

# Learning Prototypes vs Teaching Methodologies in Technology-Based Courses

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Students today are members of the MTV generation. They are visual learners. When professors consider that students are not all auditory learners they also readily understand that a change has to come in the way they teach. In response to this issue, some changes were implemented in courses in business and education at the authors' universities. The results of research on these changes indicated that using non-traditional ways of reaching students were as inviting as television and other forms of media for student learning. Students were more attentive and learned as well.

What we believed about teaching made a difference in what was taught. Building skills, promoting multicultural awareness, promoting career skills, and encouraging academic and professional excellence were some educational goals we identified in both business and education. In addition, learning prototypes selected for use in the study were expressions of commitment, compassion, creativity, devotion, and enthusiasm.

We realized that there were numerous ways that students learn. Individual differences based on culture, gender, and age, to name a few, were considered in the selection of primary learning prototypes. Problem Solving, demonstrations, drills, questions-and-answer, and in-lab problems were some of the principal learning prototypes used to enhance teaching methodologies in technology-based business and education courses.

## Method

The learning method was a demonstration of how courses were conducted with the use of technology. Short mini-exercises were used to develop concepts covered in business and education classes. Specifically, Microcomputer Applications and Educational Philosophy were courses where data were collected.

Class interaction (small group exercises, brainstorming, laughter etc.) was required for learning the topics presented. A variety of related mini-exercises were used during the 75-minute class to allow students

to learn concepts then apply them in appropriate settings. All students, regardless of the section in which they were enrolled, completed projects and worked in the computer laboratory in an instructional environment.

Full- and part-time students attended all class sessions. Regardless of status, the sessions were designed to be appropriate for both traditional and non-traditional students. The sessions were designed for a wide range of interest and were applicable to any area of study.

Learning processes involved whole versus part learning, rivalry and competition, and skill development. The student-centered learning approach allowed us to hypothesize that the use of the selected learning prototypes would enhance learning in the chosen courses. Also, we felt that student involvement was paramount in the learning process. Students were divided into two different sections of the same course. Treatment of the groups differed in that Group II met in the regular lecture classroom, while Group I met in the computer laboratory and was able to interact with us during class.

We used various multimedia with Group I while in the laboratory to explain and demonstrate how to carry out various tasks. Different projects were assigned and explained. Time was allowed for students to practice in class after the professor introduced each concept. Topics such as design template, style checker, outline view, and clip art were presented to the class.

## Assessment and Findings

Pretests were administered to all groups at the beginning of the semester. Four other tests were given throughout the semester and an average was calculated for all groups after each test was administered. After the first test, Group I consistently scored higher than Group II which met in the regular lecture classroom.

## Results

The results indicated that the learning prototypes used

in the computer laboratory classes improved student performance over the level achieved by those in the regular lecture classroom.

### **Summary**

The classes focused on ways to learn as oppose to ways to teach. The use of technology was used as an aid to enhance learning. Though business and education were the two disciplines for the study, any academic, scientific or artistic discipline may use the described prototypes.

A variety of networked configurations may be used in the future. However, for this class, a multimedia station was used. Specifically, an IBM compatible computer, a projector, and Microsoft PowerPoint 97, Word 97, Excel 97, and Access 97 were utilized. Other software available for student use in the computer laboratory includes RAMAXP, NETSCAPE, and Internet that allowed students to explore the world and incorporate findings into in-class and out-of-class projects.

Learning is a continuous process for professors as well as students. Therefore, in the coming semesters we propose to improve this study by doing further and different analyses of the data, and using the learning prototypes for the treatment groups only. It is highly recommend that professors in disciplines other than business and education utilize these learning prototypes.