Original Research Article

Investigations on Smart Class Instruction in Certain Selected Variables among Ninth Standard Students

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ABSTRACT

The technology is bringing some exciting innovations to education. presently technology are being used highly in teaching and learning process at all levels Hence the investigator was interested in knowing the effectiveness of smart class instruction. The problem taken for the investigation is "A study on smart class instruction in certain selected variables among ninth standard students in Tiruvarur". The objectives of the study to find out the significant difference between certain selected variables in smart class instruction among ninth standard students. . Results reveal that the investigator has find out a significant difference among gender, study habits, parent's education and no significant is found in residence and father's occupation. Based on the findings the investigator found that the smart class instruction has a better impact on students easy to learn the chemistry content compared to normal teaching for teachers. It is also helping to handle the class easily and teach the content with multiple instructional materials. Students save the time properly and understanding and assimilate the contents quickly.

Key Words: Investigation, Smart class instruction, ninth standard students, chemistry content.

INTRODUCTION

Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. As a field, educational technology emphasizes communication skills and approaches to teaching and learning through the judicious use and integration of diverse media. Scholars in the field examine the uses of innovative media and technologies for education, examining all aspects from direct student learning to management and impacts on institutions. As in all forms of applied technology, the field studies how theoretical knowledge and scientific principles can be applied to problems that arise in a social context. Practitioners in educational technology seek new and effective ways of organizing the teaching and learning process through the best possible application of technological developments. These activities rely upon a body of knowledge for successful and ethical implementation, rather than routine tasks or isolated technical skills.

The field provides the research base for effective utilization of new media in education and by default is interdisciplinary in its approaches and theories. This may include human-computer interaction and cognition, social and behavioral aspects of media in learning, or change and innovation

theory among social and cultural groupings as the basis for research and study.

Smart class Instruction

Smart class is the only digital learning solution that can truly claim an All India presence: 8000 schools across 600 districts in the country. Smart class did what no one had ever thought of before, bring technology into the classroom. It brought an exhaustive repository of world class digital modules or lessons, (consisting of 2D and 3D animations, graphics, audio and video) on every subject in the K12 spectrum, which the teacher could easily access and project in the classroom that illuminated and explained abstract and difficult concepts with liquid clarity. The result was amazing. Knowledge flourished... freed from the centuries old bonds of books and chalk and blackboard. A new light of understanding dawned on young awakened minds. And the classroom became a fascinating place to be in as a new generation of learners saw (instead of just being told and explained) for the first time how things happened. And the teacher smiled as she now saw not just one, two or three but a sea of hands goes up every time she asked a question.

Smart class

The concept of smart class is simple. A Server is set up inside the school, loaded with digital instruction and assessment materials mapped to the school curriculum. Classrooms are wired to the Server and are equipped with a state of the art Digital Teaching System (DTS) comprising of a highly versatile interactive white board and a sophisticated projection system. Teachers access the digital content in their classrooms on an everyday basis, project it on the board during their classroom sessions and explain concepts with the help of animations, graphics, video etc. Smart class is implemented in schools on a turn-key basis. Smart Class Company's provides all elements required for its implementation such as Hardware, Library of Digital Content, teachers training, and periodic support to ensure smooth functioning of the program.

Need and Importance of the study

Development of one country is basically depending upon the student's mental growth. The Students knowledge should be improved in high level. Special attentions should be given for that. So the use of technology is essential in education. It develops the mentality of interaction and collaboration. It can help students to save, record, edit and adapt their works quickly and efficiently. The technology is bringing some exciting innovations to education. presently technology are being used highly in teaching and learning process at all levels Hence the investigator was interested in knowing the effectiveness of smart class instruction.

The developing country like India has so many problems in the field of education. Population explosion, knowledge explosion and aspirations to learn more, large heterogeneous groups of students in every class, vast curriculum in front of the teachers and students to achieve, are a few important problems among them. The range of instructional options is narrow and alternatives to succeed are limited the heterogenic character of the student populations is not being taken in to consideration in this context there is a possibility that smart class may be effective in ensuring mastery on the part of the student .

Statement of the problem

The problem taken for the investigation is "a study on smart class instruction of certain selected content in chemistry among ninth standard students in Tiruvarur".

Objectives

1. To find out the significant difference between the pre- test and post-test

mean scores of the smart class instruction.

2. To find out the significant difference between the post-test mean scores of the smart class instruction with respect to sex.
3. To find out the significant difference between the post-test mean scores of the smart class instruction with respect to their residence.
4. To find out the significant difference between the post-test mean scores of the smart class instruction with respect to their study habits.
5. To find out the significant difference between the post-test mean scores the smart class instruction with respect to their parent's education.
6. To find out the significant difference between the post-test mean scores of the smart class instruction with respect to their father's occupation.

Hypotheses
1. There is no significant difference between the pre- test and post-test mean scores of the smart class instruction.
2. There is no significant difference between the post test mean scores of the smart class instruction with respect to sex.
3. There is no significant difference between the post test mean scores of the smart class instruction with respect to their residence.
4. There is no significant difference between the post test mean scores of the smart class instruction with respect to their study habits.
5. There is no significant difference between the post test mean scores the smart class instruction with respect to their parent's education.
6. There is no significant difference between the post test mean scores of

the smart class instruction with respect to their father's occupation.

Definition of key terms
Effectiveness:
Effectiveness is the capability of producing a desired result. When something is deemed effective, it means it has an intended or expected outcome, or produces a deep, vivid impression.
The degree to which objectives are achieved and extent which target to smart class instruction in chemistry subject.
IX Standard Students
Refers to the learners who are studying IXstandard under Tamil nadu state board systems refers to the subject matter covered in IXth standard science.

METHODOLOGY
Sampling for the study
The sample used for the study was the ninth standard pupils of Higher Secondary School, Thiruvarur district under Tamilnadu State Board. The investigator request the headmaster and chemistry teacher of the school and students were selected as the sample in school.
Development of smart class instruction
For the smart class teaching the researcher first to select the content and prepare the lesson plan in the knowledge centre. Here the researcher selects the topic from the smart class package and internet. Save the contents to the folder of teacher's id. The selected content chemical bond is validated to the school principal and subject teachers. Some correction was done in question by them. Finally the question made easy to the students with respect to their understanding capacity.

First the pre-test was done by entire samples. Smart class teaching was done by the researcher to the ninth standard students. Here the researcher uses her id folder to teach chemical bond in chemistry subject with special 2d effects and audio, video

concepts. Three types of bonds and its shapes displayed. Relevant explanations are given to the students. Finally the post test was conducted.

RESULT

Hypothesis-1. There is no significant difference between the pre-test and post-test mean scores of the smart class instruction

Table 1 showing the Mean, standard deviation, standard error and 't' values of pre-test scores and post test scores:

Main samples	N	Mean	S d	Se_d	$[M_1 - M_2]$	't' Value	Significance at 0.05 level
Pre test	54	27.55	8.01				
Post test	54	68.14	10.66	22.36	40.59	22.37	SIGNIFICANT

The above table shows that the Computed 't' value 22.37 is greater than the critical value of 2.68 at 0.01 level. Hence, it is significant. Consequently, the null hypothesis is rejected and it can be said that, there is a significant difference between the Pre-test and post-test scores of the smart class instruction in chemistry content subject at ninth Standard students. It is concluded from the above table that, the post-test have achieved more than the Pre-test scores of the smart class instruction.

Hypothesis-2. There is no significant difference between the post-test mean scores of the smart class instruction with respect to sex.

Table 2 showing the Mean, standard deviation , standard error and 't' values of post test scores of boys and girls.

Sub Samples	N	Mean	S d	Se_d	$[M_1 - M_2]$	't' Value	Significance at 0.05 level
Boys	29	70.2	10.21				
Girls	25	64.41	10.47	2.8	5.8	2.071	SIGNIFICANT

The above table shows that the Computed 't' value 2.071 is higher than the critical value of 2.06 at 0.05 level. Hence, it is significant. Consequently, the null hypothesis is rejected and it can be said that, there is a significant difference between the post-test mean scores of the smart class instruction with respect to boys and girls.

Hypothesis-3. There is no significant difference between the post-test mean scores of the smart class instruction with respect to their residence.

Table 3 showing the Mean, standard deviation, standard error and 't' values of post test scores of residence.

SUB SAMPLES	N	MEAN	S D	SE_D	$[M_1 - M_2]$	't' VALUE	SIGNIFICANCE AT 0.01 LEVEL
Urban	31	69.03	11.26				NOT
Rural	23	67.13	9.79	2.9	1.9	0.65	SIGNIFICANT

The above table shows that the Computed 't' value 0.65 is less than the critical value of 2.68 at 0.01 level. Hence, it is not significant. Consequently, the null hypothesis is accepted and it can be said that, there is no significant difference between the post-test mean scores of the smart class instruction with respect to their residence.

Hypothesis-4
There is no significant difference between the post-test mean scores of the smart class instruction with respect to their study habits.

Table 4 showing the Mean, standard deviation, standard error and 't' values of post test scores of the smart class instruction with respect to study habits.

SUB SAMPLES	N	MEAN	S D	SE$_D$	[M$_1$- M$_2$]	't' VALUE	SIGNIFICANCE AT 0.01 LEVEL
2-hrs	27	64.44	10.28				
Above 2-hrs	27	71.85	9.89	2.72	7.40	2.72	SIGNIFICANT

The above table shows that the Computed 't' value 2.72 is greater than the critical value of 2.68 at 0.01 level. Hence, it is significant. Consequently, the null hypothesis is rejected and it can be said that, there is a significant difference between the pos- test mean scores of the smart class instruction with respect to their study habits.

Hypothesis-5

There is no significant difference between the post-test mean scores of the smart class instruction with respect to their parent's education.

Table 5 showing the Mean, standard deviation, standard error and 't' values of post test scores of the smart class instruction with respect to their parent's education.

SUB SAMPLES	N	MEAN	S D	SE$_D$	[M$_1$- M$_2$]	't' VALUE	SIGNIFICANCE AT 0.01 LEVEL
School education	37	68.32	9.94				
College education	17	57.08	12.80	3.54	11.23	3.16	SIGNIFICANT

The above table shows that the Computed 't' value 3.16 is greater than the critical value of 2.68 at 0.01 level. Hence, it is significant. Consequently, the null hypothesis is rejected and it can be said that, there is a significant difference between the post-test mean scores of chemistry in experimental group with respect to parent's education.

Hypothesis-6

There is no significant difference between the post-test mean scores of the smart class instruction with respect to their father's occupation.

Table 6 showing the Mean, standard deviation, standard error and 't' values of post test scores of the smart class instruction with respect to their father's occupation.

SUB SAMPLES	N	MEAN	S D	SE$_D$	[M$_1$- M$_2$]	't' VALUE	SIGNIFICANCE AT 0.01 LEVEL
Government	8	68	10				
Private	46	68.17	10.77	3.87	0.17	0.04	NOT SIGNIFICANT

The above table shows that the Computed 't' value 0.04 is less than the critical value of 2.68 at 0.01 level. Hence, it is not significant. Consequently, the null hypothesis is accepted and it can be said that, there is no significant difference between the post-test mean scores of the smart class instruction with respect to their father's occupation.

Findings

1. There is a significant difference between the Pre-test and post test scores of the smart class instruction in chemistry content subject at ninth Standard students.
2. There is a significant difference between the post test mean scores of the smart class instruction with respect to boys and girls.
3. There is no significant difference between the post test mean scores of the smart class instruction with respect to their residence.
4. There is a significant difference between the post test mean scores of

the smart class instruction with respect to their study habits.

5. There is a significant difference between the post test mean scores of chemistry in experimental group with respect to their parent's education.

6. There is no significant difference between the post test mean scores of the smart class instruction with respect to their father's occupation.

DISCUSSION

From this study, the investigator has find out a significant difference among gender, study habits, parent's education and no significant is found in residence and father's occupation. Hypothesis testing to the investigator found that the smart class instruction has a better impact on students easy to learn the chemistry concept compared to normal teaching for teachers. It is also helping to handle the class easily and teach the lesson with multiple instructional materials. Students save the time properly and understanding the contents quickly.

CONCLUSION

The specific conclusions emerged out of the present investigation are as follows. Smart class is easy to learn chemistry concepts to better than normal teaching. Since this smart class helps to learners how to learn systematic way. In this smart class highly beneficial and as students have followed in they showed good results. The research study states that there is a significant mean difference between the pre-test and post-test scores of smart class instruction. The present investigation is a very unique study conducted in a developing country like India to study smart class instruction hence this study has contributed to the field of technology in education.

REFERENCES

- Hopkins. D.C. *Educational Research A Structure for Inquiry*, ohio, Columbus, Charles E. Merill Publishing Company, 1796.
- John W. Best, James V. Khan, *Research in Education, Tenth Ed.*, PHI Learning Private Ltd., New Delhi, 2011.
- John W.Best, *Research in Education*, Prentice Hall of India Pvt. Ltd., New Delhi, 1977.
- Kothari,C.R. *Research Methodology Methods & techniques*, New Delhi, Vishwa Prakasan, 2000.
- Basotia, G.R. & Sharma, K.K, *Research Methodology*, Mangaldeep Publications, Jaipur, 1999.
- Best, J.W. and Khan, J.V. *Research in Education*, Prentice Hall of India Pvt. Ltd., New Delhi, 1992.
- Aggarwal J.C., *'Essentials of Educational Technology Innovation and teaching and learning*, APH Publishers, New Delhi. 1986.
- Shukla.P.D., *'Towards the New Pattern of Education in India'*, Sterling Publishers Pvt Ltd, Newdelhi,1976.
- Venkataiah.S., *'Quality Education'*, Ammol Publications Pvt Ltd, Newdelhi,2007.
- Mangal.S.K and Uma mangal., *'Essentials of educational technology'*, PHI Learning private Ltd, New delhi,2009.
- Sindhu K.S.,' *Methodology of Research in education'*, Sterling publishers, New Delhi,1993.

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