



**THE “CLASSROOM FLIP”:  
USING WEB COURSE MANAGEMENT TOOLS  
TO BECOME THE GUIDE BY THE SIDE**

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**INTRODUCTION**

The undergraduate college classroom is being changed by two converging trends. The first is a change in educational philosophy. Driven by the findings of cognitive science about how people learn (Caine & Caine, 1994; Reed, 1988), the new approaches to education view students as active discoverers of knowledge who learn best in a social setting in which faculty serve as mentors (Johnson, Johnson, & Smith, 1998). The shift from an *instructor* to a *learner* model has been summed up in the well-worn description: “From the sage on the stage to the guide by the side.”

The second trend is the rapid introduction of new instructional technologies. Whereas the old technologies were passive, analog and linear, the new technologies are interactive, digital and non-linear. These characteristics provide a good fit with the new approaches to teaching and learning that have been developing during the same period. While many writers have supported the implementation of the technologies to support new theories of learning, little connection has been made with how college professors teaching courses on residential campuses can use these technologies to transform their classrooms. At least three factors have slowed the innovation. Two of them have started

to be addressed, but the third is still largely unexplored.

The first factor is that when these new technologies were introduced to faculty at the beginning of the 1990s the focus was on training--learning how to use the hardware and software with little, if any, emphasis on effective uses related to pedagogy. Since mid-decade, however, researchers and theorists have begun to make more explicit connections between pedagogy and uses of these new technologies (Jonassen, 1996; Najjar, 1996).

A second inhibiting factor is that faculty had to master complex authoring tools or cobble together several stand-alone pieces of software that did not interconnect. The process has been made easier with the introduction of Web course management software--programs such as Web Course in a Box, WebCT and Learning Space (Gray, 1998).

The third factor is that technologies such as online threaded discussion are often presented as tools to support a learner-oriented approach for distance education (Palloff & Pratt, 1999) without discussing how they might be used to accomplish the same goal by those who teach traditional college-aged students on residential campuses. This paper presents a model that seeks to bring the pedagogical and technological trends together in an approach designed to change teaching and learning in the traditional undergraduate classroom.

## GOALS

As Shambaugh & Magliaro point out, "...each theoretical approach to education has its own strengths and weaknesses" (Shambaugh & Magliaro, 1997, p. 29). The lecture, for example, is acknowledged by those advocating other approaches to be an efficient way of presenting information (Johnson, Johnson, & Smith, 1998). In addition, some of the gains in learning ascribed to multimedia may be

attributable to the design and increased interactivity of the instructional material (Najjar, 1996), suggesting similar gains could be achieved by applying those techniques to a classroom approach. Therefore, although the attempt to design this class model drew from cognitive approaches, it also sought to retain some of the strengths of the traditional lecture approach. The fundamental assumption was that the new information technologies would provide a way for faculty to present "lecture" material, but that the shift in method of delivery would open up classroom time for teaching and learning strategies that emphasized the role of the learner in a cooperative environment. Such a change would also allow the professor to move from purveyor of knowledge to mentor working in cooperation with student learners.

From the outset, a number of goals were set, including the following.

- Find an approach that would make it possible for faculty to move from *sage* to *guide*.
- Reduce the amount of time spent in class on lecturing, opening up class time for the use of active learning strategies.
- Focus more on understanding and application (critical and creative thinking) than on recall of facts (content/basic thinking), while not sacrificing presentation of the factual base (categories from Jonassen, 1996, p. 27ff.).
- Provide students with more control over their own learning,
- Give students a greater sense of their own responsibility for their learning.

- Provide students with more opportunities to learn from their peers.

## DESCRIPTION OF THE CLASSROOM FLIP

### Online Components for Out-of-Class Work

*Lectures.* A key online component for the “flipped” class is the movement of lecture material out of the classroom through online delivery. Since the advent of Web course management software, the medium for this delivery of traditional class content has been Web pages, the use of which is monitored by the software.

*Threaded Discussion.* A second online component is one usually associated with distance education--threaded discussion groups. In the traditional classroom, time constraints often truncate the discussion of student presentations. By moving that process online, classroom conversation is extended. Students are provided with the full written reports of their peers and have an opportunity for more interactive discussion than is possible in class.

Another advantage is that this asynchronous discussion gives a voice to many students who are silent during in-class discussions. Experience has shown that these students want time to prepare, edit and rewrite their comments before submitting them to peer review. With the discussion no longer time-based, these students are given the opportunity to go through those steps. Their contributions to the discussion are usually well thought-out and carefully articulated. Thus, the whole class benefits from the addition of their voices to the conversation.

*Quizzes.* When asked to identify a frustration in their teaching, faculty will often list student motivation at the top of the list. They are concerned that students don't spend enough time with assigned readings to be adequately prepared for in-

class work. A third component--online quizzes--helps provide an incentive for students to keep up with assigned readings. The Web course management programs can make a quiz over readings available right up to the starting bell of a class, providing an incentive for students to read the material and be prepared for class discussion that day.

### Changes in the Classroom

*Time for Active Learning.* One of the immediate changes in the classroom is that the professor is freed from the "tyranny of the lecture"--the schedule imposed by the amount of material that has to be covered in class each session. With the essential class content available online, the professor is now free to use class time for other activities.

One approach to structuring the class revolves around four verbs.

- *Clarify*--begin by discussing any questions the students have from the assigned readings for the session.
- *Expand*--next, invite the students to add to the assigned material by drawing from their own experience, other reading or what they have learned in other classes. This stage recognizes the students as co-contributors of knowledge and can help place the content for the day in a "real world" setting as students draw upon insights gained from their own life experience.
- *Apply*--one of the most important contributions of the model is the time it provides to concentrate on student understanding and application of concepts. Thus, on a "normal day" most of class time will probably be spent on this stage, where students are asked to apply what they have learned from the assigned materials. This model

provides a greater amount of time for these kinds of activities without sacrificing any of the course content.

- *Practice*--this stage takes application beyond the critique stage and involves the collaborative groups in creative thinking.

### STUDENT ASSESSMENT OF THE CLASSROOM FLIP

In order to determine whether or not the goals for the Flip were being met, students in two of the classes--Graphic Design for Interactive Multimedia and Communication in the Information Age--were surveyed for their perceptions of the implementation. At the end of each class, students were given a bank of attitudinal statements and asked to indicate the extent of their agreement or disagreement with the statements on a five-point Likert-type scale (on which 1=Strongly Agree). Initial results from the classes provided some evidence that the goals for the model were being achieved.

The most positive comments from students in the Graphic Design class came in response to these questions (from a bank of 22 questions):

*The class encouraged me to spend more time collaborating with other students than I typically do in other classes. (1.3)*

*Class discussions encouraged critical thinking. (1.4)*

*Compared to other classes of this size, I felt that there was more personal attention provided me. (1.5)*

*I feel I learned from my fellow students through their presentations and comments in class discussion. (1.7)*

*The online resources provided me with more control over my own learning. (1.8)*

*In-class time was spent more in discussing implications than in presenting facts. (1.8)*

The most positive comments from students in the CIA class came in response to these questions (from a bank of 35 questions):

*In-class time was spent more in discussing implications than in presenting facts. (1.8)*

*Class discussions encouraged critical thinking. (1.8)*

*I was more responsible for my own learning in this class compared with others. (1.8)*

*The online material and in-class discussion made the course more of a forum than a lecture. (2.1)*

*I feel I learned from my fellow students through their presentations and comments in class discussion. (2.3)*

## CONCLUSIONS

Although the use of Web course management software is usually presented as a way to provide distance education, the features such software provides have utility for traditional face-to-face classes as well. Although a hybrid approach of using distance learning technologies to support classroom learning is just beginning to be explored, the Classroom Flip model suggests that college faculty can bring the benefits of increased interactivity and collaboration into their classes--both online and in the classroom--without sacrificing any content.

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