EFFECTIVENESS OF VIDEO PODCAST IN LEARNING PSYCHOLOGY AMONG BACHELOR OF EDUCATION STUDENTS

By

K. THIYAGU

Assistant Professor,Department of Education, School of Education and Training, Central University of Tamilnadu, Thiruvarur.

ABSTRACT

Most people believe that our schools and colleges are failing to teach kids and youngsters the 21st century skills which they will need in order to succeed in the future (Berger, Edward. 2007). Communication technology, particularly real-time and collaborative online communities, represents an enormous draw for teenagers. Doctors no longer use 19th century practices on their patients; likewise educators have a duty to incorporate modern technology into the classroom (Palitha, Chiara. 2007). The present study tries to find out the Effectiveness of Video Podcast in Learning Psychology among Bachelor of Education Trainees. Two equivalent group experimental-designs are employed for this study. The investigator has chosen 48 Bachelor of Education students from Dr. Sivanthi Aditanar College of Education, Tiruchendur, Tuticorin District for the study. According to the scoring of pre-test, 24 students were chosen as Control Group and 24 students were chosen as Experimental Group. Finally the investigator concludes that, (a) 37.5% of the control group students have low level, 58.3 %of them have moderate level and 4.2 % of them have high level of the gain scores. Among the experimental group students 8.3 % of them have low level, 58.3% of them have moderate level and, 33.3 % of them have high level of the gain scores. (b) There is a significant difference between control and experimental group students in their gain scores. which is the experimental group student is better than the control group students in their gain scores. (c)There is significant difference between control and experimental group students in their gain scores for attainment of the knowledge and understanding objectives. which is, the experimental group is better than control group in attainment of their knowledge and understanding objectives. There is no significant difference between the gain scores of control and experimental group students in attainment of application objectives. (d) There is no significant difference between control group and experimental group students in their pre test scores. There is significant difference between control and experimental group students in post-test mean scores. According to the 't-test' result the experimental group is better than the control group.

Keywords: Effectiveness, Video Podcast, Psychology, B.Ed, Trainees.

INTRODUCTION

Technology continues to affect educational communication in variety of ways. Podcasts and other media content can be obtained and adapted for classroom use (Jarvis Claire., and Dickie, Jennifer. 2010). That has incredible implications for the ways in which teachers and students communicate today. The purpose of this study is to examine the efficacy of video podcasting as a learning tool and its effects on student retention of technical classroom material. The literature suggests that podcasting research focuses predominantly on audio-only podcasts. With recent technological advancements, the ability to deliver dynamic interactive content has grown. Video podcasting simulates a classroom setting for viewing from anywhere (Crispin Dale, 2007). The general goal of this study is to test the assumption that students who are exposed to video podcasts will retain information more effectively than they would through traditional lecture alone.

Educational psychology contains lot of difficult terms and new vocabularies to understand and to learn. In addition to that, the syllabus is so vast and more theoretical for one year duration of B.Ed., teacher trainees. In order to overcome those practical difficulties, educators could

adapt the technique vodcasting for Instructing Educational Psychology, since vodcasting technique helps the teacher trainees to retain their attention during instruction. This will provide opportunities for B.Ed., teacher trainees to learn at their own pace, as easy as possible. So the investigator decided to find out the effectiveness of Video Podcast in Learning Psychology among the Bachelor of Education Students.

Operational Definition of the Key Terms

Effectiveness

It refers to the adequacy to accomplish a purpose, as well as producing the result intended or expected with the results. This study measures the effectiveness in terms of the achievement scores of the students if Vodcast is used in learning. This study describes the use of Vodcast for learning Educational Psychology by B.Ed students.

Video Podcast

Video Podcast (sometimes called "Vodcast") is a term used for the online delivery of video on demand video clip content via Atom or RSS(Really Simple Syndication) enclosures. A vodcast can be defined as a video file that is distributed over Internet, normally with the option of subscription, for playing on a portable media device or personal computer.

Psychology

Psychology is the science which aims to give us better understanding and control of the behavior of organisms. Psychology is the science of behavior and experience. The investigator has chosen some topics in the psychological units at the B.Ed. students' level for developing video podcast.

Bachelor of Education Students

The Students who are studying Bachelor of Education (B.Ed.,) in the Colleges of Education are called as Bachelor of Education Students.

Objectives of the Study

- To find out the level of gain scores of control and experimental group students for attainment of the objectives.
- To find out whether there is any significant difference between control and experimental group students in their gain scores.
- To find out whether there is any significant difference between control and experimental group students in their gain scores for attainment of knowledge, understanding and application objectives.
- To find out whether there is any significant difference between control and experimental group students in their pre-test. To find out whether there is any significant difference between control and experimental group students in their post test.
- To find out whether there is any significant difference between the control and experimental group students in attainment of knowledge, understanding and application objectives in post test.
- To find out whether there is any significant difference between pre-test and post-test scores of the control group students in their attainment of knowledge, understanding and application objectives.
- To find out whether there is any significant difference between pre-test and post-test scores of the experimental group students in their attainment of knowledge, understanding and application objectives.

Hypotheses of the Study

1) There is no significant difference between control and experimental group students in their gain scores.

2) There is no significant difference between control and experimental group students in their gain scores for attainment of knowledge, understanding and application objectives.

3) There is no significant difference between control and experimental group students in their pre-test. And there is no significant difference between control and experimental group students in their post test.

4) There is no significant difference between the control and experimental group students in attainment of knowledge, understanding and application objectives in post test.

5) There is no significant difference between pre-test and post-test scores of the control group students in their

attainment of knowledge, understanding and application objectives.

6) There is no significant difference between pre-test and post-test scores of the experimental group students in their attainment of knowledge, understanding and application objectives.

Methodology

The investigator followed two equivalent group experimental-designs which are employed for this study. Experiment always deals with the causes and affect the relationship. The experimental group is exposed to the influence of the treatment under supervision and the control group is not exposed to the treatment. The experimental group is exposed to the influence of the factor under consideration whereas the control group is not. Then observations are made to determine what difference appears or what change or modification occurs in the experimental groups contrasted with the control group. At the end, a final test was conducted for the purpose of determining the gain in achievement that has resulted from the application of the experimental factor. The main aim of the experimental research is to find out whether there exists a significant difference between the traditional method of teaching and the Video Podcast way of instruction in Educational Psychology among the B.Ed., Trainees.

Selection of the Sample

The investigator has chosen 48 Bachelor of Education students from Dr. Sivanthi Aditanar College of Education, Tiruchendur, Tuticorin District for the study. According to the scoring of pre-test, 24 students were chosen as control group and 24 students were chosen as experimental group.

Tools Used for the Study

The investigator has used the following tools for the research:

- Video Podcast for the selected content
- Achievement test in Educational Psychology (Pre-test and Post-test)

Developing the Video Podcast

The content for the present Video Podcast on Educational Psychology has been taken from the prescribed syllabus for the B.Ed., Teacher Trainees by Tamil Nadu Teacher Education University. The investigator selected four Learning theories concept for creating the Video Podcast for B.Ed., trainees. The following topics were selected for creating video podcast. (i) Trial and Error (ii) Classical Conditioning (iii) Operant Conditioning (iv) Insight Learning. The development procedures for the video podcast consisted of the following steps.

1. Preparation of Scripts for Video.
   a. Developing Written Content.
   b. Developing Visual Content.
2. Approval from the Media Expert.
3. Shooting Script.
4. Previewing.
5. Uploading Videos in the website.

After editing video, the investigator uploaded the video files to a website. Each video has a separate Uniform Resource Locator (URL) address. The investigator shared the web address to all the experimental group students and supervised the students during the time of students' learning through Video Podcast.

Validity of the Video Podcast

A logical examination of content and presentation of the Video Podcast was done by the panel of experts from the Department of Education, Educational Psychology and Computer Science. Their suggestions were incorporated to enhance the content and quality of the Video Podcast. In view of the changes made in the language, content, coverage, format etc., it can be said that the Video Podcast used in this study possess content validity.

Preparation of the Achievement Test

The investigator has constructed tests, and the test has 60 questions for B.Ed., Trainees Learning Theories units of Educational Psychology syllabus. All the questions are in the form of multiple choice answers type. The questions are prepared in English. Items are submitted to the experts in Educational Psychology and Education. Then the items are modified and some are deleted on the basis of the remarks given by the research supervisor and subject experts. The

draft was thus scrutinized carefully and the irrelevant items are deleted and the draft was reduced to 50 items. Afterwards the achievement test had 50 items. These tests are used as pre-test and post-test.

Reliability and Validity of the Achievement Test

For establishing the reliability of the developed tool, 'test-retest' technique was followed and 'correlation co-efficient' was calculated and the value is 0.82. The correlation value indicates that the tool is reliable. For establishing the content-validity of the tool, the investigator consulted the experts. Additions and deletions were made as per their suggestions. Thus it was established that, the test contained 50 items for evaluating the learning outcomes in Educational Psychology.

Treatment of the Groups

Just before the treatment, the 'entry behavior test' was administered and it was found out that all the selected samples possess the entry behavior. The bio-data information was also collected. Then the pupils were made to be seated conveniently and strict invigilation was done to avoid consultation. Pre-test was administered and the results were analyzed. The means of the pre-test scores of both experimental and control group are almost equal. Less difference is seen in case of standard deviation as well. Hence, the Experimental and Control Group were matched.

The investigator conducted this experiment in 21 days. The Experimental Group sample of 24 students were taken to the Educational Psychology lab. These students were taught with Video Podcasting. Corrective feedback was given wherever necessary. When any point was not learnt, additional time was given and also the media material was screened once again, wherever necessary. After this, the control group was taught in the conventional method by the investigator himself. The investigator trained them in such a way that there should not be any experimental bias.

The same pre-test questions were given to the students of both two groups and their results were statistically analyzed to find out the efficiency and effectiveness of Video Podcast way of teaching. While conducting the feedback test, strict and effective monitoring and supervision were taken against malpractice.

Statistical Techniques Used

Statistical techniques help to classify, organize and summarize the numerical facts and draw conclusions (Aggarwal, Y.P,1990). 'Descriptional', 'Differential' and 'Inferential' Statistics were used for the present study. This includes Mean, Standard Deviation and 't' test.

Data Analysis

Objective Testing

Objective testing is conducted to find out the level of gain scores of control and experimental group students for attainment of the objectives and its total.

It is inferred from the Table 1 that, 12.5 % of the control group students have low level, 83.3% of them have moderate level, and 4.2% of them have high level of attainment of knowledge objective in their gain scores. Among the experimental group students, 0.0% of them have low level, 66.7% of them have moderate level, and 33.3% of them have high level of attainment of knowledge objective in the gain scores.

Table 1 reveals that, 29.2% of the control group students have low level, 66.7% of them have moderate level, and 4.2% of them have high level of attainment of understanding objectives in the gain scores. Among the experimental group students, 4.2 % of them have low level, 66.7% of them have moderate level, and 29.2% of them have high level of attainment the understanding objectives in the gain scores.

It is inferred from Table 1 that, 20.8% of the control group students have low level, 70.8% of them have moderate level, and 8.3% of them have high level of attainment the application objectives in the gain scores. Among the experimental group students, 16.7% of them have low level, 62.5% of them have moderate level, and 20.8% of them have high level of attainment the application

	Control Group (N=24)						Experimental Group (N=24)					
OBJECTIVES	Low		Moderate		Low		Moderate		Low		Moderate	
	N	%	N	%	N	%	N	%	N	%	N	%
Knowledge	3	12.5	20	83.3	1	4.2	0	0.0	16	66.7	8	33.3
Understanding	7	29.2	16	66.7	1	4.2	1	4.2	16	66.7	7	29.2
Application	5	20.8	17	70.8	2	8.3	4	16.7	15	62.5	5	20.8
Total	9	37.5	14	58.3	1	4.2	2	8.3	14	58.3	8	33.3

Table 1. Level of Gain Scores of Control and Experimental Group Students for Attainment of the Objectives and It's Total

objectives in the gain scores.

It is inferred from Table 1 that, 37.5% of the control group students have low level, 58.3% of them have moderate level and 4.2% of them have high level of the gain scores. Among the experimental group students 8.3% of them have low level, 58.3% of them have moderate level and, 33.3% of them have high level of the gain scores.

Hypotheses Testing

Null Hypothesis 1

There is no significant difference between the control and experimental group students in their gain scores.

From Table 2, it is observed that, the obtained 't' value 5.48 is more than the critical value at 0.05 level of significance and hence, the null hypothesis is rejected. It means that there is a significant difference between control and experimental group students in their gain scores. That means, the experimental group students have better mean scores than the control group students in their gain scores. Hence, the way of learning by video podcast is effective for the B.Ed., Students.

Null Hypothesis 2

There is no significant difference between control and experimental group students in their gain scores for attainment of knowledge, understanding and application objectives.

From Table 3, it is observed that the obtained 't' values 4.45 and 6.22 are more than the critical value at 0.05 level of significance. And hence, the null hypothesis is rejected. It means that, there is significant difference between the gain scores of control and experimental group students in attainment of knowledge and understanding objectives. And it is interpreted that, the experimental group performed better than the control group in their gain scores of learning objectives knowledge and understanding. From the Table 3, it is also observed that, the obtained 't' value 1.54 is less than the critical value at 0.05 level of significance and hence, the null hypothesis is accepted. It means that there is no significant difference between the gain scores of control and experimental group students in attainment of application objectives.

Group	N	Mean	S.D	Calculate 't' value	'P' value	Remarks
Control Group	24	10.29	4.15	5.48	0.00	Significant $p < 0.05$
Experimental Group	24	18.83	6.40			

Table 2. Difference Between Control and Experimental Group Students in their Gain Scores

Null Hypothesis 3

There is no significant difference between control and experimental group students in their pretest. And there is no significant difference between control and experimental group students in their post test.

From Table 4, it is observed that, the obtained 't' value 0.27 is less than the critical value at 0.05 level of significance and hence, the null hypothesis is accepted. It means that, there is no significant difference between control and experimental group students in their pretest. From Table 4, it is also observed that, the obtained 't' value 6.15 is more than the critical value at 0.05 level of significance and hence, the null hypothesis is rejected. It means that there is a significant difference between control and experimental group students in their post test. And it is interpreted that, the experimental group performed better than the control group in their post test.

Null Hypothesis 4

There is no significant difference between the control and experimental group students in attainment of knowledge, understanding and application objectives in post test.

From Table 5, it is observed that, the obtained 't' values 5.42, 5.92 and 3.0 are more than the critical value at 0.05 level of significance and hence, the null hypothesis is rejected. It means that, there is a significant difference between the control and experimental group students in attainment of knowledge, understanding and application objectives in post test. And it is interpreted that, the experimental group performed better than the control group in the learning objectives.

Objectives	Control Group		Experimental Group		Calculated 't' value	'P' value	Remarks
	Mean	S.D	Mean	S.D			
Knowledge	1.04	2.21	4.46	3.03	4.45	0.00	Significant $p < 0.05$
Understanding	3.50	2.26	7.38	2.03	6.22	0.00	Significant $p < 0.05$
Application	5.75	2.47	7.00	3.09	1.54	0.12	Not Significant $p > 0.05$

Table 3. Difference Between Control and Experimental Group Students in their Gain Scores for Attaining the Objectives

Objectives	Control Group		Experimental Group		Calculated 't' value	'P' value	Remarks
	Mean	S.D	Mean	S.D			
Pre-test	20.00	3.93	20.29	3.48	0.27	0.78	Not Significant p > 0.05
Post-test	30.29	4.20	39.12	5.63	6.15	0.00	Significant p < 0.05

Table 4. Difference Between Control and Experimental Group Students in Their Pre-test and Post-test

Null Hypothesis 5

There is no significant difference between pre-test and post-test scores of the control group students in their attainment of knowledge, understanding and application objectives.

From Table 6, the obtained 't' values 2.30, 7.57, 11.39 and 12.13 are more than the critical value at 0.05 level of significance and hence, the null hypothesis is rejected. It means that, there is a significant difference between pre-test and post-test scores of the control group students in their attainment of knowledge, understanding and application objectives. And it is interpreted that, the control group who underwent conventional strategies gained more in the learning objective wise post test than in the learning objective wise pretest.

Null Hypothesis 6

There is no significant difference between pre-test and post-test scores of the experimental group students in their attainment of knowledge, understanding and application objectives.

From Table 7, the obtained 't' values 7.19, 17.71, 11.08 and 14.40 are more than the critical value at 0.05 level of significance and hence, the null hypothesis is rejected. It means that, there is significant difference between pre-test and post-test scores of the experimental group students in their attainment of knowledge, understanding and application objectives. And it is interpreted that, the experimental group who underwent Educational Psychology in Video Pod cast Lessons gained more in the learning objective wise post test than in the learning objective wise pretest.

Objectives	Control Group		Experimental Group		Calculated 't' value	'P' value	Remarks
	Mean	S.D	Mean	S.D			
Knowledge	7.79	1.71	11.17	2.51	5.42	0.00	Significant p >0.05
Understanding	10.38	2.41	14.25	2.11	5.92	0.00	Significant p > 0.05
Application	12.12	1.48	13.71	2.11	3.00	0.00	Significant p > 0.05

Table 5. Difference Between Control and Experimental Group Students in Attainment of Objectives in Post Test

Interpretation & Discussion

The 't' test result shows that the experimental group students are better than the control group students in the gain scores. This may be due to the fact the teaching and learning through visualizing pictures is effective in teaching Educational Psychology for the B.Ed., Trainees. Since the Video Podcast is developed for strengthening the students' learning abilities, it helps students' master basic psychological facts and makes learning more engaging and fun. So the students' attention is drawn in the topic to be learnt.

The 't' test result also shows that, the experimental group students are better than the control group students in attainment of knowledge and understanding level objectives in the gain score. This may be due to the fact that, Video Podcasting have motivated the students to understand the concepts of Educational Psychology, since the animation, picture, video and audio effect of the Video Podcast enhance the students' learning process and understanding abilities. Even Video Podcast was Played by the flash player and media player, it stuffed the fresh minds of experimental group students very sharply. So the experimental group is better than control group in

	Objectives	Pre-test Mean	S.D	Post-test Mean	S.D	'r' value	't' value	'P' value	Remark
Control Group	Knowledge	6.75	2.0	7.79	1.7	0.30	2.30	0.03	Significant p < 0.05
	Understanding	6.88	1.5	10.38	2.4	0.41	7.57	0.00	Significant p < 0.05
	Application	6.38	1.9	12.12	1.4	0.01	11.39	0.00	Significant p < 0.05
	Total	20.00	3.9	30.29	4.2	0.48	12.13	0.00	Significant p < 0.05

Table 6. Difference Between Pre-test and Post-test Scores of Control Students for Attaining the Objectives

	Objectives	Pre-test Mean	S.D	Post-test Mean	S.D	'r' value	't' value	'P' value	Remark
Experimental Group	Knowledge	6.71	1.6	11.17	2.5	0.01	7.19	0.00	Significant p < 0.05
	Understanding	6.88	1.6	14.25	2.1	0.43	17.71	0.00	Significant p < 0.05
	Application	6.71	2.1	13.71	2.1	0.06	11.08	0.00	Significant p < 0.05
	Total	20.29	3.4	39.12	5.6	0.07	14.40	0.00	Significant p < 0.05

Table 7. Difference Between Pre-test and Post-test Scores of Experimental Group Students for Attaining The Objectives

attainment of knowledge, understanding and application objectives.

The 't' test result shows that, the experimental group students are better than the control group students in the Post test. Video Podcast helps a pupil to visualize situations, to create concrete pictures from abstract situations, to facilitate the pupils' learning through seeing and doing, to transform words into recognizable pictures for young minds. These are the main reason that experimental group students got more mean scores than the control group students in post test. In general, Video Podcast is effective in developing students' understanding abilities, reflective thinking, self confidence and reducing the learning anxiety. These are the reasons for students to be highly motivated to learn Educational Psychology through Video Podcast.

Recommendations

Podcasting and Vodcasting, and their pending derivatives, are not fads. They are very real and very practical distribution technologies (Zacharias, Nick, Z. 2012). The ability to time-shift content versus traditional broadcast distribution models expand student teaching and learning opportunities significantly. The rapid evolution of audio-photo-video recording capabilities through phones and inexpensive hand-held devices will create a flood of multimedia content. They will be immediately adopted by the current class of students and will be looked at with disinterest or uncertainty by many of the current faculty. Both distribution technologies will quickly create demand for more bandwidth and storage for that content, both for academic purposes and student social activities. They will intensify the need for a centralized content management and monetization infrastructure, as well as education support architecture to assist faculty in the integration of those technologies that will be demanded by the incoming class of students. But the challenge is to provide opportunities to all new classes of services for on-campus, distance and lifelong learners (Gnanamalar Sweetly, K. 2010). In fact the greatest opportunities for these technologies are in the ways which will be used, that have not been imagined yet. The portable and on-demand nature of podcasting and Vodcasting make the technologies worth pursuing, implementing and supporting to students (Thiyagu, K. 2012).

The present study recommends that the government sector should produce those kinds of video podcasting lesson and screen to the teachers through in-service training programme. The government should take up effective measures to teach education psychology through their media of public information. The educational institutions should come forward to organize such a in-service training programme to all officials and teaching faculties on educational psychology through video podcasting lessons. Because, this method will save the time of those officials, but is firm in making impact. The present study also appreciates Tamilnadu Teacher Education University and recommends that the university can make more number of video podcasting lessons regarding those syllabus content in order to disseminate the lessons to it's pre-service teacher trainees. It is further recommended that the video podcasting lesson method teaching may be used to learn Educational Psychology at B.Ed, level for quick learning, and high retention is possible through this method. This method will be helpful for the teachers to enhance the achievement of the students. This method may be used to provide an equal opportunity in learning irrespective of time, space and person.

Conclusion

It is author's belief, that based on the findings through Vodcasting of classroom content may not replace lecture-style teaching, but it certainly, presents a way to concentrate on specific questions that, students have in a timely fashion. Future research is required to explore whether Vodcasting class content can be a viable means of information dissemination to students, particularly studies that are conducted long term versus short term. This technology is still relatively new and is consistently changing in style, distribution, professionalism, and technique. Further use and research will provide a greater understanding of those ways in which the medium can provide a better understanding of educational topics to students.

References

[1]. **Aggarwal, Y.P. (1990).** *Statistical Methods: Concept Application and Computation.* New Delhi: Sterling

Publishers Pvt. Ltd.

[2]. **Berger, Edward. (2007).** Podcasting in Engineering Education: A Preliminary Study of Content, Student Attitudes, and Impact. *Innovate: Journal of Online Education*, 4(1), 25-31.

[3]. **Crispin Dale. (2007).** Strategies for Using Podcasting to Support Student Learning. *Journal of Hospitality, Leisure, Sport and Tourism Education* 6(1), 49-57.

[4]. **Gnanamalar Sweetly, K. (2010).** *Effectiveness of E-Module in Learning Mathematics among B.Ed., Trainees.* Unpublished M.Ed., Dissertation. Tamilnadu Teachers Education University, Chennai.

[5]. **Jarvis, Claire., & Dickie, Jennifer.(2010).** Podcasts in Support of Experiential Field Learning. *Journal of Geography in Higher Education*, 34(2),173-186.

[6]. **Palitha, Chiara. (2007).** Podcasting to Provide Teaching and Learning Support for an Undergraduate Module on English Language And Communication. *The Turkish Online Journal of Distance Education*, 8(1), 87-107.

[7]. **Thiyagu, K. (2012).** *Effectiveness of E-Learning Modules in Learning Mathematics among Secondary Teacher Education Students.* Unpublished Ph.D., Dissertation. Bharathidasan University, Chennai.

[8]. **Zacharias, Nick, Z. (2012).** Predicting College Students' Acceptance of Podcasting as a Learning Tool. *Interactive Technology and Smart Education*, 9(3), 171-183.

ABOUT THE AUTHOR

Mr. Thiyagu is currently working as an Assistant Professor in the Department of Education in Central University of Tamilnadu, Thiruvarur. He has completed his B.Sc., M.Sc degrees from St. Joseph's College, Trichy, B.Ed., from Manonmaniam Sundaranar University, Tirunelveli, M.Ed from Bharathidasan University, M.Phil.,(Education) from Alagappa University, Karaikudi, M.Phil., (Math) from Periyar University, Salem and Ph.D. (Education) from Department of Educational Technology, Bharathidasan University. He has 8 years of teaching experience from various organizations. He has contributed on two books and also contributed on research papers and articles in the area of models of teaching, ICT, Higher Education & Teacher education etc.