



THE POWER OF ACTIVE LEARNING: DEFINITION, DEFENSE, AND IMPLEMENTATION

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OVERVIEW OF THE ISSUES

Today, some faculty members are trying to show students how to learn, not just teach them the subject matter. These faculty members believe that the acquisition of life-long learning skills will enhance a student's intellectual growth well beyond the semester's coursework. A typical active learning approach emphasizes the students' role in constructing knowledge by engaging in inquiry, critical thinking, and problem solving. The first part of this paper discusses what active learning is and why it is desirable; the second part suggests pedagogical techniques, teaching holes (Fredrick, 1987), problem-based learning (Gallagher, 1997), and case project (Taylor 2000) for implementation.

Although there is often a linkage of the concept of active learning and the use of group assignments, this teaching approach to learning can be accomplished using either individual or group assignments and exercises. Both independent and group active learning assignments provide an opportunity to challenge our students to harness the power of information technology as they seek information and acquire knowledge on a 24 hour / 7 day basis. When learning is anchored to real-world contexts students learn to apply textbook knowledge to specific professional situations. Common features of this approach can be applied to many different disciplines. Communication skills are strengthened, as are skills in teamwork, presentation technology, and information seeking and analysis. The ability to acquire, create, and share knowledge continues to be an essential professional tool in the 21st century's knowledge based economy (Tissen, Deprez & Andriessen, 1998), as well as an important element of organizational success (Malhotra, 2000; Stewart, 1997), and national competitive advantage (Porter, 1990).

It has never been easy to communicate knowledge. Faculty members have always had to find ways to organize course content and use presentation time effectively and efficiently in order to motivate students to get them to share our enthusiasm for our subject. Doing just this much is a regular challenge for any faculty member, especially faculty responsible for large classes. However even with excellent presentational style, student passivity remains a problem, especially, in large impersonal lecture courses. The 1984 National Institute of Education report, *Involvement in learning: realizing the potential of American higher education*, strategy recommends greater use of active teaching modes to increase student involvement. Almost twenty years have passed since the *Involvement* report and it is safe to say that the majority of classrooms in most colleges are not awash with active learning opportunities. Boice (1996) indicates that active-learning that involves students was found to be an effective intervention for classroom incivilities.

The teacher's task becomes the discovery of learning centered approaches. We often seek out collaborators to help develop a range of learning strategies and methodologies. Potential faculty collaborators are found in the professional ranks of libraries, computer labs, information technology departments, and centers for academic support services. There are individuals across campus with indirect responsibilities for helping students execute traditional classroom assignments such as term papers and experiments. Being on the front line at the help desk and reference counter when student requests for help to bridge the distance between the theoretical power of a given assignment and the actual implementation of it. Seeing student anxiety has made many IT professionals and librarians eager to be involved in the process of redesigning courses to focus on active learning opportunities. The formal structure will influence the degree of specialized support available to individual sub-units (Blanton, 1992). Informal networks between academic departments, the library and IT department can foster collaboration to develop active-learning projects. The Association of College and Research Libraries website reveals numerous programs designed to foster active learning, or what librarians call information literacy. (American Library Association, Association of College and Research Libraries or ACRL) As professors seek and adapt active learning methodologies they may find themselves learning; collaboration in the design of library instruction and /or IT training sessions to facilitate student involvement in learning outcomes, assignments and exercises is an active-learning experience for everyone involved.

IMPLEMENTATION TECHNIQUES

Many short exercises designed to increase student participation are readily available. Integrative homework assignments, case analysis and problem based learning techniques provide the opportunity to make direct links between theory and practice. They help students transform "knowing that" into "knowing how to do this". In other words students learn how to apply course knowledge to situations they are likely to encounter in their professional careers. Fredrick (1987) suggests professors provide "holes" or entry points in their lectures to be filled in with student insights, readings and research. Many of us can find holes in our lectures or knowledge if we are honest. Alternately, we can design lecture holes to fit a homework assignment such as the scholar exercise discussed below.

Research about theoretical scholars is pre-assigned to individuals or groups. As lectures on the evolution of management thought progress, students fit their scholar reports into various schools of thought and discuss who may have influenced whom. This exercise technique is applicable to fields with widely

diverse content. One can schedule a mock scholar debate and instruct students to highlight the differences between their theorists' ideologies. If the assignment requires the material to be presented a way that engages the class in some activity related to the scholar's accomplishment, students must create an active learning technique, whether they know that is what they are doing. When faced with finding a way to get their fellow students actively doing something that illuminates or operationalizes the theoretical approach of their assigned scholar my students have been very creative; they role-play, debate, create board games and quiz shows. Anecdotal evidence suggests students remember personalized learning experiences for a longer time period than even our most inspired lectures. This particular assignment appears to foster the development of an appreciation for the positive difference active learning brings to a classroom, as well as supporting the development of a sense of collaboration between each student group and the faculty member as the group and the faculty member exchange ideas about what part of the assignment gave the best opportunity to learn about the theorist, best way to share learning and the best way to harness the power of the internet, the world wide web, and technology to locate, share and create knowledge about the scholar.

Problem-based learning is another useful way to implement active student involvement (Gallagher, 1997; Stepien & Pyke, 1997; Stimson & Milter, 1996). Criticisms of medical education's emphasis on memorization that resulted in a deficiency in graduates' problem-solving skills led to the development of the problem-based learning model in order to better prepare physicians for professional practice (Barrows & Tamblyn, 1980). Other professions have followed suit; business schools are no exception. All that varies is the subject matter being contextualized. According to Edens (2000) problem based learning is cyclical and involves at least three distinct phases: problem development, inquiry and investigation, and problem solution. The cycle begins with a scenario or situation containing an ill-defined problem. Ambiguous, dynamic, and controversial problems based on real world situations, classic textbook cases or current events challenge students to make justifications and demonstrate critical thinking skills. Complexity fosters working together and encourages drawing on each other's expertise. Case studies offer these opportunities.

Case studies can also be useful. For business school professors who are interested in having her students develop the skills in information seeking and information analysis that form the core of case study work, the work done by library and information researchers such as Kuhlthau (1993) is important. She elucidates and models the processes in the abstract. Collaboration with IT professionals and library faculty can result in students gaining information analysis skills that are essential components of any knowledge management culture. Typically IT and library professionals are given very limited amounts of time to present their material; this may lead to disaster by subjecting students to information overload or an emphasis on vague promises that technology can change one's way of learning with a fast demonstration of one or two IT or library resources. Infrequent semester long collaborations occur between classroom faculty and IT and library professionals and students, usually focused on an end of term assignment. These efforts have a truer active learning component. (Coughlin and Gertzog, 1992)

A student generated case study is one such integrative approach to the development of several kinds of active learning skills (Taylor 2000). By the end of the semester students develop a detailed case analysis of an organization of choice. They

make research choices, develop presentation materials, and some contact companies for additional data. In these case study projects, information technology related activity is varied; they create power point slides, collect film clips from the news, learn to use research databases and presentation equipment. Bringing the IT and active learning and information literacy work into the rhythm of the semester long assignment makes a difference. Utilizing the skills of class members encouraged peer learning. Students like to learn new technical skills from their classmates. If faculty is aware of students' strengths they can become opportunities for demonstrating knowledge management in action. Students have generally reported a high sense of achievement and satisfaction with their outcomes in this assignment. They have given a high rating to the case project as a learning tool and expressed very positive attitudes towards the life-long skills. The intellectual skill of finding appropriate source material is as valued by students as the practical skill of mastering a software presentation package. Working students who select industries related to their employment particularly appreciate the career relevance of the project. They do not label what they have done an act of active learning, but in reality that is what it is. Given the emphasis placed on learning organizations in the last decade (Senge, 1990) and the role of knowledge management in firms, these findings are important.

CONCLUDING REMARKS

Active learning strategies link knowledge management and IT to the intellectual development of graduates better able to contribute to the value-added activities of modern day organizations (Malhotra, 2000; Tessin, 1998; Stewart, 1997; Davenport and Prusak 1998) and societies (Porter, 1990). It appears there is both considerable certainty knowledge management is desired as well as uncertainty about the best way to achieve a fully developed, appropriate knowledge management infrastructure for the firm (Blanton, 1992; McInerney and Le Fevre, 2000). In the absence of any one agreed upon methodology, the wisest approach is to ensure any method selected allows for alternative approaches and solutions. Active learning approaches promote information seeking, information analysis and communication of information on the part of all employees without falling prey to the promotion of any particular fad or approach.

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