

# Problem Solving, Critical Thinking, And Case Analysis

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## ABSTRACT

*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 how to use two sided pedagogical approach, the A is for Analysis model (Taylor, 1998 ) and problem-based learning (Gallagher, 1997), to implement the concepts and help students recognize that context creates complexity. It is an experiential learning exercise that focuses on interpersonal relationships, goal conflicts, self awareness and social awareness of relationships.*

## OVERVIEW OF THE ISSUES

As college courses, accreditation requirements, and government agencies shift the primary focus to student learning outcomes, the teacher's role is changing from "the-sage-on-the-stage to the guide-by the-side (Stimson and Milner, 1996,40). The student's role is changing also, from the body in the back of the room daring someone to teach them to a member of a group working on an interesting project. Good teaching is a very intensive, individualistic and imaginative process. It is hard and at times unrewarding work. The adoption of active learning strategies offers many opportunities to those faculty members who want others to care about learning as much as they do. 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. Just doing 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 classes. The 1984 National Institute of Education report, *Involvement in Learning: realizing the potential of American higher education*, strategy recommends greater use of active teaching models to increase student involvement. Over 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 in classroom incivilities.

There are also practical benefits for students. Learning to apply problem-based strategies and case analysis techniques provides useful peer interaction, an opportunity to work in a team setting and an intellectual challenge. When learning is anchored to real-world contexts students learn to apply textbook knowledge to specific professional situations. Common features of the active learning 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 21<sup>st</sup> century's knowledge bases economy (Tissen, Deprez & Anderson, 1998), as well as an important element of organizational success (Malhorta, 2000; Stewart, 1997) and national competitive advantage (Porter, 1990).

## **IMPLEMENTATION TECHNIQUE**

Even the best ideas benefit from teaching tools. The task of an individual teacher who wants to embrace active learning becomes learning how to develop learning centered approaches. Those interested in active learning often seek out collaborators to help them develop a range of learning strategies and methodologies. It may be another faculty member, often one who is enough of a friend to allow for the exchange of confidences about teaching strategies. We realize that we need ways to foster critical thinking skill development and active learning participation. Many short exercises designed to increase student participation are readily available.

Integrative homework assignments are one way to generate involvement. Both 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. Problem-based learning is also a 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 Five Stage Decision Analysis Model**

#### *A Is For Analysis*

1. Actors
2. Agenda
3. Alternative
4. Analysis
5. Action

Taylor, 1998

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 can be used to 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 and so do smaller research activities that fall far short of a full case study. Management decision-making cases often embrace several disciplines: management, economics, finance, and political science. March & Simon suggest decision-making is not really a rational exercise but rather an adaptive coalition embedded in a historical context with both internal and external conflicts of interest. The case analysis model presented below in Figure I has also been developed as a stand-alone professional enrichment module and can be applied to any decision-making setting no matter how large or small. For example, one could use this format to discuss characters in a play or politicians at a summit meeting instead of corporate personnel in a business case.

This environmental assessment for a decision involves five multiples: actors, agendas, alternatives, analysis criteria, and the action recommendations. To begin the activity, I usually tell my students to remember a time way back when, a time when they were little children and could not yet drive a car. The basic scenario involves a request for Mom to drive her fourteen-year-old child to a Friday night movie at the Mall. Theatre. After explaining that young children with somewhat limited cognitive ability may see the decision as a simple "yes" or "no", we go through each of the five stages of the decision analysis model to help them create a thought matrix. The goal is to show students how their matured cognitive ability allows them creating a dialogic conversation that enriches their critical thinking ability. This technique provides a useful heuristic when thinking about decisions. Cases, exams, and life are full of decision situations. As we work through the analysis students begin to realize that recommendations are not simple

they require a certain amount of cognitive sophistication. Decisions are ambiguous; the process involves multiple stages fraught with complication and contextual pressures. However, when a broad range of relevant dimensions has been included in the process, as suggested in this A-Analysis model, the validity of a decision can more easily be defended.

## **CONCLUDING REMARKS**

Active learning pedagogical techniques, such as the A is for Analysis model, can provide the link between the introduction of knowledge management principles and the growth of individuals able to fully 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). 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. When active learning is combined with group assignments is it because it is believed participation in a focused group discussion both reinforces content knowledge and demonstrates the value of teamwork. Both independent and group active learning assignments also provide an opportunity to method selected allows for alternative approaches and solutions. Active learning is able to encourage life long learning skills, such as skill in 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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