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## Enhancing Scientific Temper : Learning through IWB

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### ABSTRACT

*Science teachers are facing difficulty in almost every part of the nation to develop scientific attitude among their student. Teaching Science in a country like India is a challenging task. Science is being taught in school to develop the scientific attitude in student. There is a lot of difference learning the science. In this paper stress will be given on to develop the scientific attitude. Teaching the science is one of the input modes for developing the scientific attitude. Teaching Science is the demand of the hour and the aim of this research is, too, study the impact of interactive IWB technology in enhancing the scientific attitude and to help teachers to find a solution to enhance scientific attitude when they leave school. This research investigated the way in which IWB attracts students to develop the scientific attitude.*

**Key Word : Interactive IWB, Technology, Scientific Attitude**

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### Introduction

In our country education has been recognised as the instrument for national development. Education should contribute towards the acquirement of utilitarian, disciplinary and cultural values. Schooling is a purposeful affair and everything that is done in school is the outcome of aims of education. Whatever can contribute towards attainment of these aims is included in the curriculum of the school. Educational value of any activity or subject can be judged from the suitability for the attainment of the aims of schooling.

**"The destiny of India is being shaped in her class-room", as quoted by Kothari Commission (1964).** Education is the one and only instrument that can bring about a change towards the social and economic betterment of the country Education is a qualitative undertaking. The world community pledged itself to provide education for all, not merely schooling. Yet schooling can be the conventional means to provide education for all. Effective schooling remains today the most efficient and economic means available for educating the world's children. Improvements in schooling can be arbitrarily classified into three categories, those measures required for human survival and well-being, those prompted by common sense and those based upon research and analysis of experience. In the first category there are measures related to the health, nutrition, development and welfare of children. Actions in this area are essential to improve learning, but are prompted more by concerns for the well-being of children rather than by a desire to improve their education. In the second category there are wide range of measures that most people would view as axiomatic for example, children will learn more if provided with a textbook and instructed by a qualified teacher. The third category includes research on subjects such as learning processes, analysis of successful practice, and the study of empirical relationship between particular inputs and desired outputs. These three

categories are not mutually exclusive. Actions prompted by considerations for human survival or common sense may also be supported by research findings. On the other hand, research may suggest approaches that are not patently obvious. It may be necessary to give more thought to what children need to learn.

A World Bank policy paper concludes that successful curriculum reform must tackle the more difficult issue of preparing a coherent, appropriately paced and sequenced instructional program and developing effective instructional materials. Class room tests are monitoring and assessment tools for teachers..

### **Rational**

Science education occupies a very eminent place in the curriculum both at school and university stages of education in India. Continuous advances scientific and technological research hailed to the growth and greater application of science in contemporary society Accordingly science becomes a pointy area in education.

According to a trend report by Ganguli and Vashistha from 'Research in Science Education', the prime objective, in individual perspective, the cultivation of a scientific temper which includes as pint of enquiry, a disposition to reason logically and compassionately, a habit of judging beliefs and opinions on available evidence, readiness to reject unfounded theories and principles, the courage, to admit facts, how so ever. Unsettling and disagreeable they might be, and finally, recognizing the limits of reasoning power itself. It is also expected of science education that, would give individuals a firm grasp of the concepts and processes of science and impart to them the ability to use the scientific method of problem - solving and the techniques of Observation and experimental on in handling problem of Comprehension or life at the societal level, one of the major objectives of science education is to equip individuals to participate in the creation of a society which is free from poverty, hunger, disease and evils such as violence, exploitation, oppression etc.

According to the Education Commission (1964-66), examinations and evaluations constitute one of those areas in education where a lot of research work has to-be performed. A problem of failures has been a very serious one, in other words more than half of the country's educational budget is resulting in waste along with added frustration in youth and society. Different levels of educational achievement reflect different aspirations with regards to education. Educational achievement is a function of a host of factors like age, type of school, methods of teaching and learning, child's background and experiences, attitudes etc. By

creating an environment that encourages children, there is no guarantee that it would achieve higher performance. However to improve educational performance, it is necessary to assess and compare progress made by children. Such results would provide teachers, administrators and policy makers with information that help define the characteristics of successful student performance and suggest areas for possible improvement and change. Teaching through IWB Technology as an area of research is emerging in a significant manner. It has been observed that no study has yet tried to identify the Effectiveness of IWB Technology for teaching Science and Technology subject with reference to Narmada District. It is in this context that the study has been undertaken.

### **Interactive Whiteboard - IWB**

IWB is not very new to the world but to Gujarat (India) it is in infant stage and penetrating education sectors very fast especially in the private educational institutes and schools. This technology, in language learning, is in experimental phase in Gujarat (India). This technology works on touch screen technology.

A big whiteboard is connected to a computer and a projector either via wires (USB) or wirelessly (blue tooth). This massive white screen becomes live when projector projected the desktop of computer on it. Now board is read to take command. One can control the computer through touch sensitive board. Commands can be given either by finger or a special pen called **stylus**. This board is called interactive as it is attached with audio-video equipments as well as multi user sensitivity technique in it. It is really nice to work on IWB with your students as it facilitates both the teacher and student to find new ways of learning. It has been designed for business purpose (Griffon, 2002) but later is has been recommended by the educationist in the education field. Later various subjects have been benefited by this technology and language teaching is not an exception.

IWB is useful in English language teaching as it has some salient features which make it Interactive, Flexible to topic presentation and versatile, Revolutionary, Fascinated and efficient, Multitasking and multi sensory presenter, Motivator, Time saver and so on. Due to this and many more other qualities IWB has set its position in language classrooms. Teachers and students both appreciated it for its versatile nature and flexibility in presenting data, text, and pictures, PPTs, in addition to audio assistance. It gives novelty to classroom and creates longer effect on students due to video impact in the mind of the receiver. IWB is helpful in

practicing LSRW (*the four language skills - listening, speaking, reading, writing*) in learning a language.

### **IWB in Science**

IWB can do a favor for teacher. They can bring attention of student in the class to the content on the white giant board. Once the student is in the class attracted by the colorful screen he starts taking pain of experiments in the class.

IWB can support in the teaching in many ways

- ❖ Can present the content in no time. Reduce the tension to bring the content to class.
- ❖ Can annotate the difficult term for the whole class
- ❖ Can highlight the technical word and science experiment
- ❖ The difficult concepts highlighted through out the exercise remain long in the mind of the student.
- ❖ Science Experiments can be easily relate to any picture to make Experiment a fun
- ❖ Group exercise can give them confidence
- ❖ Peer discussion before teaching learning will give them support to learn in the class
- ❖ Motivation from their group members will improve their morale
- ❖ Teacher can pay more attention to weak group
- ❖ Audio player helps them to experiment correctly and confidently
- ❖ In later stage mike can also be supplied

### **Sample**

This research has been carried out in Government B.Ed. College, Rajpipla, Gujarat, India. The Experimental school of the College has set up smart classes in each class room to give student the experience of future generation teaching learning environment. Firstly trainee teachers were introduced for a short training period and then class were open to every teacher. Researcher has selected this college as sample because of Most of the trainee teacher have one common thing in them i.e. no scientific attitude in them.

### **Methodology**

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The teaching learning practice has been done in a reputed Experimental School of Rajpipla – Zansi Ni Rani Laxmibai, where interactive technology has been already set up in all classroom. The students were from different background qualified their upper primary schools. 60 students were targeted to fill questionnaire after giving them teaching learning practice in IWB classrooms. A direct question has also been given to them. “How did you find IWB the most helpful/the most unhelpful in enhancing scientific attitude in class?” After written data an open discussion has been done in the class to discuss the points that why did they felt so.

### Analysis of the Data and Interpretation

The collected data has been segregated according to the comments written by the students. Somewhat similar answers were put in categories. The whole data has been put in to seven categories then presented in the form of table as given below (table-1)

**Table-1- data presentation of helpful or unhelpful features of IWB**

S. No.	Helpful or unhelpful features while Learning with IWB	Total answers in favor	Result in percentage
1	I love to Experiment to a difficult concept and practice with it.	25	29
2	Experiment in group is good and helps in removing hesitation	17	20
3	I love how science is associated with pictures and cartoons. It makes learning fun.	13	16
4	I love when teacher annotate any word or highlight a word and we use it in many sentences.	11	13
5	It reduces the tension of forgetting the learning experience.	09	11
6	It allows peer discussion which is the best thing to support teaching and learning.	06	7
7	It is new to me and I fell nervous	04	4

### Discussion:

The summary of the collected data is presented in table-1. By putting a glance on the table we come to know that majority of the students favour this technology while we also got some remarks which are not strictly against but also not in favour. The percentage of those comments is very low but we are not ignoring them so we'll discuss those comments too and given a place in the table for the same purpose.

1. Students enjoyed the combination of various features of IWB as a result of combination of various audio-visual equipments to make IWB a unique tool to enhance interest of students so learning. About 29% students love the combo of display and the experiment of difficult concept through audio player.
2. 20% students appreciated the group activity which makes them really confident and helpful in removing hesitation to which they were a victim since childhood (as they told in an open discussion.) they love to be reviewed by their peers rather than their teachers.
3. Near about 16% students love the picturesque use of IWB in learning. Students felt that it is easy to relate story with the given picture. Picture grabbed their attention to learn more lines to find out what will happen next.
4. Approximate 13% Students very much appreciated the feature of highlighting and annotating the difficult concept and repeating the same to make other sentences in discussion time.
5. 11% students were very happy as they were tension free to bring the targeted text for the teaching and learning class. Before that either this or that student were out of text and felt him self in embarrassing situation in front of teacher. IWB solved this problem the text presented on the board is universal for class students.
6. Near about 7% students love to share that they love review from peers than teacher. They love to learn more from their friends in the group and IWB is helpful as teacher in IWB class love to see their students talking and sharing so teacher prefer group activity even in learning too.
7. Nearly 4% students wrote that they were afraid of the new technology. They hesitate to discuss even within group because they think that if their friend come to know that they don't know about the latest they will laugh on them.

### Conclusion

Written feedback to question and statements of students after in group discussion showed their fascination towards new technology. They haven't seen such type of science classroom before this college and novelty in education is a rare thing. They appreciated the combination of audio- visual presentation with text which helps them to restore the concept in their memory for a longer time. As it is a well known fact that Motivation, attention, and behavior represent an overall student attitude in the classroom, and IWB motivates students,

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catch their attention through audio-visual aids and bring a change in their behavior not to see the science as a boring exercise but do it passionately to enhance their scientific competence.

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