

INTERACTIVE BOARD TECHNOLOGY- A TOOL IN THE HANDS OF A TEACHER
TO MAKE LEARNING JOYFUL

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Abstract

Interactive whiteboards affect learning in several ways, including raising the level of student engagement in a classroom, motivating students and promoting enthusiasm for learning. Interactive whiteboards support many different learning styles and are used in a variety of learning environments which includes not only catering to students with special needs but also for routine classroom environment. Many researches worldwide shows that the whiteboards helps educators streamline their preparation, be more efficient in their Information and Communication Technology (ICT) integration and also increase their productivity overall other than making learning joyful for the learners.

This paper investigates the effectiveness of interactive white board technology on the academic achievement of teacher trainees. The sample of the study consisted of 100 students from a co- educational institute of teacher training in Delhi. The study employed quasi- experimental pre- test, post- test control group design with two groups namely; control group and experimental group. Students were randomly divided into two groups of 50 students each. One group was randomly assigned as experimental group and the other group as control group. Students in the experimental group received instructions through the interactive boards installed in the classrooms, while the control group students received instructions through traditional teaching. t- test was employed to test the significance of mean difference in post- test scores of both the groups. The results revealed that there exists significant difference in the mean scores of experimental group and control group. Students in the experimental group scored significantly higher than the students in control group. It was also observed that even though the students were either graduates or post graduates, still they were highly motivated and excited about this unconventional way of learning. They felt much more at ease and were found to be more participatory in the classroom activity which made learning joyful for them.

Key Words: Interactive Board Technology, Joyful Learning, Academic achievement

Introduction

“Most children cannot wait to start kindergarten and approach the beginning of school with awe and anticipation. Kindergartners and 1st graders often talk passionately about what they learn and do in school. Unfortunately, this zeal and excitement does not remain constant as the learners progress through different stages of education. The current emphasis on rote learning and a race for higher encroaches upon the students’ joy.” (Judy Willis, 2007). Many education theorists (Dulay & Burt, 1977; Krashen, 1982) have proposed that students retain what they learn when the learning is associated with strong positive emotion. Cognitive psychology studies provide clinical evidence that stress, boredom, confusion, low motivation, and anxiety can individually, and more profoundly in combination, interfere with learning (Christianson, 1992).

Moreover, scans, such as Neuroimaging and functional Magnetic Resonance Imaging (fMRI), demonstrate that under stressful conditions information is blocked from entering the brain's areas of higher cognitive memory consolidation and storage. In other words, when stress activates the brain's affective filters, information flow to the higher cognitive networks is limited and the learning process comes down to a halt. Engaging the students in relevant and stress-reduced environments promote more effective learning and higher levels of cognition. It is hence; very important to understand that the strategy of joyful teaching-learning should not only be limited to the lower grades, rather, it must be applied at the higher levels as well. The school curriculum as well as curriculum at the higher level is often biased towards “academic” subjects, to the detriment of the joy associated with learning. We must consider not only logical and linguistic intelligence, but also physical, emotional, spatial, social, naturalist and intrapersonal intelligences. Therefore, the following points must be kept in mind while preparing a conducive teaching learning environment for the students:

1. Providing a stress-free learning environment.
2. Incorporating innovative techniques for teaching.
3. Emphasizing on the relevance and positive association of the content taught.
4. Creating a fearless and autonomous atmosphere for encouraging students’ participation.

The authors, through their current research, aim at studying the impact of employing “Interactive Board Technology” in the classroom teaching on the academic achievement of the students and also attempt to find out if their technology based method leads to a joyful learning experience for the students.

Technology is now being incorporated in almost every sphere in this world. Therefore, even the field of education must not remain untouched by its benefits. Interactive Boards, if used properly, can prove to provide a fun-filled and interactive teaching-learning environment. With increased involvement and engagement, the students will gain more knowledge and become excited about learning, which in turn, will lead to a higher level of cognition. The goal of technology incorporation is to increase students' learning, which is something the Interactive Board can accomplish.

Objectives

The study was designed to realize the following objectives:

1. To identify the topic to be taught under the present study.
2. To teach one group (Experimental group) by using Interactive Board technology.
3. To teach one group (Control group) through conventional teaching method.
4. To compare the academic achievement of two groups taught in the study with the use of pre- test and post- test.
5. To make learning joyful and exciting for the students.

Hypotheses

H1: There will be no significant difference in the post test mean scores among two groups (control group and experimental group) with respect to achievement in Educational Psychology subject.

H2: There will be no significant difference in the post test mean gain scores among two groups (control group and experimental group) with respect to achievement in Educational Psychology subject.

MATERIAL AND METHODS

Research design

The study employs quasi- experimental pre- test, post- test control group design with two groups namely; control group and experimental group.

Sample

The sample for the present study consisted of 100 students from co- educational institute of teacher-training in Delhi (India). One class was randomly assigned to experimental group (50 students) and the other class (50 students) as control group.

Tools Used

A 30- item multiple choice achievement test that covered the learning units treated during the study was prepared by the investigator.

Statistical Techniques

t- test was applied to test the significance of mean difference in post- test scores.

Procedure

Students in the experimental group received instructions by using the Interactive Board technology, while the students in the control group received instructions through the conventional method of teaching.

The experiment was conducted in three phases:

- (i) Pre-testing; (ii) Experimental treatment; and (iii) Post-testing.

Phase I : Pre-Testing

In the pre-test stage, intelligence and achievement tests were administered to the students of two groups i.e. control group and experimental group.

Phase II : Experimental Treatment

Both the groups viz. control group and experimental group were taught by the investigator so as to avoid teacher variable — the control group was taught through conventional method of teaching, while, the experimental group was taught using Interactive Board. Same topic was taught to both the groups for duration of 2 weeks.

Phase III : Post-Test

After completion of the instructional treatment, achievement test was administered as post-test to students of experimental group and control group.

Delimitations

1. The study was limited to one B.Ed. College of Delhi.
2. The study was limited to the subject of Educational Psychology of B.Ed. Curriculum.

Analysis and Interpretation of Data

Table 1 Means, SDs and T-values for Post-Test Scores of Achievement between Experimental Group and Control group

Group	N	Mean	S.D	t- value	Level of Significance
Experimental Group	50	79.3	8.1	6.19	0.01
Control Group	50	62.7	11.8		

Table 1 reveals that experimental group achieved more mean score (M=79.3) than control group (M = 64.7) in post-test. The subjects exposed to Interactive Board teaching achieved significantly higher mean level of achievement in comparison to students taught through traditional method of teaching. Thus, it can be concluded that use of Interactive Board technology of teaching is more effective in raising the achievement of students. Thus, the hypothesis H1 at post-test stage, **there will be no significant difference in the post test mean scores among two groups (control group and experimental group) with respect to achievement in Educational Psychology subject** is rejected.

Table 2 t-values for the Difference in the Post-Test Mean Gain Achievement Scores of Experimental Group and Control Group

Group	Mean	S.D	t- value	Level of Significance
Experimental Group	48.2	9.27	6.31	0.01
Control Group	35.3	6.5		

Table 2 reveals that experimental group achieved significantly a higher mean gain score (M=48.2) than control group E2 (M = 35.3). Thus, the hypothesis H2 at the post-test stage, **there will be no significant difference in the post test mean gain scores among two groups (control group and experimental group) with respect to achievement in Educational Psychology subject** is rejected.

STUDENTS' FEEDBACK

- Students could comprehend the content easily when taught through Interactive boards.
- They found the overall class environment quite motivating.
- Learning became fun for them.
- The level of their concentration increased.
- It helped in longer and better retention of content.
- Enhanced effective visualization

Findings of the study

- Students taught with the help of Interactive Board technology scored more in achievement test as compared to students taught with traditional method of teaching.
- Experimental group achieved significantly a higher mean gain score than the control group. The results of the present study clearly indicate that use of Interactive Board technology certainly improves the academic achievement of the students.
- The techniques for joyful learning can be incorporated at higher levels as well.
- Technology based learning promotes a holistic, expansive and experiential approach to

education.

- Interactive Board technology, if used effectively, can improve the grades of the students remarkably.
- It enhances memorization.
- It leads to more effective teaching in a limited duration.
- The aims and objectives of teaching are accomplished with much more ease.

Educational Implications

1. Teachers must integrate technology in one form or another in their teaching not only to enhance their teaching effectiveness but also to bring a feeling of joy among the students.
2. Management/ administrators must take steps to provide the Interactive Board technology in the classrooms for the teachers.
3. The importance of joyful learning should not only be confined to the elementary or middle school levels, rather it should also be extended to the higher education.
4. Teachers must be provided training regarding the use of Interactive Board.
5. Teachers must update their knowledge regarding various new technologies in the market that they can use to make their teaching effective.

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