

ACTIVE LEARNING AND THE ADVANCED PLACEMENT ECONOMICS PROGRAM

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ABSTRACT

Active learning is a new concept to many academic economists. The significant accomplishments in this area by the National Council on Economic Education and the College Board will be documented, and the Advanced Placement Economics Program of the College Board will be described.

INTRODUCTION

The most unique aspects of the high school economics classroom are the common sense acceptability of basic economics principles and the lack of economics training of most high school teachers. These aspects have led to the development of “Active Learning”; exciting hands-on teaching strategies that are almost self-teaching and fit well into all social studies subject areas.

These techniques are being increasingly used and accepted in the college classroom (Johnson, 1998a; Johnson, 1998b). Recent research advances in economics education using active learning will be reviewed, and areas for further research will be explored.

CLASSROOM STRATEGIES USING ACTIVE LEARNING

Active or Cooperative Learning is a set of teaching techniques that has been shown to improve classroom instruction. Measures of its effectiveness include increased retention of facts, increased ability to process information, greater student enthusiasm and participation, and overall increased excitement about learning. The literature of the past decade includes numerous examples of success achieved through Active Learning and few contraexamples (Bergstrom & Miller, 1997; Johnson, Johnson & Smith, 1998a; Silberman, 1996).

This paper will review the key elements of informal active learning. Examples of these techniques that can be used in the typical economics class will be discussed and demonstrated. The Advanced Placement Economics program of

the College Board will be discussed to show how active learning techniques can be integrated into the principles of economics course at the college or high school levels.

The key to active or cooperative learning is that the students take an active role in their learning. The basis of active learning is research showing that students learn more and better if they not only hear facts but apply them. They need to take new knowledge and use it to solve a problem or gather new facts. This important step reinforces learning and verifies that the knowledge has been effectively transferred. These techniques help keep the students' attention and reduce the chance that failure to understand one concept will interfere with the learning of the next point. These techniques also deputize all students in the class to reinforce the learning of their fellow students. The traditional lecture is interrupted briefly every 10-15 minutes to perform an informal active learning exercise (Johnson et al., 1998a).

Learning Objectives

A key feature of successful active learning is that the learning objectives are clearly stated and understood by the students. The objectives are stated in terms of what the student should be able to do at the completion of the lesson. The student always will know exactly what he or she will be expected to do at the end of the class to demonstrate competence.

Buy In

Students must accept or "buy in" to the learning objectives. They must agree that everyone needs to meet the learning objectives.

Clear Directions

The teacher must give very clear directions and the task must be understood and usually demonstrated. The teacher will observe progress and make corrections or suggestions to keep students progressing toward a successful conclusion.

Heterogeneous Groups

Students work in small groups to provide feedback to each other and to assist each other. It is best to avoid including in a group close friends who might exclude others. It is best to avoid concentrations by race, gender, major or other easily identifiable characteristic. Random numbering often is used to form groups. This strategy increases the chance that groups will keep to the assigned subject and

include all members in their activity. A group size of three or four often works best, depending on the situation.

Equal Opportunity

Each student must feel an equal chance for successful learning of the assigned objectives. In general the lesson continues until all members of the group have demonstrated successful completion of the learning objectives.

Positive Interdependence

Tasks are structured so that the success of each student is dependent upon the success of each other student in the group. A lagging student must be coached by the others. Each student becomes a teacher.

Face-to-face Interaction

In an ideal situation, students sit facing each other to facilitate brief, quiet discussions. The teacher will often stop and ask groups to discuss an issue or form a group answer to a question. Face-to-face interaction breaks up the monotony of a lecture and requires students to demonstrate understanding before moving on to the next issue.

Social Interaction

Effective groups will cause students to go beyond the skill of collecting facts and processing information. They also will learn and practice the social skills of leadership, trust-building, conflict management, constructive criticism, compromise, negotiation, and clarifying.

Individual Accountability

The advantage of effective active learning is that students will learn more than they would in a traditional lecture setting. To achieve this result, each student must be tested and evaluated individually to avoid a free rider problem (attendance without learning). Students must know that they will be tested and graded individually, and each group member is expected to vouch for the competency of the others.

Recognition of Success

Groups are recognized as successful only when they fully demonstrate competency in the stated learning objectives. Groups are never afforded recognition as successful unless the standard is met.

Debriefing

After completion of the learning objectives, groups should discuss the process. They would typically discuss what they learned, how well they worked together, how well they helped each other, and what they might do differently in the future to enhance success.

AN ACTIVE LEARNING EXERCISE

The best way to initiate students or faculty into the active learning world is to perform a brief exercise. A figure of a rectangle provides an opportunity. To perform this and most other informal active learning techniques, students are placed in small groups of three or four.

The figure, as shown to the students, reveals a rectangle subdivided by two vertical lines and two horizontal lines, forming nine boxes. The instructor presents the figure and gives instructions. The instructions are for each group to determine how many rectangles are in the figure. First, each member should determine the answer, and then each member should present his or her solution to the group. The group must agree on the correct answer. More importantly each member must verify that the other members can explain the correct solution. This requirement means that each of the members must successfully present the correct solution to the others.

In the process of completing this task, each student not only learns the material but processes the information and formulates an acceptable explanation of it. This learning is more effective and longer lasting than could be achieved by a simple lecture on the subject. When these techniques are applied to an economics concept, such as elasticity of demand, students must thoroughly understand the concept to be able to complete the exercise to the satisfaction of their group members. The instructor monitors the group work in process and then verifies the learning by individual oral or written testing.

THE PRINCIPLES OF ECONOMICS COURSE

Principles of economics is a course offered at virtually every university and now in many high schools. It has traditionally been taught as a lecture course,

sometimes in large classes. This fact may explain the low or declining popularity of the economics major and the rarity with which the course is taken as an elective. Active learning techniques can enliven the course and restore economics to the level of excitement that we economists know it deserves (Walstad, 1998).

THE ADVANCED PLACEMENT (AP) PROGRAM

The AP program of the College Board and the National Council on Economic Education offers an excellent example of what can be accomplished using active learning techniques in the economics course. The College Board introduced the AP tests in Microeconomics and Macroeconomics in 1985. High schools could offer their students a more rigorous (sometimes honors) course in economics to prepare them for the two 120 minute exams offered by the College Board. The tests are graded on a scale of 5 (highest) to 1, and many universities give academic credit for a grade of three or higher. The tests include multiple choice questions, two short essays and one long essay. The National Council on Economic Education (Morton, 1996a; Morton, 1996b) has published excellent teaching materials to provide instructors active learning exercises and teaching suggestions at every step of the course.

In 1995, the AP test was revised, and the National Council materials were amended to add more activities and sample questions. These revisions were planned in response to the areas of weakness revealed in previous AP test results, such as graphing and long essay composition. The National Council materials are designed to complement a text rather than substitute for a text. They are keyed to three of the major economics texts: McConnell and Brue (1999), Bergstrom and Miller (1997), and Baumol and Blinder. In addition to providing excellent activities to reinforce virtually each economics concept, Morton suggests a detailed teaching outline for the microeconomics and macroeconomics course and additional suggestions.

TEACHING ECONOMICS USING ACTIVE LEARNING

One of the more basic ideas taught in economics is how an economy is organized to solve its basic economic problems; a traditional, command or market system. Morton (1996a) in his Unit 1, Lesson 3, provides an excellent example of the active learning technique. In this lesson, the instructor spends two and a half class periods covering 17 specific steps that include short lectures and four well designed activities to be completed by small groups. The Student Activity Workbooks contain the student instructions and the activities (Morton, 1996a), the Teacher Resource Manual (Morton, 1996b) contains the teacher instructions and the solutions to the activities.

Campus Parking

Activity 7 in this lesson provides a good exercise for students who have just learned about traditional, command and market systems, and who know some basic economics concepts, such as scarcity and efficiency. In this activity, small groups agree on answers to five questions. They respond to a situation provided concerning a shortage of campus parking, and they devise a method to solve the problem using the principles of a traditional, command and market system to verify their understanding. They evaluate each solution in terms of efficiency and equity. Most important they decide on which solution to recommend (and why). Successful completion of these tasks promotes learning because the students not only hear the concepts, but they must be able to explain them to others and to use the concepts to reach conclusions and compare alternatives. These activities keep the students engaged, provide continuous feedback and reinforcement, and show the students that economic concepts are central to real world situations. For many students the traditional lecture has failed to do those things, and active learning offers the solution.

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NOTE: Because of space limitations, the Publishers were unable to reproduce the material cited as activities in this Journal. The material is available from the following sources:

- Morton, J. S. (1996a). *Advanced Placement Economics, Student Activities*. New York: National Council on Economic Education.
- Morton, J. S. (1996b). *Advanced Placement Economics, Teacher Resource Manual*. New York: National Council on Economic Education.