

Flipped Classroom Model and Implementation of Undergraduate Teacher Education Curriculum in Rivers State

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Abstract

Original Research Article

The study investigated the extent teacher educators use different types of flipped classroom model for teaching in the universities. The view of the respondents showed low level of awareness on flipped classroom model and even its usage for curriculum implementation, and this is indicated by the quantitative analysis of the data obtained. Mean and standard deviation was used for answering the research questions while the hypotheses were tested using Z-test at 0.05 significance level with the aid of SPSS. The findings revealed that there was low level awareness on flipped classroom model for curriculum implementation as well as was low level use of standard inverted flipped classroom model for curriculum implementation process. It was then recommended that university teacher educators should acquire awareness through personal development and should develop themselves to prepare videos to enhance their lessons and for higher productivity etc.

Keywords: Flipped classroom model, curriculum, teacher education

INTRODUCTION

Nations in the 21st century are goal driven for the development of the society they live in, but the said goals cannot just be attained without education. Education is the bridge at the center between the achievement of goals, the present state of affairs in the society, and the people serve as the vehicle for meeting stated goals. Education, then, is a powerful tool for harmonizing groups and individuals as well as enabling them to attain set goals and objectives. According to FRN (2013), education by implication is for facilitating self-actualization, national consciousness, national unity, national development, egalitarianism and provision of opportunities for the citizenry.

Based on the above assertion, a question could be asked on how education plays the role assigned to it? That is, how it is able to facilitate the attainment of stated goals and objectives in the society for developmental advancement as required. It is at this point that the idea of teaching based on a curriculum which is targeted at such purpose comes to light; a desire that is achieved through an educational tool and practice referred to as curriculum implementation.

According to Amadioha (2017), teaching is an

ancient practice that is as old as man himself. Every human endeavour virtually demand the act of teaching to be carried out whether formally in an institution or informally with parents/guardians at home especially if that endeavor is meant to be transmitted from one generation to another. The religious circle use it to sell their kind of believe and culture to intending converts and faithful's. In the academic field, it is the instrument for hammering the intent of global and national desires, and aspirations to all who would take over the transmission of a people's culture from generation to generation, and an approach for cementing curriculum implementation. All the procedures the teacher takes the learner through in order that learning takes effect in the learner.

Therefore, in order to ensure that every action of the teacher produces in the learner continuous learning process, the deliberate act of teaching practices must produce continuous results. This continuous result comes because teaching is made up of certain components like preparations, implementation and evaluation. Preparation takes place when the teacher plans the lesson for the students and may not be without

the designed teaching process and even the teaching models, methods, techniques or strategies to be used which may be the single model or blended model (Dorgu, 2015; Umoh & Ben, 2003).

A model according to Aguokagbue (2006) is a representation of real life situation. An object or something you use to make a replica of its kind. The term has found relevance in Geography, Biology, Engineering, so all aspects of education has use of it in their own way. In teaching as a practice, there are models or methods and this possibly declares the way a classroom for a particular teaching act is to look or be. This means that every classroom has a mode, look or appearance that would ensure for adequate teaching and learning to take place. In other words, the instructional approach specified for a particular classroom at a particular point in time becomes its teaching model. There are various models (methods) employed in the teaching act.

According to Jeremiah and Alamina (2017) who classified these models into three as teacher centered models, learner centered models and the innovative models. The teacher centered models are the traditional approaches to teaching, examples include lecture, demonstration and story-telling etc. The learner centered teaching model beams its light on the interest and the active involvement of the learner in the teaching process. Its examples are: play away, project, discussion, field trip etc. while the innovative teaching model may include constructivism, concept mapping, flipped classroom, cooperative model and mobile teaching models etc.

Again, Jeremiah and Alamina (2017) describe flipped classroom as a reversed order of the traditional teaching model, a teaching approach where the learner gets exposed to the lesson before he/she comes for classroom interaction with the teacher and his contemporaries where areas not understood are made clear to the learner and if there are questions to be asked, it is done at this point. Also, the learner is permitted to contribute to the lesson meaningfully. It uses a variety of techniques that may include reading, video viewing or research and reporting while the class time is used to resolved difficult areas of a particular lesson. The name flipped classroom comes in varied forms depending on the type adopted since there are several types of flipped classroom approaches/techniques or model. Flipped classroom approach enables the teacher to give the students study materials, a research work and video to view before coming for class and it avails the students

the opportunity to participate actively in a classroom situation applying their knowledge of concept rather than the factual recall of knowledge. Johnson and Campbell (2013) say that flipped classroom model is that strategy that put into consideration students extent of preparation, interest or need and their learning styles. This statement was confirmed by Weselby (2014) who shared that just as everyone has a unique fingerprint, that is how every student has his/her different learning style and that flipped classroom model helps them to develop further. So the learning style that is suitable, possible and useable for a classroom situation should be applied to the curriculum implementation process for effectiveness.

The above statement points to the fact that there can never be any form of learning without effective curriculum implementation. Curriculum implementation could be viewed as the detailed approach at ensuring that the content of a learning material is learnt by the learner. According to Amadioha (2010) it is the step by step execution of the planned learning content such that in the end the expected change in the life of the learner is produced. It is the realization of the intended change expected in the behavior of the learner. The curriculum implementation process must engage fully the various sense organs in the body that facilitates teaching and learning, thus, a tall order for the teacher to drive. In consideration of this assertion Dike (2018) says that the eye facilitates not less than 75% of learning process in the learner, then, flipped classroom model which permits the viewing of video and the audio means accompanying it may be offering a better results here. Then it seem to mean that flipped classroom model of teaching which uses audio-visual channel would produce in the learner more learning with regards to the level of change needed in his/her behaviour.

Flipped classroom model of curriculum implementation seem to have become a beautiful bride to work on in recent times, but there are no known and documented information on this model of teaching particularly in the South-South region of the country Nigeria, especially on teacher education programme and considering that the major aim or objective of every teaching and learning encounter is to enhance students' achievement, retention and the development of positive attitude. This can only be achieved through the use of suitable teaching methods during the implementation stage of the school curriculum by the teacher at all levels of education. It is expected that the teachers teaching at the Teacher Education level apply appropriate teaching

methods in order to achieve the desired objectives and outcomes in the learners at that level of education.

Many research works among which are (Yore, 2012; Meziobi, 2014, & Njok & Sunday, 2014) have indicated that even teachers at the Teacher Education level fail to apply adequate methods in teaching which has negatively affected students in learning. In providing solutions to remedy the said problem, (NTI, 2009) has recommended various teaching methods, particularly, the innovative methods without due regard to flipped classroom model, a method one would say encourages participatory teaching and learning,

Even when some attempts were made to apply it to curriculum implementation as disclosed earlier, emphasis was always on other levels of education and areas of study outside Rivers State. In view of the above, this study investigated flipped classroom model and implementation of undergraduate teacher education curriculum in River State.

PURPOSE OF THE STUDY

The general purpose of this study was to investigate flipped classroom model and implementation of undergraduate teacher education curriculum in Rivers State. Specifically, the study sought to achieve the following objectives:

1. Determine the level of awareness university teacher educators have on flipped classroom model and implementation of undergraduate Teacher Education curriculum in Rivers State.
2. Determine the level at which university lecturers use standard inverted flipped classroom model for implementation of undergraduate Teacher Education curriculum in Rivers State.
3. Find out the level at which university lecturers use discussion-oriented flipped classroom model for implementation of undergraduate Teacher Education curriculum in Rivers State.

Research Questions

The following were the research questions formulated to guide this study:

1. What is the level of awareness university teacher educators have on flipped classroom model for implementation of undergraduate Teacher Education curriculum?
2. What is the level at which university lecturers use standard inverted flipped classroom model

for implementation of undergraduate Teacher Education curriculum?

3. What is the level at which university lecturers use discussion-oriented flipped classroom model for implementation of undergraduate Teacher Education curriculum

Hypotheses

The following hypotheses were postulated to guide this study ($P=0.05$).

1. There is no significant difference in level of awareness between federal and state university teacher educators on flipped classroom model for implementation of undergraduate Teacher Education curriculum.
2. There is no significant difference in level between federal and state university lecturers' use of standard inverted flipped classroom model for implementation of undergraduate Teacher Education curriculum.

RESEARCH METHOD

The study was carried out in Universities in Rivers State, Nigeria, particularly, in three (3) universities in Rivers State. The population for the study is made up of 357 teacher educators in faculties of education in the three universities. The sample for the study is made up of 179 teacher educators who were drawn using the stratified proportionate random sampling technique. The instrument used by the researcher for data collection was a questionnaire titled: "Assessment of Use of Flipped Classroom Model for Curriculum Implementation Questionnaire" (AUFCMFCIQ). The questionnaire consists of 15-item which were arranged in two sections (A and B), which elicited information from teacher educators (lecturers) in universities. Section A, sought demographic information while section B consists of three clusters on level of awareness on flipped classroom model, level of use of standard inverted flipped classroom model and discussion-oriented flipped classroom model. The questionnaire was built on a four-point Likert Scale, namely Very High Level (VHL), High Level (HL), Low Level (LL) and Very Low Level (VLL) and the levels of responses are weighted as 4, 3, 2, 1 respectively.

The instrument was face validated by three experts, from Measurement and Evaluation Unit of the Department of Educational Foundations of Rivers State University, Nkpolu Port Harcourt, Rivers State. The

suggestions given were used in producing the final copy of the instrument. Cronbach alpha was used in calculating the reliability which gave an alpha value of 0.74 which was considered high. The instrument was administered and collected by the researcher. The data obtained were analyzed using, mean and standard deviation for answering the research questions while the hypothesis was tested at 0.05 level of significance using t-test.

RESULTS

Research Question 1: What is the level of awareness university teacher educators have on flipped classroom model for implementation of undergraduate Teacher Education curriculum?

Table 1: Mean, standard deviation and remark on level of awareness on flipped classroom model for implementation of undergraduate teacher education curriculum

S/No.	Statement Items	University of Port Harcourt n=82			Ignatius University Education n=41			Rivers State University n= 52		
		Mean	Std	Remark	Mean	Std	Remark	Mean	Std	Remark
1.	There is awareness on flipped classroom as a curriculum implementation model	2.76	0.92	HL	1.97	0.85	LL	2.25	0.65	LL
2.	There is awareness on how to use flipped classroom for curriculum implementation	2.37	0.86	LL	2.09	0.91	LL	2.30	0.70	LL
3.	There is awareness that the use of flipped classroom model enhances knowledge of ICT for curriculum implementation	2.42	0.98	LL	2.39	1.04	LL	2.53	0.91	HL
4.	There is awareness that flipped classroom model creates interest for curriculum implementation	2.14	0.86	LL	2.39	1.06	LL	2.38	0.71	LL
	Grand Mean	2.42	0.91		2.21	0.97		2.36	0.74	

(Source: Field data, 2021.)

Table 1 above for research question one shows the responses on the level of awareness of university teacher educators have in the three universities used for the study in Rivers State. Mean values 2.76 and 2.53 for items 1 and 3, showed high level while others showed low level. The grand mean 2.42, 2.21 and 2.36 and standard deviation of 0.91, 0.97 and 0.74 indicates that there is a general low level of awareness on flipped

classroom model for implementation of undergraduate teacher education curriculum in Rivers State. Results for high level of awareness among university teacher educators in the university of Port Harcourt on flipped classroom model and also university teacher educators in Rivers State University have high awareness that flipped classroom model enhances knowledge of ICT. The

awareness level on flipped classroom model in Ignatius Ajuru University of Education is low.

which university lecturers use standard inverted flipped classroom model for implementation of undergraduate Teacher Education curriculum?

Research Question 2: What is the level at

Table 2: Mean, standard deviation and remark on level of use of standard inverted flipped classroom model for implementation of undergraduate teacher education curriculum

S/No.	Statement Items	University of Port Harcourt n=82			Ignatius Ajuru University of Education n=41			Rivers State University n= 52		
		Mean	Std	Remark	Mean	Std	Remark	Mean	Std	Remark
1.	Videos are provided for learners as content delivery in flipped classroom for curriculum implementation	1.46	0.50	LL	1.39	0.49	LL	1.35	0.48	LL
2.	Study materials are provided to learners to read at home as flipped classroom for curriculum implementation	3.00	0.87	HL	3.20	0.64	HL	3.10	0.62	HL
3.	Class time is used to review concepts they studied as flipped classroom for curriculum implementation	1.68	0.47	LL	2.00	0.54	LL	1.88	0.32	LL
4.	Class sessions is for teacher-student one on one interaction as flipped classroom for curriculum implementation	1.82	0.39	LL	2.00	0.54	LL	2.29	0.80	LL
5.	Students practice what they learnt at home in class as flipped classroom for curriculum implementation	3.34	0.55	HL	3.37	0.62	HL	3.30	0.69	HL
	Grand Mean	2.26	0.56		2.39	0.35		2.38	0.58	

(Source: Field data, 2021.)

Table 2 above for research question two shows the responses of university teacher educators in the three universities used for the study in Rivers State. Mean values 3.00, 3.20, 3.10, 3.34, 3.37 and 3.30 showed high

level while others showed low level. The grand mean is 2.26, 2.39 and 2.38 and standard deviation of 0.56, 0.35 and 0.58. The indication is that there is low level use of standard inverted flipped classroom model for

implementation of undergraduate teacher education curriculum in Rivers State.

university lecturers use discussion-oriented flipped classroom model for implementation of undergraduate Teacher Education curriculum?

Research Question 3: What is the level at which

Table 3: Mean, standard deviation and remark on level of use of discussion-oriented flipped classroom model for implementation of undergraduate teacher education curriculum

S/No.	Statement Items	University of Port Harcourt n=82			Ignatius Ajuru University of Education n=41			Rivers State University n= 52		
		Mean	Std	Remark	Mea n	Std	Remark	Mea n	Std	Remark
1.	Teacher gives home work to students in form of videos as flipped classroom for curriculum implementation	2.21	0.78	LL	1.76	0.66	LL	2.19	0.62	LL
2.	Students use external videos to support personal study as flipped classroom for curriculum implementation	1.89	0.31	LL	1.88	0.33	LL	1.86	0.34	LL
3.	Large group discussion is encouraged in class as flipped classroom for curriculum implementation	2.88	0.91	HL	3.24	0.62	HL	3.05	0.50	HL
4.	Small group discussions is supported as flipped classroom for curriculum implementation	1.27	0.45	LL	1.07	0.26	LL	1.25	0.43	LL
5.	New insights gained by students are permitted to be shared in class discussions as flipped classroom for curriculum implementation	3.30	0.68	HL	3.29	0.64	HL	3.32	0.61	HL
6.	There are opportunities for social skills development in class as flipped classroom for curriculum implementation	3.06	0.62	HL	3.00	0.97	HL	3.06	0.53	HL
	Grand Mean	2.43	0.63		2.37	0.58		2.45	0.51	

Source: Field data, 2021.

Table 3 above for research question three shows the responses of university teacher educators in the three universities where the study was carried out in Rivers State. Mean values for items 3, 5 and 6 showed high level with mean values of 2.88, 3.24, 3.05,3.30, 3.29, 3.32, and 3.06, 3.00 and 3.06. The grand mean is 2.43, 2.37 and 2.45 and standard deviation of 0.63, 0.42 and 0.5. This shows that there is a low level use of discussion-oriented flipped classroom model for implementation of

undergraduate teacher education curriculum in Rivers State.

Hypotheses

1. There is no significant difference in level of awareness between federal and state university teacher educators on flipped classroom model for implementation of undergraduate Teacher Education curriculum.

Table 4: Z-test for federal and state university teacher educators' level of awareness on use of flipped classroom model for implementation of undergraduate teacher education curriculum

Group	Mean	SD	N	df	Z _{calculated}	Z _{critical}	Decision
Federal Teacher Educators	2.42	0.91	82	173	1.08	1.96	Accepted
State Teacher Educators	2.29	0.86	93				

Source: Field data, 2021.

The result of table 4 indicates that Z-calculated of 1.08 is lesser than the Z-critical 1.96 at 0.05 level of significance at 173 degree of freedom indicating that there is no significant difference in level between federal and state university teacher educators awareness on flipped classroom model for implementation of undergraduate teacher education curriculum in Rivers State. This therefore means that the null hypothesis of no

significant difference is accepted.

2. There is no significant difference in level between federal and state university lecturers' use of standard inverted flipped classroom model for implementation of undergraduate Teacher Education curriculum.

Table 5: Z-test for federal and state university lecturers' use of standard inverted flipped classroom model for implementation of undergraduate teacher education curriculum.

Group	Mean	SD	N	df	Z _{calculated}	Z _{critical}	Decision
Federal University Lecturers	2.26	0.56	82	173	1.86	1.96	Accepted
State University Lecturers	2.39	0.47	93				

Source: Field data, 2021.

The result of table 5 shows that Z-calculated of 1.86 is lesser than the Z-critical 1.96 at 0.05 level of significance at 173 degree of freedom indicating that there is no significant difference in level between federal and state university lecturers' use of standard inverted flipped classroom model for implementation of undergraduate teacher education curriculum in Rivers State. Therefore, the null hypothesis of no significant difference is accepted.

DISCUSSION OF FINDINGS

The findings from the research on table 1 research question one revealed that from the data analyzed, that the level of awareness of university teacher educators on flipped classroom for implementation of undergraduate teacher education curriculum in Rivers State is low. From the data, it was revealed that awareness on flipped classroom model is at low level on how to use flipped classroom model for curriculum implementation, flipped classroom model helps enhances ICT knowledge and that flipped classroom model creates interest for curriculum implementation process.

University of Port Harcourt teachers have high level of awareness on flipped classroom model for curriculum implementation process. The result of hypothesis 1 result on 4 also shows that there is no significant difference in level between federal and state university teacher educators' awareness level on flipped classroom model for curriculum implementation in Rivers State. Perhaps, the reason Guerrero (2017) advanced that higher education teachers should have a guide in use of methodological and technological instruments for teaching. This means that university teacher educators can only perform to the level of awareness they have, thus, they should seek more knowledge in the area of flipped classroom model and develop themselves further on how to use its various forms through seminars, workshops and conferences attendance.

The result on table 2 research question two showed that from the data analyzed there are indications that the use of standard inverted flipped classroom model for implementation of undergraduate teacher education curriculum in Rivers State is at low level. This finding was agreed to by the test result of hypothesis 2 table 5, which shows that there is no significant difference in

level between federal and state university lecturers' use of standard inverted flipped classroom for implementation of undergraduate teacher education curriculum in Rivers State. This is confirmed by the study carried out by O' Flaherty and Philips (2018) who disclosed that while flipped classroom model helped in improving the academic performance of the students in higher education, yet, there is no certainty of its contributions to lifelong learning and skills acquisition.

Findings from the study on table 3 indicated that there is low level use of discussion-oriented flipped classroom for implementation of undergraduate teacher education curriculum in Rivers State on the basis of video home-work given to the learners, students getting external videos and small group discussions yet there is high level of large group discussion group in class, new insights are shared and social skills development encouraged among learners.. This means that an increased capacity development would be required for university lecturers to use discussion-oriented flipped classroom model in curriculum implementation. Ezeani (2006) had opined that the ability of a teacher to be flexible in the use of methods and strategies shows skillfulness with experience on the most appropriate time to choose a model that would give the needed results that the learners required in a given time to achieve specific lesson objectives.

CONCLUSION

Based on the findings of the study, it was concluded that university teacher educators' awareness on flipped classroom model for implementation of undergraduate teacher education curriculum in Rivers

State was at a low level , that determined step up of the level of use of standard inverted model and discussion-oriented flipped classroom model for curriculum implementation was required.

RECOMMENDATIONS

In consideration of the findings, the researcher made the following recommendations:

1. University teacher educators should increase their level of awareness on flipped classroom model by studying more on it, attendance to seminars, conferences and workshops as organized by various professional organizations.
2. University lecturers should develop themselves to be able prepare video clips on the lessons in order to enhance students learning in undergraduate teacher education.
3. Screen recordings have been adjudged to save time of implementation of the curriculum using flipped classroom model. This should be applied more by the lecturers in teacher education practice.
4. Active participation is very important for effective implementation of the curriculum, therefore, lecturers should allow their students to create their own videos for learning to be enhanced.

University lecturers should allow their students some time for reflection during classes as this would give room for them to learn from one another.

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