

STUDENT PREPARATION: A KEY TO LEARNING AND TEACHING

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Abstract

Eighteen students were equally divided: Group A had textbooks while Group B did not have textbooks. "A" learned the course material via the text and lectures. "B" accessed instructor notes, lecture slides, and future probable test items via the instructors' Intranet program called "Blackboard." Prior to each examination, the instructor presented key words that had been thoroughly discussed. The students had to explain each item in one sentence demonstrating understanding. The midterm examination had sixty-two items valued at three points apiece, totaling 186. The average score for Group A was 132 while Group B averaged 164. On the seventy-item, 210-point final examination, Group A averaged 156 while Group B averaged 188 points. Hence, using different approaches for student learning does make a difference. Providing student access via an Intranet to the instructor's material and allowing pre-lecture knowledge of probable examination items significantly improves examination results and student learning.

Keywords: Blackboard, Intranet, student learning, teaching approaches.

1. INTRODUCTION

Normally, all students are taught and treated equally to avoid any hint of discrimination in the classroom. Those students in grammar school, however, are often subdivided into groups or categories based upon their level of knowledge, skills or ability to learn. Then the teacher endeavors to teach the students according to their level or group. Evidence^{1,2} has shown this method to be quite successful even though the students in the lower level groups may only be expected to learn a small percentage of those in the highest group. The students are graded based upon the teacher's expectations for those within each distinctive group. Other studies concerning group subdivisions in the classroom deal with what is called the "self-fulfilling prophecy."³ In these cases the teacher does not actually subdivide the students and usually believes he/she actually treats all the students equally. But, mentally, those students believed to be superior are actually dealt with differently and their work performance is measurably better.

No previous studies can be found where a class of "equally qualified" students is taught identically but pre-class information differs between groups of students. Such a study was undertaken and the results are here in reported. Eighteen senior or graduate students were enrolled in the "Organizational Effectiveness" course, Spring 2000, at Arizona State

University. This course investigated all aspects of human behavior in organizations, relevant theories to help interpret and understand such behavior, and probable effectiveness of both the organization and individuals. The author, a visiting professor at Arizona State University, discovered on the first night of class that the students were equally divided: nine students already had their textbooks by the same name as the course and nine students had not purchased their texts yet. This was an ideal situation for this research project although it may be classified as controversial. Another commonality was that both groups were equally comprised of one mid-twenties full-time graduate student and eight adult learners averaging thirty-two years of age and employed.

The class was informed of the overall objectives of the course and the andragogy method to be used throughout the semester. The instructor would use extensive PowerPoint slides that directly corresponded to the textbook content. Rather than using the typical lecture mode, an open discussion methodology would be followed. Through this discussion each student should master the true meaning and possible applications of each topic area. In fact, they should be able to thoroughly explain each topic using simple and easily understood language.

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This technique supports the instructor's belief "If the students have not learned, the instructor has not taught," and his definition of communication that is "The equal responsibility of both the sender and listener for the guarantee of mutual understanding." The students were also informed that their mid-term and final examinations would consist of key topical words or names of individuals discussed in the class. They would have to thoroughly define or explain each item in one sentence without using a typical textbook "What" answer. In their responses they would have to convey complete understanding of the word, topic or person. Further, during the week prior to each examination, the list of words and names would be presented. The class would approve of each item for inclusion in the examination. The basis for inclusion or omission would be the thoroughness of discussion during the class sessions. If a majority of the students voted in favor of an item, it was included in the examination.

2. DIVIDING THE GROUPS

The nine students who already had their textbooks were not told anything unusual about their expectations. The course would follow the thirteen chapters in the 600-plus-page textbook. They were to read the material prior to each class so they would be prepared for discussion. They would notice that all the PowerPoint slides used in the class corresponded to similar material in the textbooks; however, not all the tables, figures, charts, etcetera would be used.

The nine students who did not have their textbooks were given two options: (1) Buy the \$121.00 book and learn from it as usual or (2) choose not to buy a textbook and obtain the course material from the instructor's Intranet "Blackboard" site. They would be able to access the instructor's presentation and discussion notes, copies of all the PowerPoint slides and a listing of the key topical words and people prior to each class session. All nine students opted for using the Intranet. They were then provided with confidential access codes and information sheets explaining how to use the "Blackboard" system.

The Blackboard System: Blackboard CourseInfo^{tm4} is an online teaching and learning server software product. Its purpose is to provide distance learning as an enhancement to traditional classroom instruction. Figure 1 shows Blackboard CourseInfo's four core features.

Content Management:

Posting course documents and assignments, staff information, and incorporating files from Microsoft Word, Excel or PowerPoint.

Communication and Collaboration:

Instructor and student interaction, Mutual learning via discussion boards, real-time chat opportunities, and virtual office hours.

Assessment:

Create tests, quizzes and surveys, Password-protected examinations, and Performance feedback.

Administration:

Instructor Control Panel access, Control of course content, communication, assessment, and user management via security permissions, and tracking student use

Figure 1. Blackboard CourseInfo Core Features

The instructor used all of these options other than Assessment since only one-half of the students had access to this Intranet information. All course information was provided using this site including the syllabus, course purpose and objectives, schedule, PowerPoint slides, discussion notes, key words and people as probable examination items and other pertinent student information.

Grades and class ranking was included. A major feature of BlackboardCourseInfo that was a great benefit to the instructor was the virtual office hours. Eight of the nine students using this system were full-time employed and were often unable to schedule meetings with the instructor. They regularly used the virtual meeting aspect of the system, that was a confidential threaded discussion board one-on-one "chat."

3. THE MID-TERM

During the week prior to the mid-term examination the instructor presented all the key topical words and people that had been discussed since the beginning of the course. Each item was again considered, questions pertaining to each were answered, and the students voted on each items' inclusion or omission to the test. The majority ruled. If one-half voted to omit an item, it was not included in the examination. The remainder of the items constituted the test. The students knew the procedure and scoring for this examination. They had to demonstrate their degree of "understanding" of each item in one sentence. A textbook "What" answer would not garner any points since it would not show understanding.

The mid-term test consisted of sixty-two items each having a value of three points. Therefore, the total points for the mid-term examination was 186. The two groups were labeled by the instructor Group A, the textbook group, and Group B, the Intranet group. Table 1 shows the mid-term test results.

	<u>TotalPossible</u>	<u>AverageScore</u>	<u>%</u>
GROUP A	186	132	71
GROUP B	186	164	88

Table 1. Mid-term Examination Scores

Group B did significantly better than Group A by an average of thirty-two points. Also, the range of scores differed greatly for the two groups. Group B ranged from a low of 153 to a high of 183; a difference of thirty points. Group A had a low of 96 and high of 154 for a range of fifty-eight points. The instructor's initial prediction based upon andragogy principles was accurate. Students who can organize and plan their own learning, with guidance, will do better than those who are required to follow a prescribed pedagogy method: read, take notes, memorize, and then forget following the examination.

At the next class session the mid-term examination results were told to the whole class. The instructor informed the students in Group A about Group B and how they were learning. The instructor avoided uproar, or charges of discrimination, by assuring all Group A students that their examination scores would be adjusted at the end of the semester following the final examination. However, they were encouraged to excel because they had a lot of points between themselves and those students in Group B. None of the students complained because of the assured adjustment with a guarantee of fairness.

4. FINAL EXAMINATION

The results of the final examination were almost identical to the mid-term examination. There were seventy items approved by the class. Again, each item was valued at three points for a total of 210. Table 2 shows the results for the two Groups.

	<u>TotalPossible</u>	<u>AverageScore</u>	<u>%</u>
GROUP A	210	156	74
GROUP B	210	188	90

Table 2. Final Examination Results

The average difference between the two groups was identical - thirty-two points. The range for Group A was much less than in the mid-term examination. Group A scores ranged from a low of 142 to a high of 178 for an overall range of thirty-six. Yes, the lowest and highest Group A students were the same on both the mid-term and final examinations. The range for the Group B students was much narrower: a low of 178 and a high of 200.

Table 3 shows the combined results of the mid-term and the final examinations. Also shown are the adjusted Group A scores. The instructor added thirty points to each student's mid-term and final examination scores.

	<u>Total Possible</u>	<u>Average</u>	<u>%</u>
GROUP A	396	288	73
GROUP B	396	352	89
GROUP A (Adjusted)	396	348	88

Table 3. Overall Examination Results

The instructor equalized the scores as closely as possible. The Group A student who had the high-test score in that group was within thirty-two points of a perfect score on both the mid-term and final examinations. That student, incidentally, completed the course with the highest test score average. The applied adjustment and exactly how it was reached was thoroughly explained to the students. They all expressed their satisfaction.

5. CONCLUSION

The results of this study are highly conclusive even though the sample size was quite small. Different approaches for student learning does make a difference. Those students who had access via the instructor's Intranet site and could utilize actual course material scored significantly better than those students who followed the typical "learn from the textbook" approach. All students participated in the discussions and helped equally to determine examination content. But, those students who had access to the instructor's discussion notes and prior knowledge of probable examination items before each class could isolate

their concentration on the most pertinent and valuable content. Their learning was under their individual control.

Although the sample size of this individual study was quite small, the author feels quite strongly about these results and his personal experiences such that he strongly recommends instructors reevaluate how they are providing learning opportunities for their students. With an Intranet system similar to Blackboard, the burden of learning is transferred to its rightful source with the students. Another benefit is the virtual office hours utilizing on-line one-on-one chat room capabilities. This student preparation process can be used for virtually every course regardless of its content. The ultimate objective is for the students to learn at their maximum potential.

A word of caution must be given, however. Any instructor wanting to a similar study must guard against any possible discriminatory practices. Any and all groups must be treated equally in the final grading.

6. REFERENCES

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