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Students’ Adaptation: A Determinant of the Effectiveness of Active Classrooms in Lebanese Private Universities

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Abstract

Active Classrooms have become progressively more widespread in the Middle East, especially in Lebanon. Educational technology, in one form or another seems to be in every classroom. The purpose of this case study is to prove that students’ adaptation to Active Classrooms used in some private Lebanese universities positively affects the effectiveness of these students’ learning process, taking into consideration constraining variables. The sample was drawn from two undergraduate business courses. The results showed a correlation between adaptation to Active Classrooms and effectiveness of these classrooms in the learning process. The correlation was statically significant. As the correlation is significant, it proves that adapting to a new tool of educational technology as the Active Classrooms and participating in ongoing discussions improve classroom performance. Based on the results, additional research is recommended.

Keywords: Active Classrooms, Active Learning, Interactive Whiteboard, Adaptation, Learning Process;

1. Introduction

Participation is a feature of many course designs. It can result in insightful comments and interesting connections being made by students and can foster a high level of energy and enthusiasm in the classroom learning environment (Peterson, 1998); as such, participation may be a useful element in class with many passive students. Passive students generally fail to find a great deal of satisfaction or accomplishment as a student. They are of Type B personalities and relax, and “chill out” with no sense of urgency. Moreover, passive students will attempt to pass a class but are not focused as much on the grade point average (GPA). Furthermore, passive students do not attend all classes, take notes, pass all exams and does not complete their education.

2. Literature Review

An effective educational plan must prepare the student to think by himself, to generate innovative and original plan, to be able to solve problems and to relate to his environs in a collaborative way. Active Learning is an extensive and most comprehensive learning principle, and it supports all other key learning processes. Active Learning can be defined as an investment of a significant amount of intellectual energy and a high level of mental involvement in the learning procedure (Ahluem-Heather & DiVesta, 1986). Active Learning is often compared to the
traditional lecture in which students reflexively receive information from the instructor (Bonwell, 1991). It is generally defined as “any instructional method that engages students in the learning process” (Bonwell, 1991). Students are required to be involved in “meaningful learning activities and think about what they are doing” (McKeachie, 1986). Although this definition might also include conventional activities such as homework, it follows that, active learning refers to all the activities that are practiced in the classroom. The main components of active learning are student activity and participation in the learning process (Prince, 2002). Student involvement in the learning process may be conceptualized as falling on a variety of attention or involvement, ranging from active learning on one end to passive learning on the other. For instance, student engagement in class can range from being “passive” to “moderately active” to “very active” (Ahlum-Heather & DiVesta, 1986).

According to Knowles (1998), active learning is based on several assumptions about students. There are four specific assumptions related to this topic:

(1) Significant learning will take place when the students consider the subject matter as relevant to their own purpose.

(2) Doing will always lead to more significant learning.

(3) Students’ responsible participation in the learning process will facilitate the learning process.

(4) The most persistent and lasting type of learning is self initiated by the learners and needs their complete involvement.

Therefore, active learning is based on the assertion that students will learn best when they are actively involved in the learning process: “Professor led, student centered, high involvement, practical learning strategies that can be used to help strengthen any learning environment” (Underwood, 1994).

Startlingly, educators’ use of the term “Active Learning” is based more on perceptive understanding than on a common definition. Therefore, many instructors state that all learning is intrinsically active and that students are consequently actively concerned in the classroom while listening to formal presentations. Different analysis suggests that students ought to do more than listening: “Students must read, write, discuss, or be engaged in solving problems” (Bonwell & Eison, 1991). To be actively affected, students must conduct such higher-order thinking tasks as analysis, synthesis, and appraisal. Within this framework, it is expected that the strategies that encourage active learning can be defined as instructional activities concerning students in doing things and thinking about what they are doing. It is very important to use these techniques in the classroom because of their powerful impact on students’ learning. Several studies have stated that students prefer strategies involving active learning to traditional lectures (Chickering, 1987); Research studies that evaluate students’ achievement have also shown that many strategies promoting active learning are similar to lectures in promoting the mastery of content but superior to lectures in promoting the development of students' skills in both thinking and writing (Cochran, 1989). Furthermore, research shows that other teaching techniques than lecturing can better serve many learners (Penner, 1984). Therefore, the need for instructors to become knowledgeable in the different techniques promoting active learning requires better planning and scholarly approach and all of which are more successfully used. Then, self-reflection is needed from each faculty member in order to explore his or her “personal willingness to experiment with alternative approaches to instruction” (Zelda, 1987).

Active Learning may be incorporated in the classroom through modification of traditional lectures. Research has shown that, for example, faculty allowing students to combine their notes by pausing the lecture for about three times for two minutes each will significantly learn more information (Ruhl, 1987). Students can effectively be involved during a lecture in two simple ways: to include a short ungraded writing exercise or a brief demonstration followed by class discussion. Student level of engagement can be increased by many other alternatives than the traditional lecture format: (1) the feedback lecture, which is made of two mini lectures separated by a small-group study session concentrated around a study guide, and (2) the guided lecture, where students listen to a 20- to 30-minute presentation without taking notes; this is followed by writing for five minutes what they remember of the lecture, then spending the remaining of the class period in small groups to clarify and elaborate on the material. One of the most common strategies promoting active learning is the discussion in class (McKeachie et al, 1986). If the objectives of a course are to promote long-term withholding of information, to stimulate students toward further learning, to permit students to apply information in new settings, or to develop students’ thinking skills, then discussion is preferable to lecture (McKeachie et al, 1986). However, research has suggested, that in order to
achieve such goals, faculty have to be “knowledgeable of alternative techniques and strategies for questioning and discussion” (Hyman, 1980) and that students have to be confident to take risks by creating “a supportive intellectual and emotional environment” (Lowman, 1984). Active learning has been promoted by different strategies with similar directions to influence students’ attitudes and achievement. Another productive way to include the students in “doing things and thinking about the things they are doing” is the In-class writing across the disciplines (Bonwell & Eison, 1991). Guided Design and the case study method of instruction are considered the two popular instructional strategies based on the problem-solving model.

Active learning is visualized in classrooms today through interactive whiteboards. There are two different types of interactive whiteboards: The first type is a “virtual” electronic version of a dry wipe board connected to a computer that allows the students in a virtual classroom to see what the instructor/fellow learner writes or draws. This type of boards can be found in conferencing and data-sharing systems and is also called an electronic whiteboard. The second type is a large physical display screen that works as a projector panel, a regular whiteboard, and an electronic copy board on which the computer image can be controlled without using a mouse or keyboard by either touching or writing on the surface of the panel.

Typically, interactive whiteboards are used in Active Classrooms environments and the technology allows the user to write or draw on the board, print the image, save the content to a computer or distribute it to the participants on the network. Users can also display a computer screen image on the surface of the whiteboard and by touching the board directly or by using a special pen they can control the application. The computer image then can be annotated, drawn over and the annotations saved to disc, or sent by email to others (TechLearn, 2009).

There are many advantages to using the Interactive Whiteboards: Because interactive whiteboards are very much like conventional whiteboards, they can help even technophobic teachers to use this medium with ease for presentations from the front of the room. They help in broadening the use of e-learning because they rapidly demonstrate the potential of alternative modes of delivery. In addition, they make it easy for teachers to enhance presentation content by easily integrating a wide range of material into a lesson, such as a picture from the internet, a graph from a spreadsheet or text from a Microsoft Word file, in addition to student and teacher annotations on these objects. Furthermore, they allow teachers to create easily and rapidly customized learning objects from a range of existing content and to adapt it to the needs of the class in real time. They also allow learners to absorb information more easily. Students claim that their lessons are faster paced, more fun and exciting (Levy, 2002). Moreover, they allow learners to participate in group discussions by freeing them from note-taking. In addition, they allow learners to work collaboratively around a shared task or work area. It follows that, when fully integrated into a VLE (virtual learning environment) and learning object repository, there is potential for widespread sharing of resources. It has been found that when used for interactive testing of understanding for the entire class, they can rapidly provide learner feedback (TechLearn 2009). The presentation of stimulating visual images is claimed to enhance pupils’ recall: ‘when I talk to the children about what helps them remember, they say they can still see the images in their mind, even after we have finished a lesson’ (Burden, 2002).

3. Methodology

Based on the review of literature, researches done on Adaptation to Active Class Rooms, and interviews with experts in this area a questionnaire has been constructed having a cover letter highlighting the objectives of the survey and assuring the confidentiality of the participants responses.

The survey contains several statements, where participants specify their attitude towards each statement, based on a five-point Likert-scale (Strongly disagree, disagree, Neutral, agree, and strongly agree).

The validity of this questionnaire was ensured through several steps, starting by fruitful discussions with researchers specialized in management studies, then distributing the preliminary questionnaire on a trial basis and work on improving it to become more efficient, and, then, preparing the revised final copy, and, finally, applying factor analysis before starting data analysis.

Hypothesis One: High adaptation to Active Classrooms positively affects participation in discussions by passive students.
Hypothesis Two: High adaptation to Active Classrooms positively affects the improvement in the educational results of all students.

Linear regression is appropriate for research questions where the direction and magnitude of the linear relationship between two variables is of interest (Kerr, Hall & Kozub, 2002). Regression analysis is a statistical tool used usually when the researcher attempts to determine the causal effect of one variable upon another (Sykes, 1986). To explore issues, the researcher gathers data on the underlying variables of interest and employs regression to estimate the quantitative effect of the causal variables upon the variable that they influence. The researcher also assesses the “statistical significance” of the estimated relationships, that is, the degree of confidence that the true relationship is close to the estimated relationship.

4. Discussion

Factor analysis shows that KMO measure of sampling adequacy is 0.708 which indicates a good value (as KMO>0.07). Thus the collected data from the chosen sample of students is appropriate and includes variables that attribute to the purpose of the study.

Bartlett’s measure test to the null hypothesis that the original correlation matrix is an identity matrix; identity matrix means that the correlation coefficients among the variables are zero. Since the Significance value is 0.000<0.001 then Bartlett’s measure is highly significant rejecting the null hypothesis, and concluding that there is relationship between variables of our analysis. Therefore validity was ensured, and the questionnaire serves appropriately the purpose of the study.

Testing the variables using ANOVA, F computed = 70.33 and the Significance level is 0.000 < 0.05 (5% certainty level). Therefore, Hypothesis One is accepted, and adaptation has an effect on the participation of passive students, so that 66.1% of variation of the participation of passive students is determined by variation in adaptation of students to Active Classrooms.

The same is applied for the second hypothesis, R2 = 0.432 Coefficient of Determination; F computed = 27.350 and the Significance level is 0.000 < 0.05 (5% certainty level). Therefore Hypothesis 2 is accepted, and adaptation affects the improvement in educational results, so that 43.2% of variation in the improvement of educational results of students is determined by variation in the adaptation of students to Active Classrooms.

5. Conclusion

After applying linear regression to test the two hypotheses studied in this research, two relations were proved to be significant. The first relation is between adaptation of students to Active Classrooms and participation of passive students, where participation of passive students was found to be dependent on adaptation. The second relation is between adaptation of students to Active Classrooms and the improvement in their educational results, where the improvement in student’s educational results is also dependent on adaptation.

Since the participation of passive students and the improvement in their educational results were chosen as two dimensions to be used in the evaluation of the effectiveness of Active Classrooms, then the relation between each dimension and adaptation, leads to a relation between effectiveness of Active Classrooms and adaptation as a logical conclusion. Therefore, adaptation was proved to be a new determinant of the effectiveness of Active Classrooms.

Further analysis of the collected data from the surveyed participants provided us with information regarding Active Classrooms as perceived by the students participating in the active learning system: In Active Classrooms, broader and deeper information are provided to students so they remain continuously up to date. The instructor is not any more a dispenser of information, but rather a supervisor and a guide for the students during the whole transfer process, yielding a new concept of responsibility based on sharing of information. Hereby almost quarter of the surveyed students believe that having responsibilities that is shared between the instructor and the students will minimize the needed effort by the instructors as they are provided now with more technological facilities.

Moreover, administrative and technological supports, provided by a professional staff, are noted as two major requirements for Active Classrooms. However in case of lack of managerial and technological support, adaptation will not be achieved and these Active Classrooms will not yield the expected educational outcomes. The focus of this research on studying adaptation of students to Active Classrooms, proved its effect on the success of this active learning method, because having well adapted students will definitely lead to more effective classrooms and thus better achievement of educational results. Finally, although Active Classrooms are facing several barriers and
obstacles, statistics show that Active Classrooms are worth the high investment which is one of the impediments that needs extensive focus to find means to reduce, or to sponsor.

6. Recommendation

For making the maximum benefit of Active Classrooms in Lebanese private universities, several points have to be taken into consideration: For the ultimate advantage of active learning, training sessions should be held by professionals, for both educators and students. The better the educators are acquainted with the systems the more beneficial the students would be through absorbing information and interacting. After studying the importance of technical support, the availability of enhanced and up-to-date technical equipments in Lebanese private universities will speed up the efficiency of Active Classrooms. Lack of a good Internet connection is a real problem facing Active Classrooms in Lebanese private universities. Working on offering a high-quality Internet connection is extremely recommended. Make students see and realize the outcome and the results of Active Classrooms on their educational results. This is considered a motivation to adapt Active Classrooms. Encourage students to interact in Active Classrooms either with the instructor or with their entire classmates to sense the added benefit such participation offers. Active Classrooms should be tested before being applied to prevent any gap that might lead to a negative aspect in the educational process. The operating system used in Active Classrooms should be reengineered to be user friendly. Support students to participate in discussion in Active Classrooms, since the objectives of any course is to promote long-term retention of information, to motivate further learning, and to apply information learnt in new settings and to develop students’ thinking skills.

References


TechLearn (2009), Interactive Whiteboards in Education.