



# Dropbox Photo-Text Instructional Strategy and Academic Performance of Teacher Trainees in Universities in South-South Nigeria

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**Abstract:** This study examined the effect of Dropbox photo-text Instructional Strategy on Academic Performance of Teacher Trainees in Universities in South-South Nigeria. To achieve this, two objectives, two research questions and two null hypotheses were formulated to guide the study. The quasi-experimental pretest –posttest non randomized control group design was adopted to teach 414 students out of 2490 Educational Technology students in four sampled State Universities out of seven in South-South Nigeria. Two universities were used as experimental group 1 and 2 and two for control. The lesson content on visual instructional materials was developed by the researcher and taught using dropbox instructional strategy and dropbox photo-text discussion strategy for experiment 1 and 2 while expository teaching method was used for control group. The researcher-made instrument titled Educational Technology Performance Test (ETPT) was used for data collection. Two experts validated the researcher-made instrument. The reliability coefficient of the instrument was 0.97. Research questions were answered using mean and standard deviation on concept of visual instructional materials in Educational Technology. The hypotheses were tested using Analysis of Covariance at .05 level of significance. The findings revealed that the use of dropbox instructional strategy enhanced educational technology teacher trainees' performance compared to expository method. It was concluded that the combination of different teaching methods, instructional media, pictures or photo-text discussion and online file (content) sharing enhance academic performance of teacher trainees in universities in South-South Nigeria. Based on the findings, it is recommended among others that universities academic policy and curricula should include the use of dropbox instructional strategy and photo-text discussion strategy during instructional delivery process to enhance teacher trainee academic performance.

**Keywords:** Photo-text, Dropbox, Instructional Strategy, Visual Materials and Teacher Trainees

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## 1. Introduction

The advancement in technology has introduced diverse information and communication Technology (ICT) tools of the education system more especially in our contemporary society. One of such advancement in technology in education is the use of Dropbox cloud-based application in teaching learning process. Dropbox cloud-based application is an effective and globally rated collaborative and cooperative learning tool. It is one of the most compatible information sharing cloud technology platforms. Dropbox cloud-based application is a fascinating file-hosting service that permits the storing of significant documents inside a common folder that can be accessed from laptop, desktop, mobile phone or any other electronic device (Itighise 2021). It is a useful tool in managing course content learning, team project and cooperative learning presentations. It facilitates transactional learning delivery..

It acts as online submission box for teachers to send and students to hand in assignments while interacting virtually to learn, evaluate and provide feedback. The uses of Dropbox assist instructors to evaluate student's commitment to instruction and content assimilation by previewing their Dropbox folder and submission. In everyday life students uses Dropbox for file storage, online learning and assessment. Dropbox share folder allows users share on a set of files for effective communication among learners (Itighise, 2024).

Dropbox photo icon bring flexibility and new possibilities for improving pedagogy as well as a new set of challenges on how to make best use of the potential of the cloud. Students adhere to Dropbox photo-text discussion rather than using the traditional means USB drives or emails. In the same vein Moreno (2012), posit that Dropbox allow students keep update to their parents and friends. Dropbox photo text discussion is smart feature that come to student rescue and allow them upload feedback, edit them and share with friend. Importantly an important contribution of Dropbox photo-text discussion in school is the fact that students use it on their phones to review lesson content, handouts, edit photo and replay the video lesson which result to space learning and improvement of academic performance. Most beneficial for students is the easy submission process that the Dropbox facilitates and integration of assignment and its grade directly into their profile to monitor progress. Gikas and Grant (2013) describe Dropbox folder as the folder with capacities of holding "forms", Reading list, 'videos' as teaching files. Finding by Shih (2011) suggest that instructors can enhance students' knowledge construction, increase students interest and engagement and foster collaborative learning by incorporating photo-text discussion in their taught courses. Junco et al., (2011) suggest that using Dropbox photo-text feature for academic discussion in an encouraging environment also had a positive effect on student's grades, engagement and motivation. With Dropbox application students and lecturer don't need to worry about losing the devices and breaking the Cassette Disc; there is easy access to information anytime, anywhere and anyhow. Itighise (2016) comments that lecture notes, labs, grades, notes, power point slide, photo text, video and anything digital that can be used in teaching is easily uploaded and accessed anytime with cloud application.

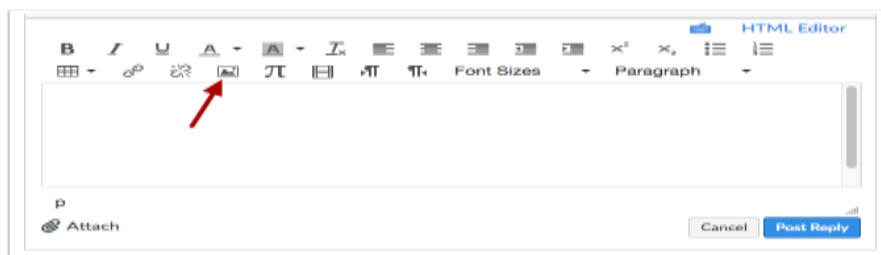
Dropbox photo-text feature when effectively used provides experiences traditionally unavailable within the schools. It gives the students the opportunity to retrieve information, ideas and learning contents from other parts of the world outside the immediate environment. With cloud-based application people create and share information (Weaver, 2013). Bailey in Jain and Pandey (2013) posit that the entire educational system is suffering from lacks of resources, small classroom, staffing cuts, shortage of qualified teachers and constantly changing standard. Dropbox photo-text icon easily shares links which any one can view the photos even if they don't have a Dropbox account. To send link to photos in Dropbox an instructor should click photos from the main menu in the left side bar as shown in Figure 1, select photos to be shares, share photos and enter the name or email addresses of the people to be share with and click send. The Dropbox will upload the photos in full resolution. However, when photos are previewed the Dropbox Andriod application shows a sealed down version for faster loading. In Dropbox photo-text discussion image are embedded from the instructor folder to learners using photo icon in figure 1 and can be edited. Once the document in form of picture or PowerPoint presentation is click, a box-like folder appeared on the Dropbox dialogue box. These enable users identify different document send to their folder.



**Figure 1: Sample of Dropbox Picture sharing indicator**

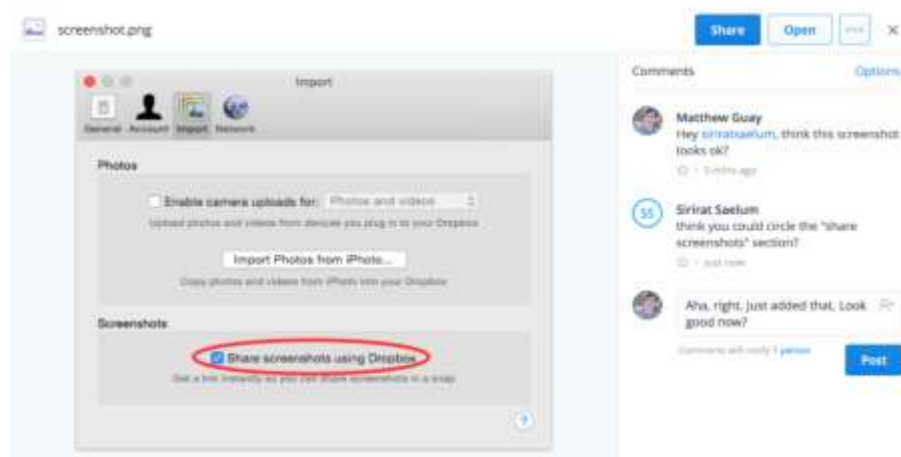
Source: Adapted from Heine, C. (2014).

Dropbox picture files can be edited, this enables the users change the image to whatever position or shape needed for better discussion. When the photo icon is click another dialogue box appears as in Figure 2.



**Figure 2: Dropbox Photo format Dialogue Box**

To save imported pictures, user need to click the Dropbox icon in the menu bar, follow by gear icon, select preferences then select import tab and check the save picture using Dropbox box. It can also be pasted and linked into any chat applications, emails or wherever the users want to share it as shown in Figure 3.



**Figure 3: Dropbox Photo import dialogue box.**

**Source:** Erickson, C. (2012).

Itighise and Wordu (2016) opines that effective application of dropbox and Hotmail instructional content delivery improve students' performance. This is in line with the view of Rubin-Mindell (2010) which opines that video captioning promotes essentials students learning benefit, the use of instructional picture serves as supplement to the classroom teaching and can spark the learner's interest in learning. Babyemi, Itighise and Raimi (2022) comments that the use of digital resources has come to play a central role in education. The overall growth of internet and technology use as well as the increasing number of students who have access to the internet, suggest that teachers can strengthen their teaching by incorporating technology into their curriculum. Hence, teacher-made instructional materials in form of picture and photo-text enable the teachers in delivery of the lesson content appropriately and promote student learning. Teacher-made media include video cliff, graphics, pictures and visual presentation if effective utilization enhances academic performance of teacher trainee. The finding from Itighise and Babayemi (2018) showed that an increase in the overall student's engagement and enriched academic content was as a result of the use of learning technologies as part of the course to supplement the teaching and learning process.

As flexible as the Dropbox application may be proper initial set up is paramount to ensure that students know what is expected of them. A well-structured, strongly conceptualized Dropbox implementation can be a solution to both teachers and the students. Barnatt (2010) posit that Dropbox application take care of oversize attachment such as large power point files and video for learning process. In its simplest application, Dropbox used a common filling cabinet through

which teachers provide document such as homework, assignment, handout, PowerPoint slide and media files for the entire class. Using Dropbox as homework drop has the added benefit of providing by default, a time-stamp for each submission. Of course, student share Dropbox folder and photo-text with each other and collaborate on joint assignments. Hence, effective utilization of Dropbox photo icon promotes motivation and enhances academic performance of students.

Theoretically, this study focused on the Technology Acceptance Model (TAM) postulated by Davis (1989). TAM resulted from the adaptation of the Theory of Reasoned Action (TRA) that attempt to explain individual intended behaviour in the area of information systems. This model has two major intentions which are Behaviour Intention (BI) and Continuance Intention (CI), details are presented in Figure 4. In TAM, the user’s intention to adopt a new technology is initially determined by three constructs, which are, Perceived Ease of Use (PEU), Perceived Usefulness (PU) and Attitude toward Using the System (AUS). Behaviour intention according to Davis (1989) refers to the measurement level of individual intention to perform specific action, PU refers to users’ perception of adopting a given technology of adopting a given technology which will help them perform their action or task better while PEU refers to a degrees or level of difficulty and effort required for users in adopting and using the giving technology. Therefore, the main determinants of behavior intention are Attitude toward Using System (AUS) and Perceive Usefulness (PU). While attitude toward usage is affected by both Perceive Usefulness (PU) and Perceive Ease to Use (PEU), the PEU also has direct influence on PU. Thus, this means user will perceive the system that is very difficult to use as less likely to be useful. In other word users are likely to adopt an ease to use information system or information technology because they will perceive that system or technology more useful than other. Hence adoption of Dropbox photo-text instruction in instructional delivery is perceived to be ease and convenience than other instructional technology as per lesson content assimilation and retention.

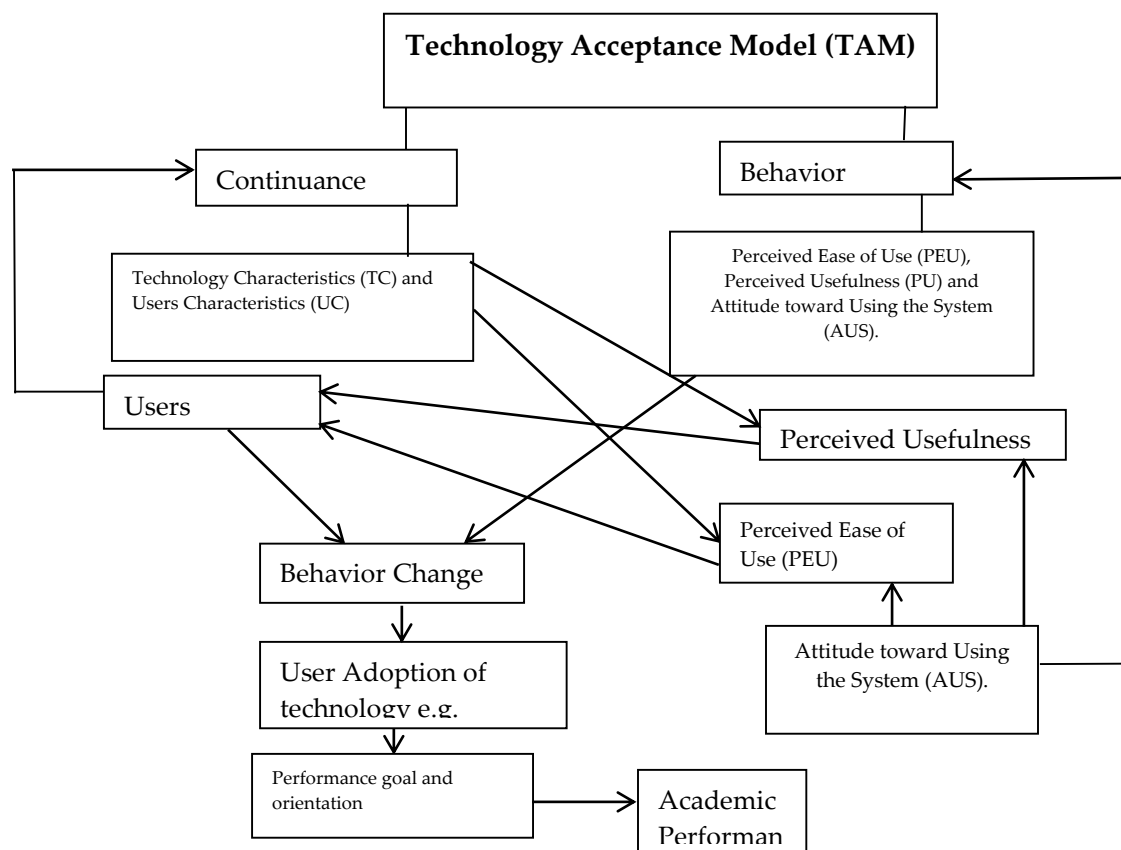


Figure 4: Technology Acceptance Model for modern technology usage

Continuance intention has two external constructs which are Technology Characteristics (TC)

that is ease of finding and ease of understanding, and User Characteristics (UC) that is self-efficacy and computer anxiety (Ifinedo, 2006). These two external constructs influence PEU and PU which also affect user acceptance and continuance intention of use of web-based learning tools. Therefore, the constructs from original and extended version of TAM such as perceive usefulness, perceived ease of use, subjective norm, ease of finding, ease of understanding, self-efficacy, computer anxiety, perceived enjoyment and trustworthiness are important aspects for understanding user's adoption of internet-based learning especially students and lecturers are the theoretical grounding for this study.

This model relates to the present study in that, the use of Dropbox photo-text instruction in teaching learning process allows the learners to participate actively in the learning process using perceived useful technology which in turn may affect their academic performance. Moreso, Dropbox instruction promotes use of current software, ease teaching, ease understanding of lesson content and promote interactive learning which may result in high academic performance.

### **Statement of the Problem**

The 21<sup>st</sup> century tertiary institution students' have different and vast learning needs which can no longer be satisfied with traditional teaching and learning methodologies (i.e. lecture-based, tutorial session). The lecture method used over the years by most lecturers in South-South universities is passive and ineffective compare to the high rate of students in take each year. It is essential for universities, colleges and schools to adopt new approaches which can prepare and equip students for active learning process.

The State universities in South-South Nigeria, like her counterparts nationwide, suffer from shortage of infrastructure such as lecture theatres equipped with gadgets for large group students. This inadequacy has frustrated the smooth teaching of the Educational Technology course to students who have always been in hundreds each year. However, Dropbox photo-text cloud-based application has been developed to be effective virtual communication medium through a resides computing platform in a Services Provider's large data center which is able to dynamically provide servers the ability to address a wider range of needs of their clients or learners. These new technologies provide opportunities for supporting and enhancing teaching and learning strategies and practices. It was also observed that most science educators and academics in Nigerian Universities are not adopting innovative strategy. This in turn increases already high rate of low achievers among science education students especially in universities of South-South Nigeria.

The knowledge of the effect of virtual learning strategy on teacher trainees learning performance could provide informed decision on the adoption of the new technology for the learning of faculty courses by teacher trainees or/and trainers. The question now is: Can the use of Dropbox photo-text instructional strategy improve academic performance of Educational Technology teacher trainees in South-South Nigerian Universities? Hence, this study seeks to investigate the effect of Dropbox photo-text instructional strategy on academic performance of teacher trainees in South-South Universities of Nigeria.

### **Purpose of the Study**

The purpose of this study was to determine the effects of Dropbox photo-text instructional strategy on academic performance of teacher trainee's in State universities in South-South, Nigeria on the concept of visual instructional materials. Specifically, the study sought to:

1. Examine the difference in academic performance of teacher trainees taught concept of visual instructional materials using Dropbox instructional strategy and expository method in State universities of South-South Nigeria.
2. Determine the difference in academic performance of teacher trainees taught concept of visual instructional materials using Dropbox photo-text discussion strategy and those taught using expository methods in State universities of South-South Nigeria.

### **Research Questions**

Based on the research objectives, the following research questions were posed to guide the study.

1. What difference exists among the academic performance of teacher trainees taught concept of visual instructional materials using Dropbox instructional strategy and those taught using expository method in State universities of South-South Nigeria?
2. What is the difference in academic performance of teacher trainees taught concept of visual instructional materials using Dropbox photo-text discussion strategy and those taught using expository method in State universities in South-South Nigeria?

### Research Hypotheses

The following null hypotheses were postulated and tested at .05 Level of significance:

- H0<sub>1</sub>: Educational Technology teacher trainees do not differ significantly in their academic performance of teacher trainees taught concept of visual instructional materials using Dropbox instructional strategy and expository method in State universities of South-South Nigeria.
- H0<sub>2</sub>: There is no significant difference in academic performance of teacher trainees taught concept of visual instructional materials using Dropbox photo-text discussion strategy and expository method in State universities of South-South Nigeria.

### Methodology

The study adopted quasi experimental design of non-randomized pretest-posttest control. This design was suitable because it enables the researcher to determine the interactive effect of two or more independent variables on the dependent variable. One intact class was used from each sampled university for control group while experimental group used Dropbox shared folder and photo-text discussion strategy. The population of the study consists of 2,490 (791 males and 699 females) Year III Science Education students offering Educational Technology in the seven State Universities in South-South, Nigeria for the 2021/2022 academic session. A total of four State Universities out of seven were selected using simple random sampling through hat and draw method. Four hundred and fourteen (414) students which represent 20 percent of the study population were used. In order to accommodate all the variables and the three teaching methods used in the study, the sample size was in three groups as follows: Experimental Group I - 105; Experimental Group 2 - 102; Control Group A - 102 and Control Group B - 105.

Researcher-made instrument was developed for data collection. The instrument was titled "Educational Technology Performance Test (ETPT) which contained 25 items of A - D with 4-option multiple choice items to determine the performance of teacher trainees in visual instructional materials lesson. Five concepts on the visual instructional materials were handled. The instrument was in the Dropbox shared folder for the teacher-trainees after intensive lesson sharing using Dropbox folder, photo-text discussion strategies for experimental group 1 and 2, and expository teaching method for control groups. The teacher trainees were required to submit their answers to the instructor's examination Dropbox folder for marking and grading. The draft of the instrument which contained 25 items, 4-option multiple choice test questions for Educational Technology Performance Test (ETPT) was validated by two experts from Faculty of Education, that is one from the Department of Educational Foundations and one from Department of Educational Technology and Library Science, University of Uyo. The expert in Educational Foundation checked for the appropriateness of the items for the level and internal consistencies of the instrument. Educational Technology expert checked for the suitability of the instruments and appropriate terminologies usage. This was done for the establishment of face and subject validity of the instrument. Face validity was done to ensure how valued the test looked like in term of relevance even to the eye while subject validity was done to make sure that appropriate terminologies related to the subject are maintained. The reliability of the instrument Educational Technology Performance Test (ETPT) was established using internal consistency of dichotomous scale generating discreet guarded data. The instrument was administered to 30 teacher-trainees who were not part of the study population. The data collected were appropriately arranged and coded. Split half approach was used with all the even number item forming the X set of scores and the odd number items was Y set scores. This was further treated to the Pearson's Product-Moment Correlation (PPMC) statistics to gain r-value of 0.95 The r-value was later subjected to Spearman Brown Prophecy formula, the result showed that Educational Technology Performance Test had a reliability index of 0.97 which was

considered reliable and suitable for the data collection of the study.

The researcher contacted and sought for cooperation from the Educational Technology course lecturers of the selected universities. Dropbox shared folder for the study was created in each course lecturers and research assistant’s laptop. The research assistants under the supervision of the researcher administered the Educational Technology Performance Test (ETPT) as pretest to the teacher trainees via Dropbox shared folder for the two experimental groups and in intact classroom for control group, it was answered within 40 minutes.

The researcher then took 2 hours each day for 4 weeks to train the research assistants on how to conduct the study using the activities outlined in the validated lesson note planned for the two experimental groups and control groups. The three research assistants were thoroughly drilled on how to post the lesson content in to teacher trainees’ Dropbox folders. The teacher trainees at the experimental group were taught using Dropbox folder and photo-text discussion strategies. The control group was taught using expository teaching method in intact classroom. The researcher and the three research assistants in the selected universities then post the lesson content using Dropbox file sharing and photo-text discussion strategies appropriately. At the end of the lesson content sharing, Educational Technology Performance Test (ETPT) was reshuffled and re-administered as posttest to the three groups - Experimental 1 (Dropbox file sharing strategy), Experimental 2 (Dropbox Photo-text discussion strategy) and Control group. Correctly answered item in Educational Technology Performance Test (ETPT) was scored 4 marks each while incorrectly answered was scored zero. This gave a maximum score of 100 marks and a minimum score of zero.

To guard against environmental distractions of the usual school atmosphere and control of extraneous variables pretest and posttest for the control group was carried out in the Educational Technology Laboratory while experimental group test was online with the use of Dropbox shared folder. The scores from both the pretest and posttest were graded in percentage and were used in answering research questions and testing hypotheses. The Mean and Standard Deviation scores from the pretest and posttest were used in answering research questions while Analysis of Covariance was used in testing the hypotheses at 0.05 level of significance.

**Result**

**Research Question 1:** What difference exists among the academic performance of teacher trainees taught concept of visual instructional materials using Dropbox instructional strategy and those taught using expository method in State universities of South-South Nigeria?

**Table 1: Mean and standard deviation of the difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox instructional strategy and those taught using expository method in State Universities**

Instructional Strategy	N	Pretest		Posttest		Mean Difference
		Mean	SD	Mean	SD	
Dropbox	105	41.12	13.23	66.21	16.56	25.09
Expository	102	35.07	10.47	51.49	11.34	16.42

The result in Table 1 revealed the pretest and posttest means of treatment group (those taught with the Dropbox instructional strategy) of 41.12 and 66.21 and their respective standard deviations of 13.23 and 16.56 respectively. The result further shows the pretest and posttest means of control group (those taught with the expository strategy) of 35.07 and 51.49 and their respective standard deviations of 10.47 and 11.34 respectively with a mean difference of 8.67 between the treatment group and the control group. This difference in mean implies that there is difference in academic performance of teacher trainees taught concept of visual instructional materials using Dropbox instructional strategy and those taught using expository method in Universities.

**Research Question 2:** What is the difference in academic performance of teacher trainees

taught concept of visual instructional materials using Dropbox photo-text discussion strategy and those taught using expository method in State universities in South-South Nigeria?

**Table 2: Mean and standard deviation of the difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox photo-text discussion strategy and those taught using expository method in State Universities**

Instructional Strategy	N	Pretest		Posttest		Mean Difference
		Mean	SD	Mean	SD	
		Dropbox photo-text				
Discussion	102	44.41	11.23	68.73	15.77	24.32
Expository	105	35.07	10.47	51.49	11.34	16.42

The result in Table 2 revealed the pretest and posttest means of those taught with the dropbox photo-text discussion strategy of 44.41 and 68.73 and their respective standard deviations of 11.23 and 15.77 respectively. The result further shows the pretest and posttest means of those taught with the expository strategy of 35.07 and 51.49 and their respective standard deviations of 10.47 and 11.34 respectively with a mean difference of 7.90 between the treatment group and the control group. This difference in mean implies that there is difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox file sharing strategy and those taught using expository method in Universities.

**Testing of Hypothesis 1:** Educational Technology teacher trainees do not differ significantly in their academic performance of teacher trainees taught concept of visual instructional materials using Dropbox instructional strategy and expository method in State universities of South-South Nigeria.

**Table 3: Analysis of Covariance (ANCOVA) of the difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox instructional strategy and those taught using expository method in State Universities.**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	80977.53a	2	40488.76	673.84	.000
Intercept	15944.53	1	15944.53	265.36	.000
Pretest	58286.16	1	58286.16	970.04	.000
Instructional strategies	7487.04	1	7487.04	124.60	.000
Error	24695.63	204	60.09		
Total	1537265.00	207			
Corrected Total	105673.15	206			

a. R Squared = .766 (Adjusted R Squared = .765)

The result in Table 3 reveals that the calculated F-value of 124.60 is greater than the critical F-value of 3.86 at 1 and 412 degrees of freedom with .05 level of significance. With this result, the null hypothesis that says there is no significant difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox instructional strategy and those taught using expository method in Universities was rejected. This implies that there is significant difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox instructional strategy and those taught using expository method in Universities.

**Testing of Hypothesis 3:** There is no significant difference in academic performance of teacher trainees taught concept of visual instructional materials using Dropbox photo-text discussion strategy and expository method in State universities of South-South Nigeria.

**Table 4: Analysis of Covariance (ANCOVA) of the difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox photo-text discussion strategy and those taught using expository method in State Universities.**



Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	53178.63a	2	26589.32	429.90	.000
Intercept	9861.22	1	9861.22	159.44	.000
Pretest	32670.09	1	32670.09	528.22	.000
Instructional strategies	4068.97	1	4068.97	65.79	.000
Error	18925.94	204	61.85		
Total	1080268.00	207			
Corrected Total	72104.57	206			

a. R Squared = .738 (Adjusted R Squared = .736)

The result in Table 4 reveals that the calculated F-value of 65.79 is greater than the critical F-value of 3.86 at 1 and 206 degrees of freedom with .05 level of significance. With this result, the null hypothesis that says there is no significant difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox photo-text discussion strategy and those taught using expository method in Universities was rejected. This implies that there is significant difference in academic performance of teacher trainees taught concept of visual instructional materials using dropbox photo-text discussion strategy and those taught using expository method in Universities.

### Discussion of Findings

From the result displayed in Table 3 it was observed that significant difference existed between the academic performances of teacher trainees taught concept of visual instructional materials using dropbox instructional strategy and those taught using expository method in universities. The study has shown that teacher trainees who studied with dropbox instructional strategy performed academically better than teacher trainees who were not exposed to dropbox instructional strategy. The result supports the earlier work of Adedaja and Abimbade (2016) on assessing the skills of pre-service teachers on embarking on mobile learning, challenges and benefits. The result showed that pre-service teachers were able to integrate mobiles to instruction during their teaching practices exercises; they indicated through Focus Group Discussion (FGD) that mobiles hold a lot of benefits in instructional delivery and improve learning process. Similarly, the result supports the view of Itighise (2016) which opines that education in electronic form improve teaching and learning experience.

Table 4 shows calculated F-value of 65.79 which is greater than the critical F-value of 3.86 revealed that there is significant difference in academic performance of teacher trainee taught concept of visual instructional materials using photo-text discussion strategy and those taught using expository method in universities. This supports the view of Gomina (2015) on effects of instructional graphics on the academic performance of students in reading comprehension. The result revealed that the students' performance in the posttest was better than that of the pretest. This shows that instructional graphics utilization improves students' performance in reading comprehension at both general level and in the treatment of difficult word. Similarly, Lin et al., (2014) opines that dropbox photo sharing encourages students' active engagement, collaboration and participation in their learning, facilitates group work and support knowledge of information sharing among the students. Itighise and Wordu (2016) support that cloud-based application in instructional content delivery is capable of assuring increase in learning achievement.

### Conclusion

Based on the finding of this study, it was found that the use of dropbox instructional strategy enhances academic performance of teacher trainees when compared to expository methods. It was concluded that the combination of different teaching method, instructional media, pictures or photo-text discussion and online file (content) sharing enhances academic performance of teacher trainees in universities in South-South Nigeria.

### Recommendations

On the basis of the research findings, the following recommendations are made. It is hoped that these recommendations would be beneficial to universities management, educational planner

- and policy makers, educators and lecturers or instructors.
1. Universities academic policed and curricula should include the use of dropbox instructional strategy during instructional delivery process to enhance teacher trainee academic performance.
  2. The Universities Management should encourage the lecturers to make use of online lesson content sharing for long retention and high academic performance.
  3. The State Government should provide computer facilities and materials for effective utilization of information and communication technologies packages in State Universities in South-South Nigeria.
  4. The curriculum developers should adjust the framework of the curriculum to accommodate dropbox instructional strategy, photo-text discussion strategy and other online learning strategies for effective delivery of lesson content.
  5. Lecturers or instructors should use cloud-based applications in teaching as effective communication devices of course content delivery to teacher trainees in Universities in South-South Nigeria.
  6. Lecturers should use dropbox photo-text application feedback mechanism to encourage teacher trainees to evaluate themselves and keep their mind on the progressive track of the course content delivery.

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