EFFECT OF ONLINE TEACHING ON ACHEIVEMENT IN ENVIRONMENTAL SCIENCE AMONG 9TH CLASS STUDENTS

Abstract

Using the internet to educate others is known as online teaching. Online teaching can be accomplished through a variety of methods, including webinars, group video calls, and video calls. Online instruction can begin from any location, and students from different backgrounds and locations can sign up. Students who learn online are more likely to participate, cooperate, and engage in active learning. Both fantastic potential and formidable problems come with teaching and learning online. Both teachers and students can profit from it. It provides flexibility, cost-effectiveness, and time and space ease. The current study examined how ninth-grade students' environmental science achievement was affected by online instruction. It has been discovered that using an online learning environment can help students do better in environmental science.

Keywords: Online teaching, Achievements, Environmental Science.

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Online education, often referred to as online teaching, is a mode of education conducted through the internet. It distinguishes itself from traditional classroom teaching in several ways. Online learning provides educators with the opportunity to disseminate educational content and information in ways that can be highly effective, often surpassing the efficacy of traditional classroom lectures. The process of online teaching involves imparting knowledge and instruction to learners through internet-based methods. Multiple approaches can be employed for online teaching, including video calls, group video conferences, and webinars.

Several online teaching applications, such as Zoom, Edmodo, and Google Classroom, are available to facilitate remote education. Among these, Zoom stands out as a user-friendly video conferencing platform that supports multiple participants, enables audio and video sharing, offers screen sharing capabilities, provides a virtual whiteboard for collaborative work, and allows for session recording.

Since web platforms are used in teaching so extensively, online teaching has gained popularity among academics in general as an effective teaching method.

I. ENVIRONMENTAL SCIENCE

Environmental science is an academic field that combines multiple disciplines to research the environment and provide answers to environmental issues.

II. ACHIEVEMENT

Achievement is defined as any behavioral shift that occurs in a person as a result of learning experiences following the delivery of certain teaching or training. The accomplishment of performance ***proficiency*** in a particular skill or amount of knowledge is known as achievement. Thus, the most important factor is achievement in all domains.

Achievement Test: A test is a collection of uniform questions, tasks, or problems intended to elicit a response in order to gauge a person's abilities, characteristics, or accomplishments.

According to Gronlund (1977), "Achievement test is defined as a systematic procedure for determine the amount a student has learnt through instructions".

An Achievement test is a test developed to measure the achievement of the students in any particular field. This test is to measure the level of the developed skill or knowledge.

In the present experimental study achievement test consisted of 25 questions based on topics of environment science of 9th class.

III. DEFINITIONS OF THE KEY TERMS

1. **Online Teaching:** Online teaching is the process of educating others via the internet like Zoom, ePathshala.

2. **Achievement:** Achievement pertains to the degree to which a learner benefits from instruction within a specific domain of learning. According to Freeman, an achievement test is crafted to assess one's knowledge, comprehension, and proficiency in a defined subject or a set of subjects.

3. **Environmental Science:** Environmental science is an academic field that combines multiple disciplines to research the environment and provide answers to environmental issues.

IV. DELIMITATION OF THE PROBLEM

1. Students of 9th class of secondary schools.
2. Topics of Environmental Science from text book of 9th class students for CBSE and PSEB board.

V. OBJECTIVE

To study the effect of online teaching in environmental science achievement of secondary school students.

VI. HYPOTHESES

When teaching environmental science, the experimental group's mean achievement scores differ significantly from those of the control group.

VII. METHOD AND PROCEDURE

1. **Design:** The present study falls under the domain of experimental research.

2. **Sample Selection:** Adequate sample comprising the students of secondary school from Amritsar city was selected randomly for the purpose of the study.

   A sample of about 120 students of 9th class of secondary school of Amritsar city was selected randomly for the purpose of study.

VIII. TOOLS

Achievement test was prepared from the list of selected topics for teaching environmental science to 9th class students.

Statistical Techniques: t-test was applied to find out the results.

IX. ANALYSIS OF RESULTS

Significant difference exists between the mean achievement scores of experimental group and control group in teaching environmental science through online and traditional

method. Table showing Mean, Std. Deviation and t value of experimental group and control group

	Group	N	Mean	Std. Deviation	Std. Error Mean	t	Interpretation
Achievement Gain Score	Experimental Group	60	11.367	3.0530	.3941	5.207	Significant At 0.05 Level
	Control Group	60	7.633	4.6394	.5989		

The experimental group has a mean of 11.367, while the control group has a mean of 7.633. The standard deviation for the experimental group is 3.0530, and for the control group, it is 4.6394. Additionally, the standard error of the mean is 0.3941 for the experimental group and 0.5989 for the control group. The calculated 't' value is 5.207, which, when compared to the table value, indicates significance at the 0.05 level. This suggests that there are statistically significant differences in the mean scores between the experimental group and the control group in the context of teaching environmental science.

X. CONCLUSIONS

The analysis and interpretation of the data, concludes that:

1. Online teaching method was effective method in improving the achievement of students in environmental science.
2. There were no sex variations observed with respect to the environmental science achievement of boys and girls when taught through online method.

XI. EDUCATIONAL IMPLICATIONS

The analysis and interpretation of the data highlights the following educational implications:

1. New innovative methods like online teaching should be adopted by the teachers to teach science in schools.
2. As the secondary level of education is a turning point in student's life because at this stage the students have to take decisions about their future life, so to help them to take intelligent decisions about their future, online teaching and guidance and counselling cells must be made an integral part of every senior secondary school.
3. The students should be helped to accomplish their goals more realistically keeping in mind their interest through online teaching.
4. By creating connections between the concrete and abstract levels of learning through online peer interactions and thoughtfully crafted tasks, this system helps students improve their comprehension.
5. The government should sensitize educational institutions on need and importance of children's achievement through online teaching.
6. School Principals and teachers should advise families on how to properly use the resources on supporting their children's achievement in any level of education.

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