
Active Learning and Library Instruction

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From the beginning of academic library instruction in the United States, it was noted that perhaps lecturing was not the most effective way of educating students about the library. In 1886, Davis wrote about his frustrations in teaching students about the library who were not learning anything from his lectures. This phenomenon has been noticed by many other librarians as well. The assumption that library instruction should be lectured based probably has driven the opposition of many academic librarians to library instruction. After all, if lecturing to students about library use does not work, why do it? Active learning, also known as cooperative learning, is a model of instruction that many academic librarians have turned towards to better help students learn about the library in the classroom.

What is active learning?

Active learning is a method of educating students that allows them to participate in class. It takes them beyond the role of passive listener and note taker and allows the student to take some direction and initiative during the class. The role of the teacher is to lecture less and instead direct the students in directions that will allow the students to "discover" the material as they work with other students to understand the curriculum. Active learning can encompass a variety of techniques that include small group discussion, role playing, hands-on projects, and teacher driven questioning. The goal is to bring students into the process of their own education.

Some of the pioneers in the push for active learning in the last several decades are David Johnson, Roger Johnson, and Karl Smith. Although none of the three are librarians, all work in academia and have taught widely to faculty in higher education. Many academic librarians (including the author) have heard them speak and they are widely cited in library literature dealing with active learning. The three have argued for active learning because they feel lecturing is over relied on by

faculty even though lecturing has several limitations. They wrote (1991) that students have trouble focusing on lecturing and that their attentions diminishes over the course of a class. They also postulated that lecturing promotes the acquisition of facts rather than the development of higher cognitive processes such as analyzing, synthesizing, and evaluation. Finally, they believed that students find lectures boring.

Bonwell and Eison (1991) wrote that strategies that promote active learning have five common characteristics. Students are involved in class beyond listening. Less emphasis is placed on transmitting information and more emphasis is placed developing the skills of the students. The students are involved in higher order thinking such as analyzing, synthesizing, and evaluation. The students are involved in activities like reading, discussion, and writing. Finally, greater emphasis is placed on the exploration of student values and attitudes.

Active learning can also overcome the individualistic and competitive nature of traditional education. Wrote Johnson, Johnson, and Smith (1991), "When engaged in cooperative activities, individuals seek outcomes that are beneficial to themselves and to all other members of the group. Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning." (pp. 3).

Another reason for using active learning by many is that non-traditional students in higher education (that is those that are older than 18-24) prefer it over lecturing. Slavin (1991) reported that traditional students have been lectured to their whole lives and expect it. However, older students have had the opportunity to work and have life experiences that have shown them that they can learn things on their own and can participate and interact with both other students and the teacher in the classroom. Cook, Kunkel, and Weaver (1995) found this to be true of non-traditional students in library instruction as well as they dealt with students at the different branch campuses of Kent State University.

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While many active techniques are useable by academic librarians, most of these librarians are probably already using active learning in their lessons without realizing it. Hands-on learning is an important component of many library instruction lessons. Passing reference works around a room and allowing students to look at them is a low-level active learning exercise. With a little work, adding perhaps an opportunity to discuss why the reference works are useful, coupled with a group assignment to look up some information, the activity can become a truly beneficial and exciting active learning exercise. Even allowing students to use computers and conduct searches during class is an active learning approach. While active learning looks like it can be difficult for librarians to accommodate, with some modification librarians can build on what they are already doing and make their teaching more effective.

Historical overview of active learning

The use of active learning in education is not a new idea. In fact, it was most certainly the first method of education used by mankind. The quickest and most efficient method of training the young in a hunter/gatherer society, particularly in one where survival is a struggle, is to allow the young to watch and then mimic the behavior of their elders. Lecturing is not practical. As the first human societies were of the hunter/gather variety, this appears to be how education originated in humanity. Lecturing developed much later after cities and formal institutions of education were established.

The first real written account of active learning comes from ancient Greece and the teaching style of Socrates. The Socratic Method relies on students interacting with each other and the teacher. Socrates would introduce a problem and ask the students about it. The students would discuss in detail what they thought the answer was each other. Socrates would direct the conversation back to key points when it drifted to much from what he thought the answer was. In the end, using the points that the students had made, Socrates would reveal his answer to the students. Socrates did not lecture to the students. He worked with them to help the students discover the part of the curriculum on their own.

In more recent centuries, other philosophers have advocated for active learning as well. Rousseau published *Emile* in 1762 and argued for learning through sensory experience in it. John Dewey believed that practical experience gives learners the raw material needed to cultivate abstract thinking skills and to even-

tually develop complex intellectual constructs on a subject. Jean Piaget believed that the abstract reasoning developed as a result of childhood active learning by exploration of the environment. Kolb (1984) wrote that concrete experience is a prerequisite to the acquisition of physical skills, reflective observation, abstract conceptualization, and active experimentation.

Academic librarians early on noted the need for an alternative to the lecture as well. Robinson (1880) wanted students to become real scholars who could educate themselves and do research without the aid of professors or librarians. Personal inquiry, a trait which active learning develops, was what Robinson felt was most important for students to acquire from higher education. Davis (1886) was frustrated with classroom lectures. He noticed that students were not gaining knowledge from even multiple lectures on library skills. He responded by creating an entire course so he could present the material differently.

Winsor (1880), and later Shores (1935) and Branscomb (1940), argued for the library-college concept. All three believed that lecturing to students in a large lecture hall was damaging to the education of students. Instead, they believed that the students should be taught in the library by both the professor and the librarian. Rather than lecturing to the students, the librarian-professor team would give the students problems and then require them to find the answers on their own in the stacks of the library. This clearly is a use of active learning by librarians that not only teaches library skills but also makes the library central to educating students on campus.

A more recent influence on the acceptance of active learning not only in academic libraries but on college campuses as a whole was the national report of the National Institute of Education in 1984 titled *Involvement in Learning: Realizing the Potential of American Higher Education*. The study group who authored the report wanted to improve student involvement in their own education by creating strategies that require student participation to a greater degree than has been traditionally seen. Wrote the study group, "Faculty should make greater uses of active modes of teaching and require that students take greater responsibility for their learning." (pp. 27).

Considerations for active learning in the library classroom

Translating active learning into a library instruction setting is not an easy task. Most academic librarians

have little first hand knowledge of the concept. Librarians, who usually have weak backgrounds in teaching methods, tend to model how they were taught which means lecturing. Further, the nature of library instruction being a one shot class taught by a librarian who is not the usual teacher, makes it difficult to use many of the recommendations for active learning which work best with semester long courses.

Drueke (1992) noted four barriers that other teachers do not face in incorporating active learning. Librarians only see a group of students once typically. This means that the active learning methods used by the librarian have to be concluded during the single class. Students also are used to dealing with the faculty member who teaches the course they are in. This means dealing with students who may have learned that participation is not required or encouraged in the class. Librarians also have a great deal to teach to students in a very short time frame. Using active learning takes away time to cover material. Finally, librarians do not have total control over the class. In theory, academic librarians like other faculty have academic freedom in the classroom to teach as they please. However, working with another faculty member in a subordinate role means the librarian must structure their teaching to fit the needs and desires of the faculty member who requested library instruction for her course.

Students also believe, usually correctly, that they will not be tested on what the librarian is teaching. Further, many students believe there is no need to cooperate with the librarian in active learning exercises because the librarian can not grade the student. Wrote Cook, Kunkel, and Weaver (1995), "Students are not accountable to librarians for what they learn in BI, and are only indirectly accountable to instructors. Most faculty do not expect students to describe how to use specific reference tools, expecting instead to see work which reflects their use." (pp. 23).

Another obstacle to active learning in the library classroom is the reluctance of librarians to give up lecturing. Wrote Mabry (1995), "I found, however, that the instructor's first step in applying cooperative learning techniques involves rethinking his/her role in the classroom. It is not easy to give up lecture time in a 50 minute BI session. But one of the primary tenets of cooperative learning is that, if instructors are prepared to give up some control, students will learn more and retain that knowledge longer." (pp. 183).

Mabry also wrote that authoritarian librarians would find it difficult to integrate active learning in the class-

room. Active learning requires a different sort of librarian to work. Mabry (1995) wrote, "The most problematic step for the instructor is the first one: accepting a new role in the classroom that involves some loss of control. Highly authoritarian librarians will probably resist the free flowing nature of this new method. But more egalitarian librarians, eager to try out new teaching models, will find a fruitful pathway in the principles of cooperative learning." (pp. 185).

Using active learning in a one-shot library lecture does require some modification of the active learning techniques. Drueke listed nine strategies to allow for active learning to work for librarians. These included:

1. Talking informally with students as they arrived for class.
2. Expecting that students would participate and acting accordingly.
3. Arranging the classroom to encourage participation including putting chairs in a cluster or circle.
4. Using small group discussion, questioning, and writing to allow for non-threatening methods of student participation.
5. Giving students time to give responses, do not rush them.
6. Rewarding students for participating by praising them or paraphrasing what they say.
7. Reducing anonymity by introducing yourself and asking the students for their names. Ask the class to relate previous library experiences as you do this.
8. Drawing the students into discussions by showing the relevance of the library to their studies.
9. Allowing students time to ask questions at the end of class.

Most of the approaches that Drueke listed are identical with minor modifications to points made by proponents of active learning. This shows with a little effort the one shot library lecture can be turned into an active learning experience.

One innovative active learning teaching technique is called a jigsaw. Using the jigsaw, students work in groups studying an issue. Each of these groups works on a small portion of the overall issue. The jigsaw is put together when the groups report their findings to each other. This allows the entire issue to be covered in a single class but also allows for each student to be involved in learning the material. Ragains (1995) wrote about his use of the jigsaw in library instruction at Montana State University at Bozeman. He successful

used the jigsaw to teach students library skills in marketing research, mechanical engineering, historical methods, and earth science.

One criticism of active learning is that it does not work with large lecture hall style classes. Librarians sometimes teach in large lecture halls. Gedeon (1997) wrote of his experiences attempting to use active learning in a library instruction session in a large lecture hall. He did so by having the students brainstorm and then fill out search strategies in pairs. Do to the large number of students, groups and an inclusive class discussion. Gedeon concluded that the lesson worked well but the dynamics of the large number of students kept it from being as successful as it would have been with a smaller group of students. Although Gedeon's study does not indicate that using active learning with large groups is to be avoided in library instruction, it does indicate that it is a challenge and that lecturing may be more appropriate in this setting.

Active learning appears to be a great method of instruction for librarians. However, it probably should not be considered the only way to teach. As the case of large groups above indicates, sometime lecturing can be a valuable tool in teaching library skills. Wrote Druke (1992), "Our interest centers not on adding to the evidence on the value of active learning, but rather on exploring various active learning techniques and incorporating them effectively into library instruction. The lecture format may indeed be appropriate for many university-level library instruction classes. Research and practice indicates, however, that students may benefit for a wider repertoire of teaching techniques that include active learning opportunities." (pp. 82, 83).

Active learning requires a lot of work and a clear objective for it to work. Using active learning for the sake of active learning may backfire. Wrote Allen (1995), "One caution can not be overstated: incorporating active learning techniques must be purposeful to carry out specific and important objectives, and must require students to use the higher order skills of analysis, synthesis, and evaluation. Anything less and your students will consider your classes to be busy work - gimmicky and worthless." (pp. 99).

Active learning and library instruction for special groups

Academic librarians are often called upon to teach library instruction for a variety of courses from different disciplines. For every department on campus, a

librarian is assigned to select materials for the library collection. The librarian works with faculty to make these decisions and to let the faculty know that she is available to teach their students how to use the materials that are in the library. The smaller the academic library, the larger the range of each individual librarians potential courses to teach library instruction for. Different subjects lend themselves to be taught in different ways even with active learning. For example, already written about previously was Ragains (1995) who successful used the jigsaw method of active learning to teach students library skills in marketing research, mechanical engineering, historical methods, and earth science. While the library literature is sparse, some librarians have written about how to use active learning in particular disciplines in regards to library instruction.

The World Wide Web has proved to be challenging for academic librarians to teach about. The many misconceptions that the students have about what the Web really is can be difficult to lecture about. Active learning can work well in showing these students the limitations of the Web and font of erroneous information therein contained. Simply ask the students to get on the Web in groups, look for certain types of information, and report back to the class what they found. These types of discussions prove much more useful in teaching about the Web than lecturing about it. Kohut and Sternberg (1995) used a similar strategy to teach students about mass communications using the Web. They asked the students to use the Web to find information on an emerging technology.

The health sciences appear to be a field where a lot of active learning is being used. Not surprisingly, this has impacted library instruction to classes in the health sciences. Librarians teaching classes in this area are following along and incorporating active learning components to their lessons. Francis and Kelly (1997) detailed over a dozen health science libraries in the United States that were using active learning to teach library skills. Although none of the lessons taught by these libraries was detailed extensively, the descriptions of the instructional programs indicates that health science librarians may be the leaders on active learning in academic libraries.

Often times, academic librarians are given the opportunity to teach freshman seminars either as the regular teacher or as a guest lecturer. These types of courses can give the librarian, particularly if she is the teacher, an opportunity to try new teaching methods.

Dabbour (1997) was given this opportunity at California State University at San Bernardino. For the library portion of the class, she used small group self-guided exercises focusing on the library online system. As a prelude, she had the students discuss in class the importance of information literacy. The evaluations that the students gave the class were much higher than evaluations from prior classes where active learning had not been used.

In the science fields, collaboration and reliance on research literature is important for the scientific enterprise. For this reason, active learning can work well in teaching library skills. Sara Penhale was a Science Librarian and Assistant Professor of Biology at Earlham College when she wrote an article on this topic. Using her unusual dual faculty position, she was able to introduce library instruction in introductory chemistry courses. Penhale had the students work in small groups to explore chemistry journal articles. She wrote (1997), "The merits of cooperative learning and of introducing students to the chemical literature argue for the development of assignments that include both. Chemistry students become more engaged, they learn more effectively, and they emulate the activities of the professionals in the discipline." (pp. 83).

Summary

Active learning is a method of educating students that allows them to participate in class. It moves them beyond the role of passive listener and note taker and allows the student to take some direction and initiative during the class. Active learning can encompass a variety of techniques that include small group discussion, role playing, hands-on projects, and teacher driven questioning. The goal is to bring students into the process of their own education. Active learning is not a new idea. It has been used by humanity for a long time and several philosophers and educators (like Socrates and Dewey) have used or advocated the use of active learning.

Some academic librarians were recognizing the limits of lecturing back in the 1880s when they taught library instruction sessions. One early attempt at active learning by these and librarians early in the 20th Century was the library-college concept. Using active learning can pose problems for academic librarians. Usually the librarian has only a single class with students who are not accountable to the librarian and have prior expectations of the class formed from working with the class instructor. Still, with a little work, many librarians are having success with active learning.

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