

Effectiveness of Web 2.0 Classroom Application Tools for Teaching Science by Online Mode

Dr. Jayshree Anil Airekar

Principal Matoshree Parvatibai Kote College of Education,

Akole, Maharashtra. 422601

Email: dr.jayshree99@gmail.com

Abstract:

Background-COVID-19 pandemic has affected educational systems worldwide, leading to the near-total closures of schools, universities and colleges. UNESCO recommended the use of distance learning programmes and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. Schools closed, demand for online education platforms has increased, which can be taught online, also grew significantly during the pandemic. Hence the attempt has been made to study the effectiveness of web 2.0 classroom application tools for teaching science by online mode.

Methodology-Objectives of the study were as follows-1. To study the effectiveness of web 2.0 classroom application tools for teaching science by online mode.2. To compare the effectiveness of traditional method of teaching and using web 2.0 classroom application tools for teaching science. The researcher adopted experimental research method because this method can justify the problem. The present research work was related to all teacher trainees' college of Education which are affiliated to University. The researcher planned goal and objectives of science teaching using web 2.0 classroom tools for B.Ed. students of Matoshree Parvatibai Kote College of Education, Akole, Maharashtra. A pretest of 30 marks was administered on the sample. The score was collected analyzed and interpreted. The experimental group was instructed by using web 2.0 classroom tools of teaching science while the control group was instructed by traditional method. A posttest of 30 marks was administered on the sample. The responses were collected in terms of score. After statistical analysis conclusions were drawn.

Conclusion1. Teaching of Science subject with the help of web 2.0 classroom application tools is more effective and better than teaching through traditional method.2. The academic achievement by students is more through web 2.0 classroom application system and got better result in science subject than the students through traditional teaching method.3. Web 2.0 online classroom tools helped the students and teachers in better academic achievement during covid19 situation

Keywords: Effectiveness, Web 2.0, Classroom Application Tools, Online Teaching

Introduction:

COVID-19 pandemic has affected educational systems worldwide, leading to the near-total closures of schools, universities and colleges. ... As of 12 January 2021, approximately 825 million learners are currently affected due to school closures in response to the pandemic. Most governments decided to temporarily close educational institutions in an attempt to reduce the spread of COVID-19. As of 12 January 2021, approximately 825 million learners are currently

affected due to school closures in response to the pandemic. According to UNICEF monitoring, 23 countries are currently implementing nationwide closures and 40 are implementing local closures, impacting about 47 percent of the world's student population. Online teaching is a student-centric methodology that increases students' interest and participation levels in virtual classrooms. The teaching skills play a great role in successful interaction with the students.

In response to school closures, UNESCO recommended the use of distance learning programmers and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education. Schools closed; demand for online education platforms has increased, which can be taught online, also grew significantly during the pandemic. Hence the attempt has been made to study the effectiveness of web 2.0 classroom application tools for teaching science by online mode.

Web 2.0 Classroom application tools-

Following are some important Web 2.0 Application tools used in this research.

1. Teacher Tube (<http://teachertube.com>)

Teacher tube is an educational social video sharing site for teachers. Its free instructional videos.

2. School Tube (<http://schooltube.com>)

School tube goal is to build on sites like YouTube and teacher tube and create a place for student created educational videos. It is clearly student focused. School tube allows school groups to upload videos discuss comments and remix work all online. School tube also offer content, quick tips, and tutorial.

3. Picasa- (<http://picasa.google.com>)

Picasa is a free tool that lets teachers and students get their digital photos organized into a usable structure.

4. Slide share-(<http://slideshare.net>)

Slide share is a place to share slideshows such as Microsoft PowerPoint and Apple keynote. This presentation to be shared with anyone with an internet connection. The social media aspect of this site allow user to view, comments and interact with slides.

5 Google Docs-(<http://gocs.google.com>)

It act as a word processor delivered via browser with collaborative functionality and wiki like editing. Google docs makes it easy to allow students to work in groups in a secure environment with teacher tracking.

6 Google calendar (<http://calendar.google.com>) Google calendar is one of the useful web base calendar and its totally free. Teacher can create a classroom calendar to which student's parents and other teachers can subscribe.

Statement of the Problem-

1. The effectiveness of web 2.0 classroom application tools for teaching science by online mode by sample of student teachers from Matoshree Parvatibai Kote College of Education, Akole, District- Ahmednagar, State Maharashtra.

Operational Definition of the Terms.

2. **Effectiveness-** Difference between pretest score and post test score called effectiveness. In this present research researcher collect pretest and post test score from control group and experiment group by sample of student teachers from Matoshree Parvatibai Kote College of Education, Akole District Ahmednagar State- Maharashtra.
3. **Web 2.0-** In the 21st century a series of technological development are taking place and renaissance for web resources and tools by containing collaboration and social interaction. This technological development is called Web 2.0. Web 2.0 includes community learning and collaborative learning in a social process.
4. **Online teaching-** Online teaching is the process of educating others on virtual platforms. This type of teaching involves live classes, video conferencing, webinars, and other online tools... It provides a lot of freedom to individuals to learn, teach, and develop skills at their own pace.

Objectives of the Study

1. To study the effectiveness of web 2.0 classroom application tools for teaching science by online mode
2. To compare the effectiveness of traditional method of teaching and using web 2.0 classroom application tools for teaching science

Hypothesis**Research Hypothesis**

After implementation of web 2.0 classroom application tools for teaching science there will be significant difference in statistical score of B.Ed. student-teachers of experiment group over control group.

Null Hypothesis

After implementation of web 2.0 classroom application tools for teaching science there will be no significant difference between posttest statistical score of B.Ed. student-teachers of experiment group and control group.

Research Methodology

The selection of method mainly depends on nature of problem selected for the study. The researcher adopted experimental research method because this method can justify the problem. The present research work was related to all teacher trainees' college of Education which are affiliated to University. The researcher planned goal and objectives of science teaching using web 2.0 classroom tools for B.Ed. students of Matoshree Parvatibai Kote College of Education, Akole, Dist. Ahmednagar , State- Maharashtra.. A pretest of 30 marks was administered on the sample. The score was collected analyzed and interpreted.

The experimental group was instructed by using web 2.0 classroom tools of teaching science while the control group was instructed by traditional method. A posttest of 30 marks was administered on the sample. The responses was collected in terms of score. After statistical analysis conclusions were drawn.

Sample of the Study

A sample of 30 students of B.Ed. trainee teachers of Matoshree Parvatibai Kote College of Education, Akole, District Ahmednagar State- Maharashtra. Researcher has used simple random sampling method.

Statistical Analysis

The Mean score and SD of control group and experimental group were collect. Then t test was employed to the test the hypothesis at 0.05 level of significance.

Result and Discussion

Hypothesis testing

Research Hypothesis

After implementation of web 2.0 classroom application tools for teaching science there will be significant difference in statistical score of B.Ed. student-teachers of experiment group over control group.

Null Hypothesis.

After implementation of web 2.0 classroom application tools for teaching science there will be no significant difference between posttest statistical score of B.Ed. student-teachers of experiment group and control group.

Table I

| Group | Mean | SD | t-value | Result |
|------------|-------|------|---------|--------------|
| Control | 18.66 | 2.49 | 11.29 | Significance |
| Experiment | 26 | 1.25 | | |

Table 1- reveals that Mean of Control group is found statistically less than the Mean of experimental group.

Table 1 reveals that SD of Control group is found statistically more than the experimental group.

Table 1 reveals that at 0.05 level of significance the calculated t value is 11.29 is greater than available t value 2.14, hence null hypothesis is rejected and research hypothesis is accepted.

Conclusion

1. Teaching of Science subject with the help of web 2.0 classroom application tools is more effective and better than teaching through traditional method.
2. The academic achievement by students are more through web 2.0 classroom application system and got better result in science subject than the students through traditional teaching method.
3. Web 2.0 online classroom tools helped the students andteachers in better academic achievement during covid19 situation.

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