



## STUDY OF SMART INTERACTIVE WHITE BOARD TEACHING AND COMPARISON WITH THAT OF BLACK BOARD TEACHING AMONG MEDICOS

### Biochemistry

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### ABSTRACT

Teaching with the help of teaching aids is challenging both for learners and teachers in the field of medical education. The present study is to evaluate the students by using smart Interactive White Board (IWB) and comparing with that of Black Board teaching. Smart IWB having touch pen as an alternative material of chalk used in that of black board teaching (chalk and talk). A cross-sectional study was undertaken with the help of questionnaire to distinguish medical learners' response between two teaching aids. Survey regarding both teaching aids was done in last two years. Opinion was taken from 600 medical students and out of them 69% preferred smart IWB teaching but 24% preferred old traditional black board teaching and 7% remained indifferent. IWB teaching is suggested to be the best teaching aid to be used in medical teaching. It is dust free and thus prevents teachers and learners from dust allergies.

### KEYWORDS

Black board, Smart interactive white board, Questionnaire, Medical Education, chalk and touch pen.

### INTRODUCTION:

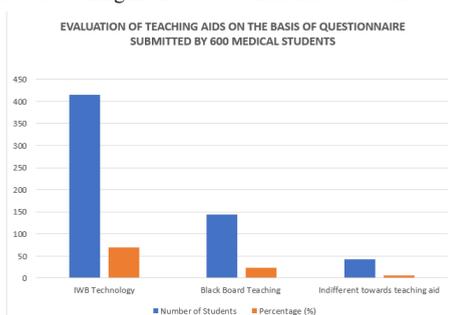
Effective transfer of knowledge by the teacher to students is of utmost importance as far as learning is concerned. This depends on method of teaching, delivery of the learning matter by the teacher and the receptivity of the students. During the last decade lot of changes have occurred in the field of teaching methodology as compared to the ancient gurukul teaching in the past due to introduction of the newer techniques in the field of educational technology. This has in turn facilitated efficiency especially in medical education like a catalyst. Has it really been effective and revolutionized the teaching? Hence, an attempt has been made in the present study to evaluate the utility of the non-electronic black board (chalk and talk) versus the smart interactive white board teaching.

### Material and Methods:

600 students aged 18 to 40 years and of either sex were randomly selected for the present study. The students were either undergraduates or the postgraduates of various private and government medical colleges. A questionnaire was prepared and was given to the students to fill and return to the investigator after demonstration. This was subjected for the analysis of the results and the percentage was calculated accordingly.

### Results:

The bar diagram given below indicates the number of students and their choice of teaching method out of six hundred students.



It has been observed that 69% preferred interactive smart board teaching because it was more attractive, effective and more opportunities for learners and is pollution free. Above study shows that the relation between teacher and learner was improved because the learner felt freer to interact with teachers and clear their doubts on the topic. There was no inhibition nor inferior complexity to know the subject. They have crystal clear knowledge over the topic. Junior teachers also found it as an easy and effective way of teaching and

learning as in case of doubts both learners and teachers felt free to overcome the hurdle of teaching and learning.

On contrary 24% of learners preferred blackboard way of teaching because they observed that old way of teaching with line diagrams and flowcharts helped teachers to show how to begin the line diagram and how to end by labelling it. By this way the learners easily practice what has been taught by the teachers and effectively write and draw in the examinations. The disadvantage of this method of teaching is that it produces chalk dust and make the teachers to suffer from dust allergy if used over decades and unlike smart board teaching revision cannot be made about the topic in the class.

Only 7% remained neutral probably because of poor understanding and poor comparison between two methods and lastly but not the least because of inhibition of learners to discuss and lack of interest due to poor understanding.

### Discussion:

Interactive smart board teaching is the latest method of teaching in teaching institutions as it has found to be more useful in professional colleges including medical college. The present study is very well supported by the following reports.

The development of white board has been coincided with that of laptop, computers along with LCD projectors. This smart board teaching also improves educational way of learning the subject of professional course by making the learners to engage or involve in the modern way of learning [1].

Preston C & Mowbray L (2008) reported that now a days the smart board interactive teaching has been adopted in a class rooms to the children of kindergarten. Smart board has been used with great success in the last eight years at Abbotsleigh Junior School. Smart board teaching is effectively used for conducting and for the short-focused conclusions. Abbotsleigh experienced that learning of IWB technology during childhood is long lasting. [2]

It has been quoted and used for class four students in South Carolina in USA through an arts-integrated lesson known as "My Contribution to the Circle Unbroken". Lisa Rentz, who has worked as classroom teachers, has experience of story writing. She has quoted as follows: - "The Smart board pages were printed out every day as the story grew. Each night I typed up everything for handouts the next day, and then resumed with the board until the conclusion of the story, which the students wrote individually." [3]

It has been quoted in article by Sarah W Caron that this interactive

white board technology makes the lessons lively and enrich the knowledge for students. This method of teaching at Saint Pious X Catholic School in Greensboro, North Carolina. Here 17 interactive white boards were used to teach mathematics, science, history and foreign languages. This school also used Discovery Education streaming which is an online facility to the classrooms to bring the lessons to the classroom. Here in the school teachers also use smart board to demonstrate projects and games according to the spokes of the said school. [3]

The great teachers like Betsy Weigle, who is a district smart board trainer from Washington has stated that interactive white board teaching provides an opportunity for the learners on curriculum-based teaching provided teachers carry out in a correct way of method of teaching so that the learners achieve the best outcome in the subject. This should be the primary aim of teachers. [3]

This method of teaching is highly effective and more efficient and enhances the learners to know more about the subject and enrich the knowledge for future endeavor. This smart board teaching is also used in conferences, in diagnosis, in teaching and in radiological diagnosis. This smart board was more superior than that of projector-screen combination [4].

Ukwueze & Onyia (2014) conducted study on smart board teaching on student achievements in a population of 990 and sample was 100 using smart board. Their result showed good achievement by students when compared to traditional method of teaching. Depending upon the finding to the concerned authority in regard to use of technology for instructional delivery, there was positive effectiveness of the teaching of smart board and it was used in higher institution. The responses were in creative way. Students responses were more interesting because they were involved more attentive and influenced when they conducted lessons using smart board. The other advantages were that there was interactivity of students and interesting ability to work and many students and teachers made sure that additional smart board should be available for future endeavor. [5]

Poling and Lo Schiavo (2013) has stated that the teachers should be aware of smart board teaching so that they can make the best use of smart board to teach the learners (students) [6]. The knowledge of interactive smart white board teaching will improve the practice and progress of professional courses. [7]

In the present study a survey has been made by questionnaire and the opinion were noted. There were three types of opinion, 69% students wanted to learn through interactive white board teaching while 24% preferred traditional black board teaching and 7% remained indifferent. Students developed profound interest through white board teaching. There was improvement of learners and teacher's relationship by asking all their doubts and hence there was good response. Students regarding black board teaching preferred because they understood the topics well and they learnt where to start topic or diagrams and where to end it and feels satisfied with this simpler device. The 7% students did not show any interest neither to IWB technology nor to black board teaching. Hence, IWB teaching was more effective tool and easy to make students learn for which practical training is required for the development and advancement of medical education with changing times and has become a necessity. This also requires regular evolution of teachers imparting such education.

Thus, IWB is a very effective way of teaching as it involves the multiple sensory inputs viz visual, auditory & sensory touch inputs at a time for better infusion of knowledge in the students. It is very well documented that there are inter individual differences including in drug metabolism and drug responses due to variations in pharmacokinetic and pharmacodynamic, thus in the present study variability in response of students is a natural phenomenon due to interindividual IQ and neuronal variability in receptivity and expression. Further, smart interactive white board technology is costlier as compared to black board (chalk and talk) and needs a little more proper handling and training but despite this, advantage of smart board weighs out far more than that of board and chalk and thus it is recommended strongly for teaching medical students and others.

#### Conclusion:

Thus, it is concluded from the above study that upgradation with smart IWB is maximally preferred by the medical students. It needs to be

implemented in different medical colleges as it has got great utility. IWB technology has created enormous interest in the mind of the students and everyone who uses IWB develops interest to become scientist and expertise in their field.

#### Conflict of interest:

There is no conflict of interest.

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