Graduate Teacher Program Newsletter

the TUTOR

Vol. 7 No. 3 University of Colorado at Boulder Fall 1994

Active Learning: Rationale and Strategies*

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We hear faculty wondering aloud about this new fad of active learning. "What is it exactly?" "Is it something that is here today and will be gone tomorrow?" "The best students learn well now, so why should I worry about the others?" "I learned from lectures, so why is that not sufficient for today's students?"

The purpose of this article is to explore what active learning is and why it figures prominently in postsecondary teaching vocabulary. We suggest some of the commonly used strategies to promote active learning. Active learning need not be an "either/or" choice; rather, it is a mechanism for overcoming the learning limitations that we know exist with lecture. We hope to present ideas that will contribute to a more satisfying teaching-learning environment in your classes.

What Is Active Learning?

While there is no one definition of active learning, Myers and Jones (1993) describe it as follows: "Active learning provides opportunities for students to talk and listen, read, write, and reflect as they approach course content through problem-solving exercises, discussion in informal small groups, simulations, case studies, role playing—all of which enable students to apply what they are learning."

Bonwell and Eison (1991) describe general characteristics associated with active learning such as:

- Students do more than listen.
- Students are challenged to do higher-order thinking such as analysis, synthesis, and evaluation.
- Students are engaged in activities (e.g., problem solving, discussion, writing).
- Less emphasis is placed on transmitting information and more on developing students' skills.
- Greater emphasis is placed on students' exploration of their own attitudes and values.

They suggest the working definition as "anything that involves students in doing things and thinking about the things they are doing" in the context of class content.

Why Use Active Learning?

Cognitive psychologists tell us that the processes of learning are as important as the content. What is learned depends not only on the actual content, but also on 1) what the student already knows, and 2) how the student processes the information received. As teachers, we can influence both the content and the learning conditions. The effective teacher chooses content that has, or can be made to have, meaning for the student. Learning activities can be skillfully guided with methods such as questioning and role playing to help the student learn processes of inquiry as well as the basic information.

Reasoning skills and "learning how to learn" are highly touted as necessary outcomes of higher education. To accomplish these goals we must incorporate practice in the kinds of thinking that are important. Active learning

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*Adapted and reprinted with permission. Delivee L. Wright. "Active Learning: Rationale and Strategies," *Teaching at UNL*, Vol. 15, No. 3, Nov. 1993. Teaching and Learning Center, University of Nebraska-Lincoln, 121 Benton Hall, Lincoln, NE 68588-0623.

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provides the opportunity for students to practice.

Basic Assumptions

Support for active learning depends upon two basic assumptions: 1) that learning is by nature an active endeavor, and 2) that different people learn in different ways.

On the basis of these assumptions, it follows that students learn best when applying subject matter—in other words, learning by doing—and, that teachers who rely exclusively on any one instructional approach often fail to reach significant numbers of students. As a result, both teacher and students end up dissatisfied. By increasing active learning strategies in our teaching, we increase the odds that students will leave our classrooms with more than a notebook full of facts. Research does demonstrate that when we use information (for example, rehearse it or solve problems with it), we are more likely to retain it. And when we involve students in activities that lead them to discuss, question, clarify, and write about course content, we not only foster better retention of subject matter but help expand students' thinking abilities as well (Myers and Jones 1993, xi-xii).

Myers and Jones (1993) emphasize that active learning has other desirable outcomes. It addresses legitimate concerns voiced by women, culturally diverse students, and nontraditional students. If we encourage a variety of ways to learn a subject, if we encourage students to draw upon their own life experiences, then learning has more meaning. Since involvement with others in a cooperative effort is often an element of active learning (e.g., discussing, developing, and analyzing), the classroom becomes more hospitable to a variety of student perspectives.

Faculty are often concerned about covering material in a class, but given the superficiality of learning memorized notes, many faculty would benefit from thinking about "uncovering" material. More time to dig beneath the surface and to grapple with the content to make sense of it is a worthwhile goal. When this is done, students are far more likely to remember and to use the ideas they learn (Myers and Jones 1993, 14).

The variety brought to the classroom is not only beneficial to student reasoning, it also permits a teacher to move from the unidirectional lecture to the reciprocity of challenge, debate, discussion, and collaboration. Individual teaching strengths can be emphasized. We are not all comfortable simply occupying a podium in front of passive faces.

Tooter's Teaching Tips

1. A focus on both the content and process of teaching fosters students' active engagement in the material.
2. The motivation to learn is sparked by students openly discussing, debating, and collaborating with each other and their instructors.
3. Active learning skills are the practical and basic foundation for future research and publication.

Beliefs Supporting Active Learning

If you believe in encouraging students to be self-directed and collaborative, critically reflective, politically savvy, empathic, and fair-minded, as well as competent in the skills that are essential to meaningful lives and careers, then you will want to consider active learning. . . . Despite their sometimes passive, if not apathetic exteriors, most students are capable of acquiring those abilities, because deep inside remains a desire to explore and to learn. Students who learn to take responsibility for their own learning help make our society more democratic and a better place for everyone. Finally, active learning helps prepare our students to be self-directed, life-long learners—an ability they will all need in a society where individuals change jobs numerous times in their working years and have extended leisure time after retirement (Myers and Jones, 1993).

Active learning goes deeper than its efficiency as a teaching tool. . . . It is essential to our vision of what an educated person should be.

Modified Lectures

A teacher who elects to engage students in active learning does not necessarily give up the familiar lecture. Instead, lecture and active learning can be complementary. If you have been seeking ways to make lectures more interesting, you may find that shorter periods of lecture punctuated by an active learning exercise improve students' interest and retention of the lecture. If students discuss the information and apply it in some situation that has meaning for them, the lecture content is reinforced.

Suggestions from Bonwell and Eison (1991) for modifying the lecture include:

- pausing for enhanced retention and comprehension (e.g., asking students to work in pairs for anywhere from 10-20 minutes to examine, recapitulate, and

The Tutor is produced on behalf of the Graduate Part-Time IInstructors and Teaching Assistants of the University of Colorado at Boulder, and is published by the Graduate Teacher Program, a division of the Graduate School. The Graduate Teacher Program office is in Norlin S461, Campus Box 362, University of Colorado at Boulder, Boulder, CO 80309-0362. PH: (303) 492-4902.
Laura L. B. Border, Editor; Haewon L. Thurman, Assistant Editor and Typographer.

other wise analyze either what they have just heard or how they might apply what they have heard to a particular problem or issue);

- using tests and quizzes to help students solidify what they have learned from a lecture and what they think about the subject or issue at hand (frequent quizzes also help instructors assess their own performance);
- demonstrations accompanied by participative questions (e.g., "What will happen if we do this"; "If this happens, then what follows?");
- alternative lecture formats (e.g. the "feedback lecture" which consists of two mini-lectures approximately 20 minutes long separated by a small group problem-solving study session, the "guided lecture" where students are asked to listen to 25-30 minutes of lecture, then spend five minutes writing what they can recall, followed by small group discussions in which basic concepts and supporting data are pooled to construct meaningful notes, and the instructor is available for clarification);

- and, the "responsive lecture" which allocates one class period per week to open-ended student-generated questions on any aspect of the course.

Questioning and Discussion

Developing a classroom environment which is supportive of the open exchange of ideas is important to active learning. According to Bonwell and Eison (1991), teachers can experiment with the following effective strategies:

1. using different types of questions to elicit different kinds of student thinking (cognitive memory questions, convergent thinking questions, and evaluative questions);
2. using questioning strategies (planning, sequencing, directing discussion questions);
3. developing a discussion style; e.g., a committed attitude/disposition that conveys commitment to genuine inquiry (the rhetorical question, for example, denies engagement on the part of either learner or instructor).

Bonwell and Eison also enumerate and explain various forms active learning may take:

1. Visual-based instruction is used in conjunction with other strategies (not just substituting for the lecture).
2. Writing in class includes keeping a journal, summarizing a lecture, jotting down two or more important concepts discussed, etc.
3. Problem solving, such as case studies and guided design, helps students define and diagnose a problem and then identify, apply, and evaluate alternative solutions.
4. Computer-based instruction provides interaction with ideas as well as the opportunity for repetition until the concept is mastered.
5. Cooperative learning emphasizes effective group decision making, conflict resolution, and communication skills.
6. Debates include presentations of supporting data, refutation, counter-examples, data, and summation.
7. Drama students can use written scripts that address specific concepts or problems.
8. Role-playing, simulations, and games can be used to help students experience diverse and unfamiliar situations and are particularly helpful when teaching awareness or exploring attitudes and values.
9. Peer teaching, includes partnerships in which students perform alternately the roles of teacher and student or form groups to work collectively to enhance the skills of each individual.

Words from the Wise

"The most beautiful thing in the world is, precisely, the conjunction of learning and inspiration. Oh, the passion for research and the joy of discovery!"

Wanda Landowska, "Letter to Former Pupil" (1950)

"...so quick was I at picking up the language [Chinese] that I was soon able to prompt my brother whenever he got stuck. At this my father used to sigh and say to me: "If only you were a boy how proud and happy I should be."

Murasaki Shikibu, *Murasaki Shikibu Nikki*
c. 994-1010

"The aim of the college, for the individual student, is to eliminate the need in his life for the college: the task is to help him become a self-educated man."

C. Wright Mills, "Mass Society and Liberal Education,"
Power, Politics and People, 1963

"When you stop learning, stop listening, stop looking and asking questions, always new questions, then it is time to die."

Lillian Smith, "Bridges to Other People,"
Redbook, September 1969

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Teachers who engage students in active learning view the processes of teaching as various avenues through which students can enter the field of content. Multiple modalities, such as lecture, discussion, interviews, or community projects, motivate students because they address different learning styles. Teaching for active learning requires active engagement on the instructors' part as well. Teachers who explore and perfect a variety of teaching and learning strategies experience both their own and their students' success. Ω

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Coming up . . .

Graduate Teacher Program

Spring Conference 1995

Academic Discourse & Community Projects: Engaging Students in Service Learning

January 9 - 10, 1995
Hale Room 270
9:00 a.m. - 4:00 p.m.

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