The Efficacy of Case Method Teaching in an Online Asynchronous Learning Environment

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ABSTRACT

Case method teaching is a method of instruction that can improve the cognitive learning process. This method is used extensively in face-to-face classes. However, when it is applied to a distance education class in an online asynchronous environment, learning outcomes may differ. This article reports on a study that compares the use of case method teaching in face-to-face and online asynchronous environments. Four hypotheses on student performance were proposed. Correlation analysis supported all of the hypotheses. Other interesting findings regarding online learning also were reported as a result of the data analysis. Overall, an online asynchronous environment can promote students' participation in certain cases; however, cognitive learning gains do not seem to be as high as in the face-to-face environment. With distance education becoming more prevalent, this is a rich area for future research.

Keywords: asynchronous education; case method teaching; cognitive learning; distance education; online teaching

INTRODUCTION

Cognitive learning theory indicates that the learning process can be improved via (1) active learning and (2) problem-solving learning (Alavi, 1994). The case-based teaching approach can be identified readily with these two attributes. When using this method, students need to involve themselves actively in the analysis and discussion of cases. Instructors play different facilitator roles, such as initiator, director, participant, and motivator (Charan, 1976) in order to lead students into discovery learning and high-order reasoning. Students need to propose practical solutions along with their theoretical implications. Christensen and Hansen (1981) summarized four basic characteristics for the case method: situational analysis, active student involvement, non-traditional instructor role, and analysis-based actions. These elements would seem to promote the cognitive learning processes.

The Harvard Business School was one of the first to introduce the case method as early as the 1920s. Since then, using the case
method as a teaching tool has been recognized as an effective way for students to understand practical contexts in a teaching environment. The case method is often conducted more easily in the face-to-face (F2F) learning environment because of the challenges of solving tasks at the organizational level with near-to-real-life complexity. It is unlikely to find a yes or no answer for tasks of this complexity. Rather, learning outcomes are often unpredictable and vary with individuals. The case method blends four fundamental dimensions of task complexity: (1) outcome multiplicity; (2) solution scheme multiplicity; (3) conflicting interdependence; and (4) outcome uncertainty (Campbell, 1988). Pedagogical solutions for these tasks need to rely on active discussion, instant feedback, and problem-solving approaches. The F2F learning environment is a natural ground to exercise these pedagogies in order to help students digest cases and discover practical knowledge.

Although the case method has been an important approach for professional education, the cost of conducting the case method is still high, especially for classes with a lot of students. As a result, the utilization of case method teaching can have its limitations.

International Data Corporate (IDC) (2002) estimated that the world corporate e-learning market was $6.6 billion in year 2002 and will grow to nearly $24 billion by 2006. This is a compound annual rate of 35.6%. The database of U.S. News & World Report (2003) lists 263 online graduate degree programs being offered in five disciplines. These programs are certified by regional accrediting boards and qualify for federal aid programs. It often is perceived that online programs are more suitable for adult and graduate students who are more motivated. The burgeoning online learning/training market and the increasing training budgets of businesses and schools have provided these key users of the online educational industry with practical reasons as well as compelling research motives to investigate the effectiveness of online asynchronous learning (OAL) in the area of case study.

The online asynchronous learning environment provides one e-learning environment. The constraints of time, location, and the number of students all can be mitigated when using an OAL environment. E-learning systems, such as Web-CT or Blackboard, can facilitate students’ online discussions and provide statistics on the contributions of the students. Ease of use encourages students to take part in online discussions. However, there are many key challenges to implementing e-learning systems in general. They include (1) the cost of developing and purchasing e-learning software, (2) the time required to develop e-learning courses, and (3) the need to be convinced of e-learning’s effectiveness compared to other training models (Bloom, 2003). We hypothesize that although it is feasible to teach cases in an online asynchronous learning environment, it may not be effective to promote cognitive learning processes.

We conducted a study that compared the F2F and OAL environments using the case method teaching process. This approach facilitated discussion within a large group of students, allowed the instructor to motivate the participation of students, and did not overburden the instructor. The study was designed to provide some indicators of students’ learning performance using the efficacy of the case method teaching approach. The study also allowed the instructor to understand the problems and benefits of the online case method based on the responses of students. Finally, a pedagogical interpretation of how we can use e-learning systems effectively for teaching and learning cases is posited specifically.

**COGNITIVE LEARNING PROCESSES**

The case-based teaching method brings positive effects on learning, because it can improve on two of the cognitive learning processes: active learning and problem-solving learning. The case-based method on OAL also can be explained by its effects on these two cognitive learning processes.

**Active Learning**

Active learning is a goal-oriented process (Wittrock, 1978). The goal of studying
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