Effectiveness on Technology integrated learning courseware at the Secondary Education

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Abstract

This article meticulously discuss on the theme of effectiveness on Technology integrated learning courseware at the Secondary Education Level by adopting an experimental design with a sample of 30 students. Exclusively this study has used pre test-post test control group design. The main objective of this study is to test the effectiveness of the courseware specialized for learning science at the Secondary level .Also this study has proved that there is a significant relationship exists among those hypotheses tested. Hence this piece of research throws light on the Effectiveness on Technology integrated learning courseware at the Secondary Education Level

Introduction

The quality of science education in our country is very mediocre at the present moment and this is cause of concern because our country's development and progress depend on our progress in science and technology. Science should emerge as something alive, fallible, and therefore exciting. Such a model will meet the wider aims of science education, and at the same time is more likely to encourage students to want to study it. UNESCO has mooted the goal of Scientific and Technological Literacy (STL) for all. Every citizen needs to be aware of trends in science, cope with technology in everyday life, and be able to take considered positions on science-related issues of social importance.

Need and Significance of the study

Technology improves the effectiveness and productivity in class. The use of technologies in the classroom has the potential to explain new concepts clearly, resulting in better student understanding of the concepts being taught. In a survey, to find factors that facilitate teacher skill, teacher morale, and perceived student learning in technology-using classrooms, Baylor and Ritchie (2002) found that teachers valued the use of technologies in class and that it had an impact on students' content acquisition; the use of technology added to class performance.

Objectives of the study

1. To study the effectiveness *Technology integrated learning courseware at the Secondary Education Level*.
2. To find out the significant difference if any between the pre-test and post-test score of achievement in science learning competencies through traditional method among the Secondary level students of the control group.
3. To find out the significant difference if any between the pre-test and post-test score of achievement in science learning competencies through traditional method among the Secondary level students of the experimental group.
4. To find out the significant difference if any between the pre-test and post-test scores of attitude towards computer of the control group.
5. To find out the significant difference if any between the pre-test and post-test scores of attitude towards computer of the experimental group.

Method of Study

This study adopts Pre test-post test control group design

Research tools

The following research tools will be adopted
1. Academic achievement test
2. Attitude towards learning through computer

Sample of the study

The researcher selects two schools from Tiruchirappalli region based on purposive random sampling technique

Statistical techniques used

This study utilizes descriptive and differential analysis

Testing of Hypotheses

Hypothesis: 1

1. *Technology integrated learning courseware at the Secondary Education Level.*
   is not effective.

Table: 1.1. Post -test scores of the Experimental group and Control group learnt through Technology integrated and through traditional method.

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Through Technology integrated Courseware	Post-test of Experimental Group	15	66.27	3.75	23.33	14.03	28	Significant
Through Traditional Method	Post-test of Control Group	15	42.93	7.05				

The mean of the post-test scores of the Experimental group learnt through technology integrated courseware is found to be 66.27 with an SD 3.75. The mean of post-test scores of Control group learnt through traditional method is found to be 42.93 with an SD 7.05. The Mean 23.33 is found to be significant at a 0.01 level for 28df with 't' of 14.03. Therefore, the hypothesis is rejected.

It is concluded that the Technology integrated courseware for learning science among Secondary level students is effective as compared to that of the control group.

Hypothesis: 2

The post-test mean score for enhancing science learning competencies through traditional method among the Secondary level students is not significantly higher than the pre-test mean scores of the control group.

Table: 1.2. The post-test and pre-test mean scores of the traditional method of the Control group.

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Traditional Method	Post-test	15	42.93	7.05	2.73	1.25	28	Not Significant
	Pre-test	15	40.20	3.69				

The mean of the post-test scores of the Control group learnt through traditional method is found to be 42.93 with an SD 7.05. The mean of pre-test scores of Control group learnt through traditional method is found to be 40.20 with an SD 3.69. The Mean 2.73 is found to be significant at a 0.01 level for 28df with 't' of 1.25. Therefore, the hypothesis is accepted.

It is concluded that the post-test mean score for enhancing science learning competencies through traditional method among the Secondary level students is not significantly higher than the pre-test mean scores of the control group.

Hypothesis: 3

The post-test mean score for enhancing science learning competencies through technology integrated courseware among the B.Ed., trainees is not significantly higher than the pre-test mean scores of the Experimental group.

Table: 1.3. The post-test and pre-test mean scores of the Technology Integrated learning Courseware of the Experimental Group.

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Technology Integrated Courseware	Post-test	15	66.27	3.75	26.47	15.41	28	Significant
	Pre-test	15	41.80	4.95				

The mean of the post-test scores and pre-test scores of the Experimental group learnt through technology integrated learning courseware is found to be 66.27 with an SD 3.75 and 41.80 with SD 4.95 respectively. The Mean 26.47 is found to be significant at a 0.01 level for 28df with 't' of 15.41. Therefore, the hypothesis is rejected.

It is concluded that the post-test mean score for enhancing science learning competencies through technology integrated courseware among the Secondary level students is significantly higher than the pre-test mean scores of the Experimental group.

Hypothesis: 4

The post-test mean score of attitude towards computer among the Secondary level students is not significantly higher than the pre-test mean scores of the control group.

Table: 1.4. The post-test and pre-test mean scores of attitude towards computer among the

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Traditional Method	Post-test	15	36.80	0.41	0.67	0.37	28	Not Significant
	Pre-test	15	36.73	0.45				

Secondary level students of the control group.

The mean of the post-test scores and pre-test scores of attitude towards computer among the Secondary level students of control group is found to be 36.80 with an SD 0.41 and 36.73 with SD 0.45 respectively. The Mean difference 0.67 is found to be not significant at a 0.01 level for 28df with a 't' of 0.37. Therefore, the hypothesis is accepted.

It is concluded that the post-test mean score of attitude towards computer among the Secondary level students is not significantly higher than the pre-test mean scores of the control group.

Hypothesis: 5

The post-test mean score of attitude towards computer among the Secondary level students is not significantly higher than the pre-test mean scores of the Experimental group.

Table: 1.5. The post-test and pre-test mean scores of attitude towards computer among the B.Ed.,

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Technology integrated courseware	Post-test	15	48.40	4.22	15.00	13.04	28	Significant
	Pre-test	15	33.40	1.24				

Trainees of the Experimental group.

The mean of the post-test scores and pre-test scores of attitude towards computer among the Secondary level students of experimental group is found to be 48.40 with an SD 4.22 and33.40 with SD 1.24 respectively. The Mean difference 15.00 is found to be significant at a 0.01 level for 28df with a 't' of 13.04. Therefore, the hypothesis is rejected.

It is concluded that the post-test mean score of attitude towards computer among the Secondary level students is significantly higher than the pre-test mean scores of the experimental group

EDUCATIONAL IMPLICATIONS

A few educational implications for the present study are as follows:

- The results of the study have proved that technology integrated courseware is more effective than the conventional method of learning science to the Secondary level students. Hence, it is recommended to utilize this technological innovation in the enhancement of science learning competency at the Secondary level.
- Since the use of technology integration courseware penetrates more deeply into the development of human cognitive system, it would help them to be best of learning science.
- Since the use of technology integration courseware enhances achievement, it will diminish wastage and stagnation in the schools.

CONCLUSION

In the light of the research findings, it is felt that the present research may contribute to the alleviation of the transactional competencies of Secondary level students. Technology Integrated courseware was found to be effective in achievement of Science learning competencies in all areas .This has also been realized by many educational experts; hence, there is an urgent need to gear national efforts towards the implementation of this innovative strategy.

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