

"TECHNOLOGICAL INFLUENCES ON VIRTUAL REALITY ".

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ABSTRACT

Education is considered to be the primary factor for the economic growth and social change of any country. The mode of education is getting easier day by day. The new education systems are using various technologies to deliver education. Currently, the most trending field of education is virtual classroom. The term virtual defines simulation of real thing. A virtual classroom is an online learning method that is carried out via internet that provides communication for distance learner just like face-to-face classroom. It is the field of education that focuses on technology to deliver education to students who are not physically available on site to get their education.³ In this, class can be attended by learners from any part of the world from any type of devices like laptop, desktop and mobile phones. This field of education is going to be in high trend in the upcoming days and soon will be replacing the traditional mode of education as internet dependent learning is growing rapidly in almost every schools and colleges. Many university-based syllabuses are converted into e-forms so that it can easily be accessible via internet from any part of the world and this urges the faculties of schools and universities to create online version of their own contexts. Certain circumstance has led to the constant growth and acceptance of distance education where geographic location plays a major role. It is a field which allows the learner to choose their subject of interest, context related to their goals and needs, comfort of environment and technological methods in their preferred time. In the modern world (21st century), virtual classroom has become a blessing for both the teacher and students, as both are separated through geographic means and may not be available at the same time. It has made the education system easy and has helped the students in saving the time. Study of human behavior, education, skill training and gaming extensively uses virtual environment. The children spent more time in the simulated classroom than the real classroom, where they must be more attentive to any classroom task. To make them pay attention in real classroom this virtual classrooms are immersive, for these school-aged children. Forms of Virtual Classroom The two major factors for conducting virtual learning are participant's location and time. As a type of distance learning, it requires a divergent location, learners and mentors. As long as time of learning is considered virtual learning forms two main categories. That is synchronous and asynchronous.

Key words : Virtual classroom, skill training, simulated classroom, synchronous. asynchronous.

INTRODUCTION

Information technology is used to support the teaching and learning process. Web-based learning is mostly textual and static in nature. Since multimedia content is large in file size, the download time is considerably high. The proposed research work makes use of VRML, the global standard for presenting virtual world data over the web. A VRML virtual world is defined and described in a text file using the VRML language and not in a graphical format such as bitmap, vectors or other complex numeric information. A VRML interpreter is provided as a plug-in to the browser. 3-D VLEs can be used to facilitate learning tasks that lead to the development of enhanced spatial knowledge representation of the explored domain. It can be used to facilitate learning tasks that lead to increased intrinsic motivation and engagement. Also it can be used to facilitate learning tasks that lead to improved transfer of knowledge and skills to real situations through contextualization of learning. A Web3D-based interactive teaching package on 3D primitive geometry shapes is developed that provides a dynamic and interactive environment to easily comprehend the 3D concepts.

A system is required that is easy to develop and to extend; it can be integrated into a VE and, besides the usability side, its interface, internal structure and interaction options gives the opportunity to effectuate experimentations in VR modeling. This can be done using novel graphics primitives, integrating the controls into the environment and with different manipulation options. An easy to use and natural interface technique is needed that provides a low learning curve and suitable for inexperienced users, but still provides an acceptable alternative for e-learning aimed at interactive systems. Interactivity promotes motivation that accelerates learning, enables knowledge transfer through retention, and provides manipulative experiences unavailable in a normal training environment. Interactivity can be experienced in different ways.

SIGNIFICANCE OF THE STUDY

The aim of education is the unification of knowledge existing in different branches of learning subjects. A student receives sum total of experiences by learning different subjects. Content knowledge gives a proper conception of time, space and society, teaches tolerance, cultivates a forward attitude, and imparts mental training and help in resolving social and individual problems.

Large educational establishments are responsible for facilitating the uptake, development and implementation of technology in teaching and learning. Development of new learning environments can promote active participation through repeated practice, encourage shared experiences and enhance student motivation. The World Wide Web is now a rich educational resource that promotes and facilitates student learning and is increasingly being used to deliver course content. The technical content and artistic charm of Virtual Reality inspire people to create interactive applications. The real-time interactive features allow users to be aware at the response of user's action any time, so as to achieve the effect of virtual reality. The use of a visualization tool promotes interest and curiosity. Using virtual reality environment, the applications appear to be promising to e-learning tasks more nature and interactive. When users work with a 3D viewing capable browser it is possible to get a 3D environment with the ability to view the whole environment in 360-degree with the ability to

zoom the scene, and quickly navigate through the various places in the world and viewing the world through different viewpoints. The effect of 3D objects modeling appears in increasing the user attention and interactivity with the objects as in real world. Hence a system is required to provide a rapid and efficient creation, modification and updating of a virtual world.

OBJECTIVES OF THE PRESENT STUDY

1. To find out the level of Virtual Class room learning experience of Eleventh standard students.
2. To find out the level of Academic Performance of Eleventh standard students.
3. To find out the relationship between Virtual Class room learning and Academic Performance of Eleventh standard students.

Specific objectives

Virtual Class room Learning of Eleventh standard students

- 1.1 To find out the level of Virtual Class room Learning of Eleventh standard students.
- 1.2 To find out the level of Virtual Class room Learning of Eleventh standard students with respect to **gender**.
- 1.4 To find out whether there is any significant difference between **boys and girls** of Eleventh standard students in their Synchronous and Asynchronous style.
- 1.5 To find out whether there is any significant difference between Rural and Urban of Eleventh students in their Synchronous and Asynchronous style.

ACADEMIC PERFORMANCE OF ELEVENTH STANDARD STUDENTS

- 2.1 To find out the level of **Academic Performance** of Eleventh standard students.
- 2.2 To find out the level of Academic Performance of Eleventh standard students with respect to Gender.
- 2.3 To find out the level of Academic Performance of Eleventh standard students with respect to Locality.
- 2.4 To find out whether there is any significant difference between **boys and girls** of Eleventh standard students in their Academic Performance.
- 2.5 To find out whether there is any significant difference between **Rural and Urban** school of Eleventh students in their Academic Performance.

Relationship between Virtual Class room Learning and Academic Performance of Eleventh standard students

- 3.1 To find out whether there is any significant relationship between Virtual Class room Learning and Academic Performance of Eleventh standard students.
- 3.2 To find out whether there is any significant relationship between Virtual Class room Learning and Academic Performance of Eleventh standard boys.
- 3.3 To find out whether there is any significant relationship between Virtual Class room Learning and Academic Performance of Eleventh standard girls.

POPULATION OF THE STUDY

The population of this study consists of Eleventh standard students studying at High and Higher Secondary Schools in Vellore District.

SAMPLE FOR THE STUDY

The investigator has used simple random sampling technique to select the sample. A sample of 300 Eleventh standards students was randomly selected from 8 randomly selected schools.

TOOLS USED IN THE PRESENT STUDY

1. Virtual Class room Learning Inventory
2. Academic Performance scale

DESCRIPTION OF THE VIRTUAL CLASS ROOM LEARNING INVENTORY (VCL)

Virtual Class room Learning inventory (CSI) is a self report which measures of the ways of thinking. Judging, remembering, and storing information relationship. This inventory was developed and validated by Investigator and Guide. (2021) To ensure the suitability of the inventory, investigator has modified and validated the inventory for this study. This inventory has 40 items on the aspects of Virtual Class room Learning. It measures one's Synchronous styles and Asynchronous styles. The response to each statement is Strongly Disagree, Disagree, Undecided, Agree and strongly agrees. This inventory can be administered in individual setting or group setting.

Dimensions of Virtual Class room Learning

Dimensions of Virtual Class room Learning

(i) Synchronous style

An individual, who typically operates with a Synchronous style uses a well defined step by step approach when solving a problem; looks for an overall method or pragmatic approach; and then makes on overall plan for solving the problem.

(ii) Asynchronous style

The individual, whose style is Asynchronous, uses an unpredictable ordering of analytical steps when solving a problem relies on experience patterns characterized by universalized areas or hunches and explores and abandons alternatives quickly.

Establishing content validity

Content validity is defined as the extent to which a set of items is relevant and representative of the concerned domain content (Anastasi, 1968). To establish content validity the tool was submitted to the guide and some experts. They were and appropriate to the right direction and to locate those items which were opinions, the investigator modified few sentences. The finalized tool contains 40 items. Thus the content validity was established.

Description and scoring procedure of CSI

Virtual Class room Learning Inventory (CSI) is a self report research tool which gives an estimate of cognitive of an individual in a five point Likert format. Five response categories are strongly disagree, Disagree, Undecided, Agree, Strongly agree. As CSI is a bio dimensional measure of Synchronous style and Asynchronous style considering of 20 items each; the minimum and maximum score for each dimension range between 20-100.

. In each item, the investigator has allotted separate scoring procedure, according to the expectation on the particular dimension of the Virtual Class room Learning.

VIRTUAL CLASS ROOM LEARNING OF ELEVENTH STANDARD STUDENTS

OBJECTIVE 1

To find out the level of Virtual Class room Learning of Eleventh standard students

TABLE 4.1

LEVEL OF VIRTUAL CLASS ROOM LEARNING OF ELEVENTH STANDARD STUDENTS

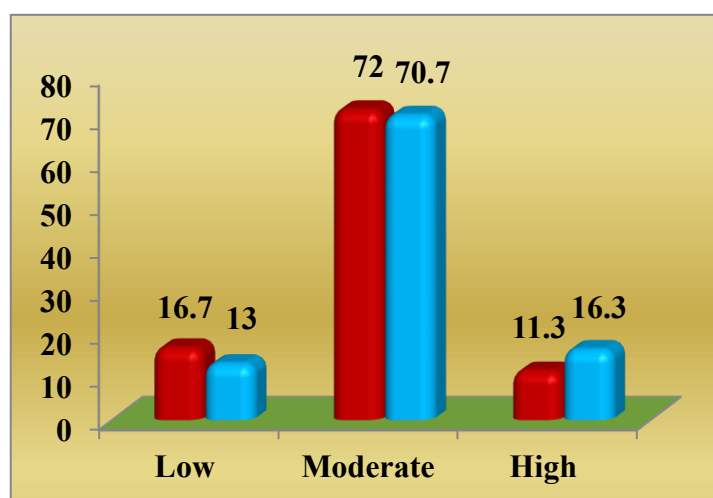
Dimensions of Virtual Class room Learning	Low		Moderate		High	
	N	%	N	%	N	%
Synchronous style	50	16.7	216	72.0	34	11.3
Asynchronous style	39	13.0	212	70.7	49	16.3

It is inferred from the above table that 16.7% of Eleventh standard students have low level, 72.0% of them have moderate and 11.3% of them have high level of Synchronous style.

It is inferred from the above table that 13.0% of Eleventh standard students have low level, 70.7% of them have moderate and 16.3% of them have high level of Asynchronous style.

FIGURE 1.1

LEVEL OF VIRTUAL CLASS ROOM LEARNING OF ELEVENTH STANDARD STUDENTS



OBJECTIVE 2

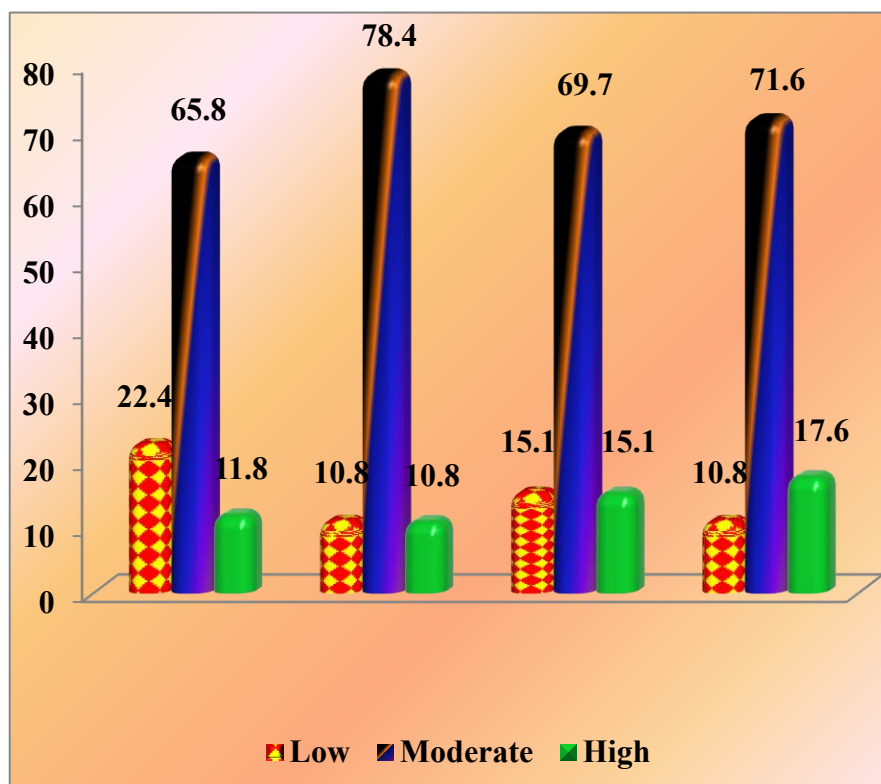
To find out the level of Virtual Class room Learning of Eleventh standard students with respect to Gender

TABLE 1.2**LEVEL OF VIRTUAL CLASS ROOM LEARNING OF ELEVENTH STANDARD STUDENTS WITH RESPECT TO GENDER**

Dimensions of Virtual Class room Learning	Category	Low		Moderate		High	
		N	%	N	%	N	%
Synchronous style	Boys	34	22.4	100	65.8	18	11.8
	Girls	16	10.8	116	78.4	16	10.8
Asynchronous style	Boys	23	15.1	106	69.7	23	15.1
	Girls	16	10.8	106	71.6	26	17.6

It is inferred from the above table that 22.4% of boys and 10.8% of girls Eleventh standard students have low, 65.8% and 78.4% of them have moderate and 11.8% and 10.8% of them have high level of Synchronous style.

It is inferred from the above table that 15.1% of boys and 10.8% of girls Eleventh standard students have low, 69.7% and 71.6% of them have moderate and 15.1% and 17.6% of them have high level of Asynchronous style

FIGURE 1.2**LEVEL OF VIRTUAL CLASS ROOM LEARNING OF ELEVENTH STANDARD STUDENTS WITH RESPECT TO GENDER**

OBJECTIVE 3

To find out the level of Virtual Class room Learning of Eleventh standard students with respect to their Location

TABLE 1.3

LEVEL OF VIRTUAL CLASS ROOM LEARNING OF ELEVENTH STANDARD STUDENTS WITH RESPECT TO THEIR LOCATION

Dimensions of Virtual Class room Learning	Category	Low		Moderate		High	
		N	%	N	%	N	%
Synchronous style	Rural	40	15.2	191	72.6	32	12.2
	Urban	10	27.0	25	67.6	2	5.4
Asynchronous style	Rural	32	12.2	187	71.1	44	16.7
	Urban	7	18.9	25	67.6	5	13.5

It is inferred from the above table that 15.2% of rural Eleventh standard students have low, 72.6% them have moderate and 12.2% of them have high level of Synchronous style.

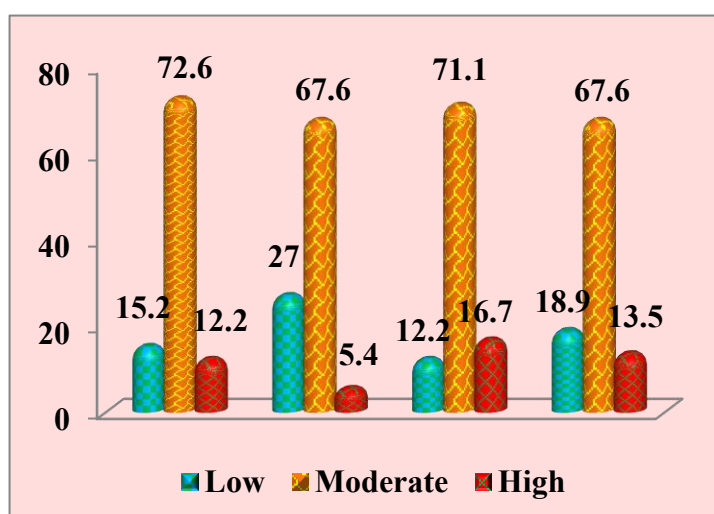
It is inferred from the above table that 27.0% of urban Eleventh standard students have low, 67.6% of them have moderate and 5.4% of them have high level of Synchronous style.

It is inferred from the above table that 12.2% of rural Eleventh standard students have low, 71.1% of Eleventh them have moderate and 16.7% of them have high level of Asynchronous style.

It is inferred from the above table that 18.9% of urban Eleventh standard students have low, 67.6% of them have moderate and 13.5% of them have high level of Asynchronous style.

FIGURE 1.3

LEVEL OF VIRTUAL CLASS ROOM LEARNING OF ELEVENTH STANDARD STUDENTS WITH RESPECT TO LOCATION



ACADEMIC PERFORMANCE OF ELEVENTH STANDARD STUDENTS**OBJECTIVE 1**

To find out the level of Academic Performance of Eleventh standard students

TABLE 1.4**ACADEMIC PERFORMANCE OF ELEVENTH STANDARD STUDENTS**

Variable	Low		Moderate		High	
Academic Performance	N	%	N	%	N	%
	62	20.7	199	66.3	39	13.0

It is inferred from the above table that 20.7% of Eleventh standard students have low level, 66.3% of them have moderate and 13.0% of them have high level of Academic Performance.

OBJECTIVE 2

To find out the level of Academic Performance of Eleventh standard students with respect to Gender

TABLE 1.5**LEVEL OF ACADEMIC PERFORMANCE OF ELEVENTH STANDARD STUDENTS WITH RESPECT TO GENDER**

Variable	Category	Low		Moderate		High	
		N	%	N	%	N	%
Academic Performance	Boys	54	35.5	85	55.9	13	8.6
	Girls	8	5.4	114	77.0	26	17.6

It is inferred from the above table that 35.5% of boys and 5.4% girls Eleventh standard students have low, 55.9% and 77.0% of them have moderate and 8.6% and 17.6% of them have high level of their Academic Performance.

OBJECTIVE 3

To find out the level of Academic Performance of Eleventh standard students with respect to their Location

TABLE 1.6**LEVEL OF ACADEMIC ACHIEVEMENT OF ELEVENTH STANDARD STUDENTS WITH RESPECT TO THEIR LOCATION**

Variable	Category	Low		Moderate		High	
Academic Performance		N	%	N	%	N	%
	Rural	54	20.5	173	65.8	36	13.7
	Urban	8	21.6	26	70.3	3	8.1

It is inferred from the above table that 20.5% of rural and 21.6% of urban Eleventh standard students have low, 65.8% and 70.3% of them have moderate and 13.7% and 8.1% of them have high level of Academic Performance.

TABLE 1.7

RELATIONSHIP BETWEEN VIRTUAL CLASS ROOM LEARNING AND ACADEMIC PERFORMANCE OF ELEVENTH STANDARD GIRLS

Dimensions of Virtual Class room Learning	Calculated 'γ' value	Remark at 5% level
Synchronous style	0.125	NS
Asynchronous style	0.006	NS

(At 5% level of significance, for 146 df the value of 'γ' is 0.159)

It is inferred from the above that there is no significant relationship between Virtual Class room Learning and Academic Performance of Eleventh standard girls

FINDINGS**1.0 Virtual Class room Learning of Eleventh standard students**

- 1.1 a) 11.3% of Eleventh standard students have high level of Synchronous style.
- b) 16.3% of Eleventh standard students have high level of Asynchronous style.
- 1.2 a) 11.8% boys and 10.8% girls of Eleventh standard students have high level of Synchronous style.
- b) 15.1% boys and 17.6% girls of Eleventh standard students have high level of Asynchronous style.
- 1.3 a) 12.2% of rural and 5.4% of urban Eleventh standard students have high level of Synchronous style.
- b) 16.7% of rural and 13.5% of urban Eleventh standard students have high level of Asynchronous style.
- 1.4 There is no significant difference between boys and girls of Eleventh standard students in their Synchronous and Asynchronous style.
- 1.5 There is no significant difference between Rural and Urban Eleventh standard students in their Synchronous and Asynchronous style.

Academic Performance of high school students

- 2.1 13.0% of Eleventh standard students have high level of their Academic Performance.
- 2.2 8.6% of boys and 17.6% of girls Eleventh standard students have high level in their Academic Performance.
- 2.3 13.7% of rural and 8.1% of urban Eleventh standard students have high level in their Academic Performance.
- 2.4 There is significant difference between boys and girls of Eleventh standard students in their Academic Performance

While comparing the mean scores of boys (1.73) and girls (2.12), the girls are better on their

Academic Performance.

- 2.5 There is no significant difference between Rural and Urban Eleventh standard students in their Academic Performance.

Relationship between Virtual Class room Learning and Academic Performance of Eleventh standard students

- 3.1 There is significant difference between Virtual Class room Learning and Academic Performance of Eleventh standard students in their Academic Performance
- 3.2 There is no significant relationship between Virtual Class room Learning and Academic Performance with boys.
- 3.3 There is no significant relationship between Virtual Class room Learning and Academic Performance with girls.

RECOMMENDATIONS

1. Creative thinking programmes may be conducted to the school students.
2. Discussion and workshops may be conducted in the school related to rational thinking.
3. A pedagogy, which may enhance the Synchronous and Asynchronous Virtual Class room Learning may be framed to accommodate the individual difference.
4. Personal style awareness programmes may be conducted, it may help the students and teachers to analyse their own Virtual Class room Learning.
5. Methods of teaching should be aimed at meeting the individual differences in Virtual Class room Learning, personality and behaviour.
6. Teacher should become more aware of their own Virtual Class room Learning since it will affect their teaching style.
7. Co-curricular and extracurricular activities should be given importance in the school campus related to thinking based.
8. Self awareness classes may be arranged at school level.
9. ICT may be incorporate in the teaching strategies to be cognitively sound.

SUGGESTIONS FOR FURTHER RESEARCH

1. Relationship between Academic Performance and rational thinking of Eleventh students may be studied.
2. The present investigation was done by having only two styles. This may be extended to other styles also.
3. Studies can be conducted on the influence of teacher Virtual Class room Learning, on teacher effectiveness of teaches.
4. The influence of learning style on Academic Performance can be studied.
5. Teaching styles and their impact on Academic Performance of the students at various

levels may be studied.

5.6 CONCLUSION

The major reason for this mode of education is student's comfortability. This is the best way to reach globally distributed learners. As it saves time and money, the learner will have more time to learn or if he wants to do something else. It is a great field as the students can clarify their doubts at any time from any place. It brings a type of competitive spirit which in turn leads to progress in one's Academic performance. The students who learn through virtual classroom is seem to have more knowledge and good performance as they study with their own interest and not by force which normally occurs in traditional classrooms. Even if learner forgets any concepts, they can review the recorded videos and get them revised. In this application, both the tutor and the learner is benefited in training and learning. One of the important goals of this application is to improve collaboration among teachers and students. The physical barriers between classroom and student have been minimized due to virtual classroom. Future scope of this field is to make application that will help the user.

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