately 370,535 volumes. There was already a bibliographic instruction coordinator in place who was responsible for overseeing the program. His responsibilities included scheduling and conducting bibliographic instruction sessions for several service courses and acting as a contact person between the library and departments. Two other librarians besides the bibliographic instruction coordinator were also involved in the program.

The library had only one classroom that was used by several librarians to conduct bibliographic instruction sessions for both service courses and course-specific instruction. The seating capacity was for 35 students. On any given semester, we had over 300 undergraduate students who had taken elementary composition, W132, a writing course offered by the English department. The course contained a library component which offered us the opportunity to provide instruction in the use of the library to 24 to 30 students. To ensure consistency in teaching this course, the bibliographic instruction librarians followed a lesson plan that was created by the bibliographic instruction coordinator, who worked in cooperation with the W132 instructors. The following skills were covered in the lesson plan:

- searching online catalog for books,
• finding magazine or newspaper articles,
• evaluation of sources,
• CD-ROM indexes,
• finding government documents,
• interlibrary loan process, and
• other campus libraries.

The librarians had between 50 minutes and one-hour to cover all seven areas. We instructed the students to utilize all the sources to locate popular and scholarly journal articles. Because of the limitations of the old library, we geared our style toward a traditional lecture-type presentation with a few transparencies and handouts.

Traditional Presentation Style

Through both formal evaluations and informal contacts made by the bibliographic instruction coordinator, it was apparent that we had to change the way we were conducting our instruction. The problems we encountered with this style were

• too much information to cover,
• too little time to concentrate on the most important or useful skills,
• limited resources for visual presentations and limited hands-on opportunities to involve the learner,
• passive learners and negative attitudes,
• learning styles and generational differences that made it difficult to respond to users’ needs, and
• librarians’ credibility questioned by some faculty.

New Library

In July 1993, we moved into a $32 million newly constructed “electronic library” that offered the following features:

• five floors representing 256,880 square feet with a capacity to hold one million volumes,
• seating for 1,740 users; 1,800 high-end data connections,
• NetScape-based graphical user interface; public telnet connections,
• capacity for 92 CD-ROMs and remote user access,
• multitasking and multimedia functions,
• over 80 Scholar’s Workstations, IBM and Macintosh platforms, and
• two electronic classrooms.

Included in the new library are two “electronic classrooms.” Room 0110 is a regular classroom with a seating capacity for 50 students. Room 0106 is an electronic classroom with 30 Scholar’s Workstations offering both IBM and Macintosh platforms. There is also a portable media cart that is used in both classrooms. The media cart contains an LCD projector and platforms for both the IBM and Macintosh. Initially, in August 1993, we planned to use Room 0106 to conduct the bibliographic instruction classes. Because of technical and design problems associated with the classroom that needed to be worked out, the room was not available. Therefore, we continued to use the traditional lecture-style presentation in the regular classroom for Fall 1993 and Spring 1994 semesters. The only difference between the classroom in the old library and the new was that we now had capabilities of demonstrating the Library Information System (LIS) by utilizing the media cart. There was still a heavy emphasis on the online catalog and no opportunity for hands-on experience available. To orient the students to the new library, we divided our presentation into three sections:

• In-class orientation—We distributed library floor maps and features of the new library were briefly mentioned to the students.
• Finding books and periodical articles—We included demonstration and discussion of the online catalog, indexes and abstracts, a PsycLit demo, and discussion of locating periodicals in the new library.
• Evaluation of sources—We included in this section a discussion of critical thinking factors and differences between popular and scholarly periodical articles. We asked students to participate in the discussion by answering questions about the articles.

The bibliographic instruction coordinator and the bibliographic instruction librarians continued to commu-
nicate to faculty and students through both formal and informal channels to obtain feedback about the presentation style in the new environment. Through the feedback we found that

- building size inhibited users,
- Scholar's Workstations and OPAC terminals created confusion, and
- frequent changes to the user interface created difficulties.

The feedback clearly pointed out that we needed to incorporate more critical thinking skills and provide an environment that would give the English composition, W132 students hands-on experience.

Beginning the Transition

For fall semester of 1994, we adapted the spring 1994 presentation. In doing so we incorporated more focus on critical thinking and hands-on experience with the online catalog. Rather than an in-class catalog demonstration, we asked the composition instructors to guide their students in completing exercises prior to their library sessions. The exercises had been developed by the library's bibliographic instruction coordinator. In response to faculty requests, we also expanded coverage of abstracts and indexes, and discussion of source evaluation, and added an overview of the Scholar's Workstation.

Unfortunately, we experienced some problems with this approach. For example, some students had either not completed the catalog exercises or had done so inadequately. This caused uneven or inconsistent preparation for the library session and discussion. Since catalog skills were vital to students' completion of their assignments, we had to, in some cases, adapt to this situation and give more in-class attention to the catalog. This took time away from the planned presentation.

In retrospect, we realize there was a problem with our teaching approach and how it affected students' learning. We had attempted to involve students in the learning process by engaging them in class discussion. With some success, we used a traditional question-and-answer format to do this. We found, however, that students remained relatively passive in these discussions, and they were not really obligated to participate. Since we allowed them to, many chose to remain passive. Indeed, more students observed than participated in these class discussions. We concluded that as long as we used this old format, we were not requiring participation of students. Rather, we would be doing it for the students and hoping that it was meaningful to them.

When using our new library, students face a heavily electronic environment. We gradually realized that our own teaching style had not yet "caught up" with it. Students' library instruction was not as practical as the environment requires, and we were not using the capabilities of the electronic classroom to give hands-on experience. We found not only that it was difficult to engage some students, but that we, in a sense, had accepted and even expected their passiveness.

The Workshop

As an experiment, we attempted a very different approach, a workshop, to teaching the following semester's W132 library instruction sessions. The workshop idea began with our bibliographic instruction coordinator, and grew out of discussions between him and the elementary composition coordinator. The intent was to provide each student with a practical, hands-on opportunity to learn some basic skills and concepts of library research. As before, students would work on catalog exercises before the library session. The library session would be a workshop, with discussion related to students' experience. We would guide students as they explored, practiced skills, and discovered some fundamental research and bibliographic concepts. To supplement the librarian and the English faculty member, we recruited extra help from other librarians and support staff. We planned this as a student-centered workshop, rather than a more traditional lecture and demonstration session. Students would have an opportunity to use and develop some critical thinking skills, and to make and learn from common mistakes. Spring semester 1995 was to be a trial run for this approach from which we could build, if successful.

In preparation for the workshops, the composition coordinator provided us with some provocative topics that typified subjects of student projects. Examples of these search topics were: "cheating in college athletics," "physician-assisted suicide," and "home schooling." After a brief introduction to sources, students would conduct their research and in return learn more about information sources and research processes. It was obvious that to be successful, we would need to provide adequate guidance and support throughout the workshop.

As an introduction to each session, we explained the plan for the workshop, set up the conditions, and then established student teams. Before allowing students to do their search exercises, we felt it was important to suggest and explain a few index and abstracting sources. We began by briefly showing some print
souces we had placed in the classroom. We followed with a brief demonstration of the Scholar's Workstation, focusing on navigating the system and locating electronic index and abstracting databases.

Prior to beginning the exercise, we distributed some helpful packets for students to use during class and in their individual library research. These packets contained basic library brochures and handouts covering library orientation, the online catalog, locating periodicals, and understanding call numbers. The packets also included a handout covering nine points of evaluating information sources, along with excerpts of popular and scholarly articles as examples. As part of the packet, we provided a worksheet on which students could write out some of the citations they found.

Following the introduction and instructions, we divided each class into teams of two students and assigned each team a research topic. We then allowed several minutes for teams to search various sources for articles on their assigned topics. As problems and questions arose, many students sought help from the library instructor, the English teacher, or the assistant. Not surprisingly, students showed a strong preference toward the electronic sources. Many also encountered difficulties as they realized some of the databases were not as simple or straightforward as they had expected, and that there are differences between databases. Some students searched with ease, while others found the exercise quite challenging.

After students had an opportunity to conduct searches and find at least one relevant citation, we took time as a group to discuss and critique their results. We found that most students took similar approaches to searching. Those who experienced difficulty tended to have similar problems. After students found their citations, we spent a few minutes discussing procedures of locating the journals and obtaining the actual articles. We then provided some time for students to search the online catalog to locate the appropriate journals. After a few minutes of searching, we allowed more time for questions and discussion of these procedures.

Finally, the librarian recapped the workshop, and tied the experiences to the skills and concepts that came out of them. We briefly summarized what students had done in the workshop, and discussed resources and research strategies. At this time, we also emphasized the critical thinking skills they had just practiced.

Issues

We believe the workshop approach was generally successful, and an improvement over previous approaches to library instruction for this course. Several issues, with both positive and negative aspects, emerged from our experience.

First, our attempt to fundamentally change our instruction style underlined the extent to which traditional methods are ingrained. It is clear that we will have to overcome some of the "residual effects" of the old methods. Much of our own education involved such methods, and it may seem natural to follow those teaching styles others modeled, and to view them as normal. Those styles, however, didn't generally involve students, though we hoped they would learn concepts in class and later apply that knowledge. In a way, we instructors had grown accustomed to the traditional classroom situation to the extent that we were used to, and even expected, passive students. Therefore, when presenting an opportunity for more active learning, we were continually tempted to fall back on the "show-and-tell" mentality that focused on abstract concepts rather than experience. We discovered that librarians can also be resistant to change. We must remind ourselves to allow students more independence in the learning process.

Though we used a classroom designed as an "electronic classroom," the equipment and room arrangement presented problems for any style of instruction. The placement of the terminals obscured the view of both students and instructors. We also experienced sound interference from the computers and monitors, as well as the equipment we used to present information and demonstrate systems.

There are both Macintosh and IBM computers in the classroom, and students were generally more familiar with one or the other. In addition, certain databases operate better on IBM than on Macintosh, which sometimes caused confusion or frustration among students. Some students were relatively unfamiliar with computers in general, which somewhat inhibited learning. We experienced periodic software problems, such as programs not launching properly. There also were occasional network problems. Though frustrating, these experiences were practical since students can encounter similar obstacles when using the library on their own. We saw such situations as opportunities to point out potential problems they might encounter. When possible, such times served as illustrations and we suggested or demonstrated possible solutions.

During the workshops, instructors and assistants needed to move about the classroom to help students. That proved difficult, however, because the classroom design did not allow sufficient space between rows of computer workstations. Though the classroom was designed to accommodate computer-centered teaching, it was obvious that the design had not considered the necessity of instructors or students freely moving about the room. This arrangement also inhibited students' physical access to the print resources in the classroom.
and may in part account for the reluctance of students to utilize them.

There is great demand for both our classroom and the media cart we used for the workshops. Because of heavy use of the room for bibliographic instruction and library science courses, we frequently had a very short time to physically prepare the classroom and resources. The current configuration and way of setting up the media cart also proved inconvenient.

Students brought with them various experiences and learning styles which affected the dynamics of each session. Our students presented different levels of readiness or preparedness for learning, and for using libraries and computers. We tried to compensate for this, with some success. With our students, generational differences also seemed to contribute to learning styles. For example, one might attribute some of our students’ various levels of computer skills and overall attitudes towards technology, to individual experience and level of comfort. We found this with individuals and also discovered that some entire classes seemed better prepared than others.

It was sometimes difficult to keep students both on-task and together throughout the workshop, as they needed varying degrees of help. This frequently slowed down the flow of the session. Other times, some students were left behind due to time constraints. We tried to work individually with such students, but limits on time and personnel did not allow for much of this. We realized that this is part of the learning process and allowed for differences. The most appropriate solution may be to identify those differences and address them outside the workshop.

The workshop approach was more labor intensive, so we saw a need to recruit help to alleviate some of the burden on a single library instructor. Though necessary to the success of the workshops, this took time and personnel from other parts of the library. Because of variety in the backgrounds of our assistants from the library, there was some unevenness in knowledge and abilities with sources and procedures. The benefits of the extra assistance, however, outweighed any problems related to staff inexperience. The level of English instructor participation varied. Some showed more interest, and some had their own agendas. All in all, the sessions also seemed to demonstrate to faculty the library’s complexities along with the librarians’ expertise.

We had several areas of success with the workshop instruction mode. Students, for example, became more involved and more active in their learning. We encouraged them to learn through exploring. As students worked together in teams, we took advantage of the support they offered one another and encouraged peer teaching. We also encouraged them to use critical thinking skills as they asked questions, developed and discovered search strategies, and made a variety of choices and decisions. Using this method, we were able to focus more on fostering students’ self-confidence and independence in learning, as well as in using the library. As librarians and teachers, we enjoyed the emphasis on providing experience and helping to empower our students.

We were reminded that one should not try to do too much, especially all at once, which may be a common trap in bibliographic instruction. We have to accept that there were some trade-offs in changing our instruction methods. For most, we gave up the comfort of the more recognizable format most librarians, faculty, and students are used to and expect. We gave up some of the feeling of control over the learning situation. Upon closer inspection, however, that feeling may be more of an illusion, since we never really “caused” students to learn. We suspect that in the workshop mode, we “facilitate,” rather than “cause” learning. We also gave up the emphasis on trying to overtly teach most abstract concepts. We are satisfied with allowing students to discover them in more meaningful ways.

We believe we gained a great deal more for those things we gave up. Most importantly, we gave the students more control of the learning process. At the same time, we gave them more responsibility for learning and developing skills that they find meaningful and practical. Compared to the previous approach, workshops seemed to demand more attention and participation from students. They provided a convenient opportunity for practical experience. Acting as teachers, guides, and troubleshooters, we sensed more respect for our knowledge, skills, and experience, from both students and teaching faculty. We also realized the positive effects of the workshop in communication and cooperation with English faculty members, both prior to class with the catalog exercises and in class as they helped with the workshop.

Active Learning in Library Instruction

Our traditional approach to providing library instruction began in a print environment, when there were far fewer and less complex resources. The techniques we used often paralleled those of classroom teachers, making limited use of hands-on experience. Students did not usually begin with an actual experience from which to draw. We sometimes demonstrated resources or techniques, but did not focus on students exploring and discovering for themselves. We commonly introduced abstract concepts for students to learn first and apply later in “real” situations. Instruction did not primarily focus upon a “real world” situation.
Though it could be somewhat interactive, it was not really hands-on in the same sense of the workshop.

A key element in experiential or active learning is that the teacher builds upon the students’ real personal experiences. In our workshop, we designed and presented the opportunities for students’ experiences. Next, we guided students in examining those experiences. With our help, students then identified the important aspects of those experiences, and placed them into the larger context. We then encouraged students to apply what they learned to future real-life situations. Library use and research processes involve both practical skills and related abstract concepts. Library instruction seems to naturally invite an active learning approach to these.

In our experience, active learning contrasts with more traditional passive learning in several ways. Rather than allowing the learner to be merely an observer in class, we demanded active involvement. In experiential or active learning, there is a more direct connection to the real world as opposed to an abstract connection and expectations for future applications. That is, it is more immediate and practical. Active learning grounds students’ knowledge in personal experiences as opposed to vicarious experiences. We tried to give more control to the learners, stressing the students’ independence, rather than inadvertently promoting undue dependence on others. We hope this also will affect their self-confidence in using the library.

In our workshops, we facilitated communication. There was more immediate feedback from students and faculty, rather than the delayed feedback we were used to. We enjoyed encouraging cooperation between students as opposed to focusing on the group as a whole or on the individual student.

Summary

Our transition from traditional presentation to workshop did not happen overnight, but rather it evolved. For us, the workshop approach grew out of an existing program. It evolved to meet current needs of students, faculty, and the library. Even though we intended to provide students with individual and common experiences to learn from, the workshop approach still required of us much planning and structure. The key elements were that the workshop centered on student experience and it addressed the new and challenging environment. Throughout the workshops we tried to recognize particular student needs. This change in format involved changes in thinking on the part of the librarians and teaching faculty who participated.

Based upon our experience, we offer a few suggestions for others considering this approach:

1) Try to respond to the needs of a particular group of learners.
2) Connect the experience to the real environment students will face.
3) Resist the temptation to “tell” or “explain” everything.
4) When possible, stress “learning by doing” first, and abstract concepts later.
5) Provide structure, but when possible, allow students to explore.
6) Encourage students’ independence and personal responsibility.
7) Provide support for learners both during and after the experience.
8) Take advantage of peer learning and peer teaching opportunities.
9) Communicate and cooperate with faculty.
10) Try to integrate this approach into the larger library instruction program where appropriate, rather than trying to replace it.