

INTERNATIONAL SCIENTIFIC RESEARCH AND INNOVATION CONGRESS -III

June 09-11, 2025 / Nakhchivan – AZERBAIJAN

THE PROCEEDINGS BOOK

EDITOR

Assoc. Prof. Dr. Elsever ESEDOV

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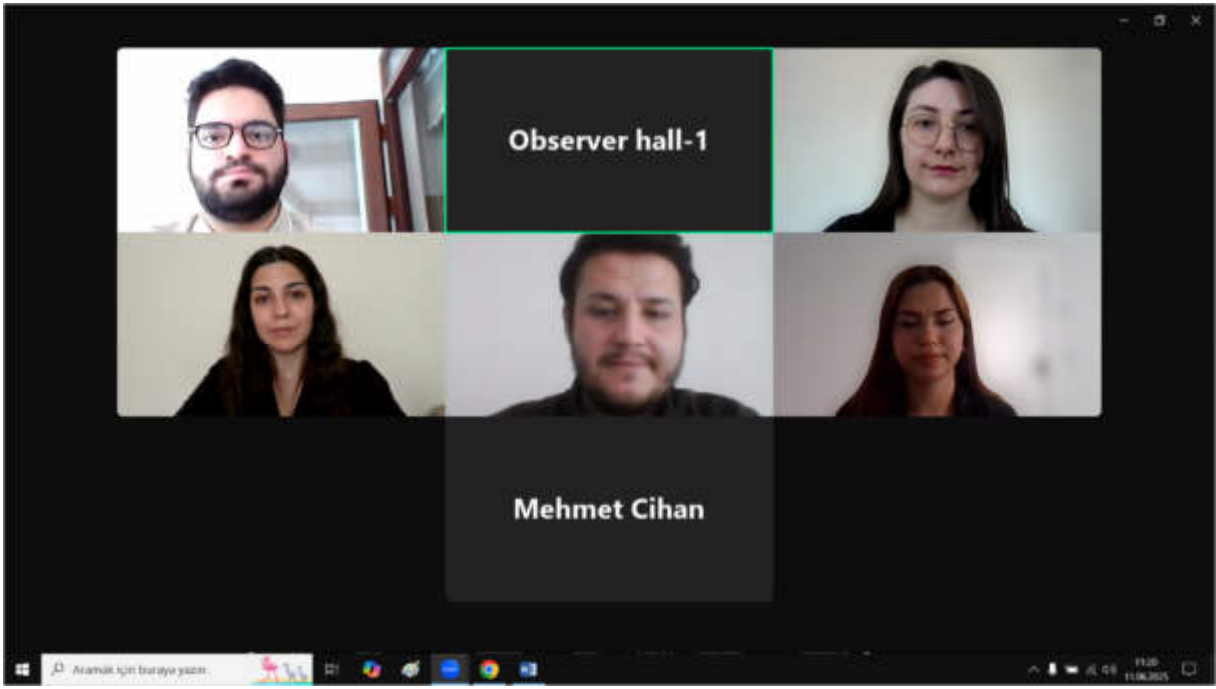
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IMPACT OF ANIMOTO-GENERATED INSTRUCTIONAL VIDEOS ON ATTITUDE AND ABILITY LEVEL PRE-SERVICE GEOGRAPHY TEACHERS IN NORTH CENTRAL, NIGERIA

Usman, Z.N.

Niger State College of Education, Curriculum and instruction department

Ndatsu .A.

Department of Geography, Federal University of Technology

Abstract

The study investigated impact of Animoto- generated instructional videos on attitude and ability level of pre-service Geography teachers in North Central, Nigeria. The study employed Quasi-experimental design. The target population for this study was 1,163 pre-service Geography teachers in North Central. One-fifty-One (151) were sampled for the study. Four research questions were raised. Four experts validated the research instrument used for the study. Questionnaire was used for data collection. The data collected was analyzed using descriptive and inferential statistics. The study revealed that Animoto-generated instructional video enhances the performance of pre-service Geography teachers in Geomorphology. The study further revealed that the medium ability level students perform better when exposed to Animoto-generated instructional videos than the high and low ability levels. Based on the findings and conclusion drawn, the following recommendations were made: Geography teachers should utilize and encourage students to use Animoto instructional videos, as it promotes interactive and independent learning.

Keywords: Animoto-generated instructional video, ability level.

INTRODUCTION

Technology has transformed teaching and learning to be more student-centered through the incorporation of technology in education (Ibrahim *et al.*, 2024). Technology is the principal delivery system of information particularly in online courses therefore, serving as a foundation for teaching and has encouraged instructors to device various means of teaching relevant course contents with applications and softwares such as Animoto.

Animoto is free and easy to use video maker that allows for the creation and sharing of videos online. Since it is cloud based and browser- accessible, it works with nearly any device (Irgin and Turgut, 2019). Animoto is one of simple media for presentation or slideshow based on web (Lestari and Chasanatun, 2018). Animato videos are cloud-based video creation service that produce video from photos, video clips, and music into video sideshows and customized web-based presentations. Zakaria and Yunus (2017) are of the opinion that animato-generated instructional videos are animation produced for specific purpose of fostering learning, in addition, Animoto supports and improves performances through the use of technological tools. Animato videos have been rising in great numbers recently, it has enhanced the learning experiences of learners' by providing more visual, more sound and more engagement resulting to efficiency in learning. Animato videos are excellent aid to both learners and teachers when it comes to explaining difficult subject areas, abstract and imaginations, most especially in courses such as Geography.

Geography is a subject that enable us to comprehend the Earth from a spatial viewpoint, by offering an organized structure about the world that surrounds us (Filgona, *et al.*, 2017).

The knowledge of geography is not only important and useful to the learners, but to everyone who seeks to cope with the ever-changing trends of our environment. The earth being the theatre where virtually all human activities take place is the focus of geographical study.

Attitude is the feeling, behaviors, reaction of someone towards a particular object /thing or phenomenon which can be either positive or negative. Students' attitudes, whether positive or negative, are found to directly or indirectly affect their learning (Akinbadewa and Sofowora, 2020). Positive students' attitudes result in successful learning, and, negative students' attitudes have been linked to the poor performance of students. Literature showed that there is a noticeable gap in students' attitudes or perceptions of learning. Low information literacy level and negative attitude to learning has been found to constitute a serious obstacle to the enhancement of student's learning and are indicators of the necessity for integrating emerging technologies in learning, especially, in the field of science. To this effect, technology integration in education is recommended. Several studies have been conducted to examine the impact of integrating multiple media modalities into the curriculum, more particularly in the areas where students have difficulties in their studies. Thus, a positive attitude towards PowToon and animator generated instructional videos will motivate and assist student to learn faster and easier. Thus, Powtoon shows creativity, which is quite similar with Animator videos. They are also excellent aid to teachers when it comes to explaining difficult subject areas as well as abstract concept and imaginations. Animation, is an important forum that allows communications of ideas in a unique and easy to perceive way for the learners, most especially learner with different ability level.

Ability level means the characteristic mode of functioning that an individual shows in intellectual activities in a highly consistent and persuasive way. Normal Geography class settings consist of different types of learners with different cognitive ability level, social and economic background. Academic achievers are of three categories, high ability, average ability and low ability learners. Yurnelti (2017) describe the high ability as students whose academic potentials one above class average and their performance described as good. The second class called average ability students, Anyanwu *et al.* (2018), describe the average students as their students whose scores averagely not because they are not capable of doing better but partly because they cannot put in extra effort to attain better achievement. In view of Yurnelti, (2017) describe the under activities/low ability student as students whose academic potentials are judge below average while their performance is described as poor. The low ability students' needs freedom in learning constant study, evaluation and help them to reverse their learning materials. The issue of students' ability level as a cause of differential learning outcome has attracted the attention of educational researchers. Researchers have found that high ability students/ learners perform better than the medium and lower ability student (Rijal *et al.*, 2021; Aliyu and Ibrahim 2019). Interactive class teaching has more effect on lower, medium ability student than high ability student.

1.2 Statement of the Research Problem

The hall mark success of teaching is in having a positive learning outcomes where the ideas of a topic/subject are communicated effectively through the use of adequate instructional materials/tools. In spite of the usage of various effective interactive technologies and strategies such as the use of cartoons, pictures, illustrations, graphics among others, at various times to improve students' performance especially in physical Geography, the low performances have persisted as shown by the semester results. The semester results of pre-service teachers in Geomorphology from Niger State College of Education Minna revealed from 2018/2023, that students' performance has been poor.

From 2018/2019, the semester results of the students in Geomorphology were (32.7%) passed (67.3%) failed, 2019/2020, (40.2%) passed (59.8%) failed, 2020/2021, (37.9%) passed (62.1%) failed, 2021/2022, (33.1%) passed (62.0%) failed and 2022/2023 (33.6%) passed (66.4%) failed (As shown in Appendix A). However, several factors have been attributed to the dismal performance of pre-service teachers in the area of Geomorphology such as abstractness, inadequate use of technologies such as videos and the laxity on the part of the lecturers and the students.

Consequently, the need to alleviate the difficulties of abstraction and improve students' performance in physical Geography has informed and encouraged the use of advanced technology such as Animoto-generated instructional videos, which are alternative ways to deliver relevant course content. Researches in developed countries have shown that Animoto-generated instructional videos are fun –based videos which attracts and improves the creative skills of the learners on difficult and abstract concept. Furthermore, The use of Animoto videos has shown to eliminates long/passive learning that are associated with traditional methods of teaching and clears pre- service teachers' misconception on what seems to be, to what it is, more so, these videos engage the cognitive/mental ability of the learner and assist in retaining knowledge on content taught effectively. However, there is dearth or limited research carried out on the use and effectiveness of Animoto in learning, particularly in northern part of the Nigeria. As a result, the researcher sought to investigate the Effects of Animoto-generated instructional videos on learning outcomes among pre-service geography teachers in North Central, Nigeria.

2. RESEARCH QUESTIONS

The following research questions were raised to guide the study.

1. What are the strategies in the development of Powtoon application videos?
2. What is the difference in the mean attitude scores of pre-service Geography teachers' taught Geomorphology using Animato-generated instructional videos and conventional method?
3. What is the difference in the attitude scores of pre-service Geography teachers' towards Geomorphology taught Animato-generated instructional videos based on ability levels?

3. METHODOLOGY

The study adopted experimental research design. The research design that was adopted for this study is Quasi-experimental experimental design using the pretest, posttest non-equivalent group. The variables of the study included attitude, ability level and Animoto.

The targeted population for the study comprises of 151 pre-service geography teachers in north central. The entire population was used for the study because of the manageable size of the population. The research instruments that were used for the study are: Treatment instruments and test instruments. The treatment instrument is Animoto-generated instructional videos

The Animoto generated instructional videos were developed by the researcher with the help of computer programmer. Using the following steps

Step1: Planning and the content; selecting the topics on geomorphology concept (mountains, plateaus and plains) and creating a script.

Step 2: Creating an Animoto account, signing up and choosing a template to suit the content theme.

Step 3: Developing the video by uploading content, arranging content and adding text, customizing and editing themes and styles, transitions, effects, voice over.

Step 4: Reviewing and finalizing by previewing and editing the video, finally sharing, it will be package and burn into CD plates ready for use.

Step 5: Evaluating the video to obtain the feedbacks after viewing it.

The instruments were validated by experts in Geography, Educational Technology, in Federal University of Technology, Minna psychology and Computer Studies in College of Education Minna. In order to determine the reliability of the questionnaire, a pilot test was conducted using 15 students who were part of the population but that did not participate in the main study. The data collected was analyzed using Pearson Product Moment Correlation Formula (PPMC) and a reliability coefficient of 0.735 and 0, 749, were obtained respectively. Mean and standard deviation were the descriptive statistics used to analyze the data collected for the purpose of answering the three research questions raised. A decision mean score of 3.00 was used. Every item with a mean score below 3.00 was considered as Disagree while an item with mean scores of 3.00 and above was considered as Agree.

4. RESULTS

S/N	Items	N	Mean	SD	Decision
1	I believe that Powtoon instructional application videos make learning easier and motivates.	120	4.20	.795	Agreed
2	I think Powtoon instructional application in education is affordable.	120	3.88	.900	Agreed
3	I believe that text, and videos used in Powtoon instructional application are simple and clear to understand the concepts of Geography.	120	3.92	1.050	Agreed
4	Using video in education promotes engagement Learning and the development of a skill called elastic thinking	120	3.73	1.012	Agreed
5	I believe that Powtoon instructional application assist me to grasp the Abstract, concrete, verbal, and nonverbal concepts.	120	3.89	1.019	Agreed
6	Using Powtoon instructional application helps to develop my creative skills and understating of concepts.	120	4.02	.953	Agreed
7	I think Powtoon instructional application helps to connect people throughout the world in a way that sometimes written and live action films cannot.	120	3.96	.893	Agreed
8	I believe Powtoon instructional application creates opportunity for educators to illustrate classroom projects, field trips, lessons and more in a brand new, entertaining and powerful way.	120	4.04	.938	Agreed
9	I think text used in Powtoon Instructional Application is simple and clear to understand the concepts of Geography (Geomorphology).	120	4.02	.939	Agreed
10	The package is clear and makes me like Geography (Geomorphology).	120	3.92	.949	Agreed
11	I believe in listening to the Powtoon Instructional Application.	120	4.12	.773	Agreed
12	I believe in discussing Geography (Geomorphology) concept via Powtoon instructional application	120	4.03	.893	Agreed
13	Powtoon Instructional Application used in teaching Geomorphic concept has help me to understand it more.	120	4.09	.820	Agreed
14	I dislike learning Geomorphology concepts through Powtoon Instructional Application.	120	3.69	1.172	Agreed
15	I feel the use of Powtoon Instructional Application makes me to dislike Geography (Geomorphic) concept.	120	3.52	1.209	Agreed
16	Geography concepts are difficult to me for comprehend when Powtoon Instructional Application is used.	120	3.57	1.193	Agreed
17	Using Powtoon Instructional Application does not promote my learning of Geography (Geomorphology) concept.	120	3.65	1.207	Agreed
18	I feel using Powtoon Instructional Application makes learning more abstract.	120	3.87	.975	Agreed
19	I believe using Powtoon Instructional Application makes learning boring.	120	3.62	1.094	Agreed
20	The colours, text and audio used, is clear, audible and makes me like Geography (Geomorphology).	120	3.97	.888	Agreed
	Grand Mean		3.88	.984	

Table 4.4 reveals the Mean and Standard Deviation of pre-service Geography teachers' respond on their attitudes towards Animoto Instructional videos. All items produced high mean scores which were above bench mark of 3.0 except item 14-19. (Below the mean of 3.0 is disagreed, while the mean of 3.0 and above is agreed).

Items with higher level of mean score includes item 1: I believe that Animoto Instructional videos make learning easier and motivates (M=4.68, SD=475), item 2: I think Animoto Instructional videos in education is affordable (M=4.29, SD=529) .The table also reveals grand mean of 3.75 which indicates that pre- service geography teachers agreed that Animoto Instructional videos can be used to improve learning of geomorphology. Average standard deviation of 0.675, indicating that standard deviation spread in the data set are close to the group mean of the data set.

Research Question 7 Is there any difference in the mean attitude of pre-service Geography teachers' taught Geomorphology using Animoto-generated instructional videos based on ability levels?

Table 4.8: mean and standard deviation of attitude scores on ability level of experimental group II and exposed to Geomorphology

S/N	Items	N	Mean	Std Deviation	Decision
1	I believe that Animoto Instructional videos make learning easier and motivates.	31	4.68	.475	Agreed
2	I think Animoto Instructional videos in education is affordable.	31	4.29	.529	Agreed
3	I believe that text, and videos used in Animoto Instructional videos are simple and clear to understand the concepts of Geography.	31	4.65	.486	Agreed
4	Using video in education promotes engagement Learning and the development of a skill called elastic thinking	31	4.48	.570	Agreed
5	I believe that Animoto Instructional videos assist me to grasp the Abstract, concrete, verbal, and nonverbal concepts.	31	4.52	.508	Agreed
6	Using Animoto Instructional videos helps to develop my creative skills and understating of concepts.	31	4.45	.506	Agreed
7	I think Animoto Instructional videos helps to connect people throughout the world in a way that sometimes written and live action films cannot.	31	4.65	.486	Agreed
8	I believe Animoto Instructional videos creates opportunity for educators to illustrate classroom projects, field trips, lessons and more in a brand new, entertaining and powerful way.	31	4.48	.570	Agreed
9	I think text used in Animoto Instructional videos is simple and clear to understand the concepts of Geography (Geomorphology).	31	4.68	.475	Agreed
10	The package is clear and makes me like Geography (Geomorphology).	31	4.39	.803	Agreed
11	I believe in listening to the Animoto Instructional videos.	31	4.48	.677	Agreed
12	I believe In discussing Geography (Geomorphology) concept via Animoto instructional application	31	4.42	.502	Agreed
13	Animoto Instructional videos used in teaching Geomorphic concept has help me to understand it more.	31	4.39	1.054	Agreed
14	I dislike learning Geomorphology concepts through Animoto Instructional videos.	31	2.58	.886	Disagreed
15	I feel the use of Animoto Instructional videos makes me to dislike Geography (Geomorphic) concept.	31	2.19	.601	Disagreed
16	Geography concepts are difficult to me for comprehend when Animoto Instructional videos is used.	31	1.97	.657	Disagreed
17	Using Animoto Instructional videos does not promote my learning of Geography (Geomorphology) concept.	31	2.16	.638	Disagreed
18	I feel using Animoto Instructional videos makes learning more abstract.	31	2.00	.816	Disagreed
19	I believe using Animoto Instructional videos makes learning boring.	31	2.16	.638	Disagreed
20	The colors, text and audio used, is clear, audible and makes me like Geography (Geomorphology).	31	3.45	1.630	Agreed
	Grand Mean		3.75	0.675	

Table 4.8: displays the mean and standard deviation of attitude of experimental group II and exposed to geomorphology using Animoto-generated instructional videos based on ability levels. The grand ($M=3.75$, $SD=0.675$) was obtained. This implies that pre-service teachers prefer teaching and learning using Animoto-generated instructional video than the convention method of instruction.

Discussion of findings

The finding of research question four; there is difference in the attitudes of pre-service geography teachers taught geomorphology using Animoto Instructional videos. The study found out that pre-service geography teachers agreed that Animoto Instructional videos video can be used to improve learning of geomorphology. This is in line with the findings of McNelly (2021) who pointed out that, Animoto permitted students to have some control over the content they used to understand presented vocabulary words. That more students are motivated by Animoto than Sadlier. They believed that multimedia teaching material breaks the traditional style of learning and thinking because learners can see words, visual aids, illustrations, and animation, which are more interesting and exciting than traditional teaching aids.

The finding of research question seven; there is difference in the mean attitude of pre-service Geography teachers' taught Geomorphology using Animoto-generated instructional videos based on ability levels. The table showed that the medium and low ability level students have higher retention level than the high ability level students in geomorphology concept learned using Powtoon application instructional video and Animoto-generated instructional videos. The table revealed that a significant effect exists on students' retention score in geomorphology concepts. From the findings, it was revealed that medium and low ability level student performs higher than high level ability students while exposed to Powtoon application video and Animoto instructional video in Geomorphology. This finding contradicts with the works of Fajola (2000), Ige (2004), Yusuf et al. (2012) who reported that high ability students performed better than medium and low ability students when taught chemistry, biology, and physics respectively. Similarly, it disagreed with the findings of Anyanwu et al. (2018) who stated that there are no statistically significant differences among the performances of high, medium, and low ability students taught with Animation with Narration (AN).

Recommendation

- i. Geography lecturers should utilize and encourage students on the use of Animoto instructional videos Technology as it promotes flexible learning, autonomous and independent learning.
- ii. Geography lecturers should motivate learner with high, medium and low ability levels to learn geography using Animoto instructional videos Technology to improve their performances generally.

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