Integrity Journal of Education and Training
Volume 3(4), pages 73-82, October 2019
Article Number: 995A50CB2
ISSN: 2636-5995
https://doi.org/10.31248/IJET2019.048
https://integrityresjournals.org/journal/IJET

Full Length Research

Assessment of pre-service teachers' preparedness for the adoption of Flipped Learning Strategy as a pedagogy for next generation learners in Obafemi Awolowo University, Ile Ife, Nigeria

Temitope Adetokunbo OTEYOLA[1*], Olajide Emmanuel AWOPETU[2], Isyaka BELLO[1] and Itunu Olaniran AKANDE[1]

[1]Department of Educational Technology and Library Studies, Faculty of Education, Obafemi Awolowo University, Ile Ife, Nigeria.
[2]Department of Art and Social Sciences Education, Faculty of Education, Obafemi Awolowo University, Ile Ife, Nigeria.

*Corresponding author. Email: bimtop123@gmail.com; Tel: +2348066157763.

Copyright © 2019 Oteyola et al. This article remains permanently open access under the terms of the Creative Commons Attribution License 4.0, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Received 17th September, 2019; Accepted 7th October, 2019

ABSTRACT: This study investigated the level of awareness of flipped learning strategy as one of the suitable pedagogy for next generation learners by Obafemi Awolowo University pre-service teachers. It determined their perceptions of flipped learning strategy, and also, examined if the pre-service teachers possess prerequisite skills for implementing flipped learning strategy. The study employed descriptive survey research design. The population of the study comprised all the 2,423 pre-service undergraduate teachers at the university. Two hundred pre-service teachers were drawn using multistage sampling techniques. Pre-service teachers' awareness of flipped classroom was used for data gathering. The instrument consisted of four sections, 'A, B, C & D'. Section A consisted of demographic variables, while section B elicited information on the awareness of flipped learning strategy, section C measured the required skills in the use of flipped learning strategy and section D gathered information on the perception of the pre-service teachers to flipped learning strategy. Analysis of the results showed that, 57.00% of the pre-service teachers had moderate awareness of flipped learning strategies, they also had good perception of flipped learning strategy (76.83%; cumulative mean = 3.07). The pre-service teachers lack requisite skills required for effective implementation of flip learning strategy.

Keywords: Flip learning strategy, next generation learners, perception, pre-service teachers.

INTRODUCTION

Education is the bedrock of national development. The level of development witnessed in any nation is directly proportional to the quality of education dispensed in such a nation. As it is often said, no nation can grow beyond the level of her education. As stated in in the United Nations Education Scientific and Cultural Organization (UNESCO, 2012), education is not only the means by which individuals become skilled participants in the society, but also, a key driver to expanding information and communication technology usage. Education transcends the acquisition of information. It involves the ability to reconstruct the society socially, economically and culturally. It is the key for both national and regional coercion. Effective education programme promotes peace and harmony in the society. Therefore, education is an essential ingredient in conflict resolutions and capacity building. This means that, education should be accorded its rightful place in building the nation if social, cultural and

economic emancipation is desired by any group of people. However, educational objectives are achieved through effective teaching.

Teaching, using the conventional talk and chalk method had not only been found obsolete, it is arguably very weak and boring. Many of the students taught using this method has poor attitude to learning and often time are unmotivated (Ronald, 2009). This method although afford the teacher to pour large volume of information on the learners, but the learners always have poor mastery of the subject matter. In such classes, students are mainly passive recipients of information. The goals of learning as stated by Baxter in Ally (2008) include problem identification, strategizing to solve the identified problems and implementing the strategies in solving the problems; but these goals often become unrealizable as a result of the traditional method of teaching. It is therefore, obvious that the traditional talk and chalk method of teaching may not be suitable and appropriate in the teaching of next generation learners. Next generation learners according to Docherty (2018) are also referred to as Generation Z.

These Generation Z learners are constantly connected to digital media to inform and be informed, and may see communication through social media as 'core' to personal interaction. These learners prefer intrapersonal and independent learning over group work, yet like to do their work alongside others in a social manner when studying. They see access to the Internet as a human right, gaming as a foundation for engagement and embrace failure as a way to improve (Docherty, 2018). Although, Docherty (2018) opined that these are children born from the mid1990s onwards who have grown up in a society where instant access to information is given, and they are those born between 2000 and above that can be so categorized in a developing world like Nigeria. Docherty (2018) argues that, Generation Z embraces instant gratification, which coupled with a short attention span, means that instructors need to take the "less is more" approach into consideration. Next generation learners are digital natives; they are technological savvy. They need not be taught how to use technology to source information, but how to manage the sourced information in problem solving and other meaningful activities.

Next generation learners as observed are learners with peculiar characteristics. These learners are highly inquisitive. They are often, unmotivated with acquisition of information; they are relatively bold and outspoken. They are more interested in problem solving and critical thinking activities. These learners have unrestricted access to wider information even at the tip of their hands. This is made possible as a result of the prevailing technologies that are permeating every sector of human endeavor. In the light of this, these learners are not motivated to memorize facts and figures which is the hallmark of traditional talk and chalk method of teaching. One of the reasons for this is that, learners can get any information on any subject area with just a click of the available technology. Information overloads are one of the major challenges of next generation learner; therefore, acquisition of information is not as important as information management in problem solving.

Next generation learners should be engaged in more of activity based learning. The characteristics of these learners cannot support their being passive recipients of information. Just as Newtonian Physics had been replaced by Einstein Physics, the talk and chalk method which is still in vogue in Nigeria should give room for more interactive and problem solving pedagogies if learners in the country are to compete effectively with their counterparts in advanced nations of the world. These new pedagogies are those that could be found suitable for technology savvy, highly inquisitive and outspoken learners. They are pedagogies that will embrace collaborative learning, blended learning, and active learning strategy. Connectivism as postulated by Siemen (2004) can be a welcome theory for the next generation learners, but Ally (2008) suggests a theory that will be more suitable for learners in the digital age.

It is quite unfortunate that no conscious effort has being taken in ensuring that pre-service teachers in Nigeria be taught or is being taught to acquire any of these supposed skills that are expected to be worthwhile in the teaching of the next generation learners. Teachers in secondary schools as observed still depend on the unpopular and deficient talk and chalk method of teaching. It is not only that this method has been found weak and boring for learners that are digital immigrant, but it has also been identified as one of the cogent reasons classroom objectives are not realized. This method therefore, is unacceptable in the teaching of the next generation learners most of whom are digital natives and highly technological savvy. If the traditional method is found wanting in the teaching of digital immigrants, how much more will it be in the teaching of the generation that are highly sophisticated in the use of technological tools that enhance easy access to information.

Teachers are one of the major players in determining the quality of education in a nation. Well trained and qualify teachers are likely to provide qualitative education to students. The quality of the teachers determine to greater extent the quality of the classroom, which also determine the quality of teaching. This definitely determine to greater extent, the quality of education in the nation. In the light of this, conscious effort must be made in ensuring that relevant teaching skills are acquired by the teachers who are expected to teach the next generation learners. These learners are distinctly different from the non–digital natives who are trying to be digital immigrant that are teaching the pre-service teachers at the various faculty of education in the country. Many of the pre-service teachers although are digital immigrants, but conscious effort must be taken in other to ensure that they can competently engage the next generation learners in profitable classroom activities.

Flipped classroom model has been identified as a model

with characteristics that will be highly suitable for teaching the next generation learners in Nigeria. Rogers (2003) identified awareness as the first factor in the stages in diffusion and adoption of innovations. People are likely not to adopt an innovation no matter how worthwhile it is, if they are not aware of the innovation. Another important factor in adoption of innovation according to Rogers (2003), is the perception. The perception of individuals on the relative advantage, compatibility, trialability, complexity and observability will determine to greater extent whether an innovation will be adopted or not. The Unified Theory of Acceptance and Use of Technology as postulated by Venkatesh et al. (2003), identify effort expectancy, performance expectancy, facilitating condition among other factors that determined whether a technology or innovation will be accepted by end users or not. The appropriateness of the skill acquired in using a technology will affect both the effort and performance expectancy of the use of technology or innovation. These three factors were therefore the conceptual framework on which this study was premised. These factors were examined in order to ascertain the preparedness of the pre-service teachers in adopting flipped classroom model in the teaching of next generation learners. This study is a diagnostic assessment of the pre-service teachers. It found out the entry level of the pre-service teachers. This becomes imperative so as to identify the areas of intervention so as to make recommendations on the effective preparation of pre-service teachers that will be competent and suitable for efficient teaching of next generation learners in Nigeria

LITERATURE REVIEW

The discovery of the printing press revolutionized teaching in the 19th century. It is therefore, expected that the use of internet, tablets, smartphone and other devices shall revolutionize learning in the 21st century. The influence of these devices on classroom instruction in this generation is obvious. Access to information technology tools is seriously influencing students' cognitive styles, learning characteristics and learning curve. As invaluable as these technologies are, teachers determine the effectiveness of the tools in instructional delivery to greater extent. Monaco and Martin (2007) posited that, a new generation of learners has immersed themselves in the college classroom. These students as posited by Monaco and Martin (2007) are determined, driven achievers who depend on technology and their support system for optimum gain in learning. These students are bored when teachers pour large information on them. These learners prefer to actively participate in classroom instruction to being passive recipient of information. Therefore, the traditional talk and chalk method of teaching employed several years ago is found not suitable in helping the next generation of learners in achieving optimum learning gain. This is the generation of learners that are technological savvy and are expecting to dominate public secondary schools in Nigeria in no distant time. Monaco and Martin (2007) reveal that, there is always a form of generational trend that usually span through a period of time. The genealogical trend of the Silent Generation (those who were born between the years of 1925-1942), and are now grandparents to the Millennial suggested that, such development in technological evolutions will always bring about pedagogical variations as classroom transpire from one generation to another. Monaco and Martin (2007) argued that, the Millennial are quite opposite of their predecessors, and also to Generation X.

The Generation Z are also in all respect differs from the Generation X as a result of smart technologies that are in vogue and found suitable in the delivery of instruction. Ronald (2009) argued that, despite the fact that teachers know more about their students' brains and intelligence; how to teach effectively, how to ensure that students learn, and how to identify the technological applications to learning become parts of the challenges of teaching presently than at any time previously. Ronald (2009) argued further that, about 50% of college students are unmotivated, disinterested, and disengaged from classroom instruction even now, more than they ever have been as a result of the pedagogy employed in classroom instruction. Therefore, teachers' preparation for digital generation learners becomes imperative if the purposes of education will be made realizable as learners transcend from one generation to another. Monaco and Martin (2007) observed that, students are finding academic success with little effort or time on task. This is due to the fact as revealed by High school statistics that, teachers spend most of their time teaching to the test. This implies that the curriculum is strictly on students' preparation for a standardized test. This method of instruction lacks passion as students are taught from a curriculum that is utilitarian. Remembering and comprehension are the two lowest level of the Bloom Taxonomy. Thus, it can be concluded that the higher levels of the taxonomy that are required for critical thinking and problem solving had been jeopardized. The talk and chalk method of teaching, which has been employed will only aid students' ability in recurring facts and memorization. The aspects of critical thinking and problem solving skills of the learners which is the ultimate goal of learning is negatively affected.

The essential skills in the 21st century are critical thinking, creativity, collaboration, metacognition and motivation (Docherty, 2018). The talk and chalk method is very weak in instilling these skills on the learners. There is therefore the need to develop another pedagogy that will aid critical thinking, creativity, collaboration, metacognition and motivation in learners. The pedagogy is that, it would accommodate effective use of technology that will encourage freedom of expression and effective communications among the learners. This method of teaching will be such that, the teacher would simply be a

guide or a coach to ensure quality participation of the learners and robust discussion among the participants.

Arguments have been made that for active learning to occur, discussion is superior to lectures in regard to retention of content and transfer of knowledge to critical thinking. In the development of critical thinking skills, it is expected that students should learn principles and concepts relating to organizing knowledge, enhancing retention, and retrieving information. The Bloom taxonomy provided the six different levels of knowledge acquisition by learners. Traditional classroom in the secondary schools concentrates on the lower levels of the knowledge and comprehension while the higher levels of application, analysis, synthesis and evaluation are not taught. Therefore, developing complex thoughts that enhance problem and critical thinking skills become a mirage in orthodox classes.

Flipping a classroom or flipped learning strategy had been opined to be effectively used in engaging the students higher, others thinking of comparing and contrasting, classification, organization and so on (Tucker, 2012; Johnson and Renner, 2012; O'Flaherty and Philips, 2015). Through flipping a classroom, the use of analogies and relevant technology become useful in generating structured thinking. Flipped classroom as observed is one of the most suitable pedagogies for next generation learners, because of the inherent capacities and advantages of integrating books, computers, teachers and other instructional materials in the school system to ensure optimum learning gain in the classroom (Sams and Bergmann, 2013; DeCesare, 2014; Cohen and Brogar, 2013; Milman, 2012; El-Senousy and Alquda, 2017; Toh et al., 2017; Cahill et al., 2011). The research carried out by Holman and Hanson (2016) compared the effect of flipping a classroom with traditional method of teaching nursing students, and the findings revealed that, those taught using flipped learning strategy not only performed better academically, they were also better motivated. ELI (2012) defines flipped classroom as a pedagogical model in which the typical lecture and homework elements of a course are reversed. A simple definition of flipped classroom is associated with the model in which lectures are video-taped or audio-taped beforehand by the teacher in order to spend classroom time in problem solving activities. Alternatively, flipped learning, as defined by the Flipped Learning Network (2014), describes a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter.

This definition therefore, implied that, in order for the flipped classroom model to offer enhanced opportunities for deeper, more active, and engaged learning, the process of flipping has to be well thought; it has be intentionally and holistically done. This can only be achieved through conscious training of the pre-service teachers that will employ the pedagogy in classroom instructions. The required skills in flipping a classroom is not expected to be acquired at impulse, but by structured and planned formal training. The definition of flipped learning according to Flipped Learning Network (2014) expands on the basic idea of the flipped classroom's inversion of the teaching and learning dynamics. It emphasized that, the opportunities for interaction in the learning space should be utilized, and must not be taken up with direct instruction. The technicality that will be involved in effective execution of flipped classroom model therefore, suggests the need to train the pre-service teachers on requisite skills in the application of flipped classroom model. Bergmann and Sams (2012) pointed out some of the benefits of flipping a classroom to include the fact that, flipping a classroom helps busy students, because flipped classroom create a flexible environment for the learning of the students. Also, that flipping a classroom helps struggling students as educators spend most of the time walking and communicating to help students who struggle most, compared to the traditional role of teaching where educators spend most of the time delivering content while the students listen passively. Aside these, Bergmann and Sams (2012) explained further that, flipping helps students of all abilities to excel because students do not need to take-notes while hoping they can understand them later. Instead, students can just pause or rewind the video when necessary so that they actually learn the important concepts, if they are watching videos.

Flipping a classroom increases interactions either between students and teacher or students and students, where there are more face-to-face or in-class time (Bergmann and Sams, 2012). Students have more opportunity to talk with others, especially during collaborative group activity. Flipping allows for real differentiation for students with different ability ranges from those who excel, to the average student, to student who struggle, to students who cannot read. Hence, personalized learning can be modified according to the learners' ability. The last but not the least benefit of flipping a classroom according to Bergmann and Sams (2012), is the fact that flipping a classroom changes classroom management. It could be observed in the traditional teaching approach that students do not often pay attention rather, they are often distracted and negatively affected by others. But when classroom is flipped, students either do hands-on activity or work in small groups where students' distraction or student getting bored is not an issue. Dunn (2014) provided six steps for effective implementation of flip learning strategy. According to Dunn (2014), teachers are supposed to be able to figure out which lesson is to be flipped. The teachers should also be able to make video that contain key elements of the concept to be taught in the classroom instead of teaching the lesson in person. The teachers should also be able to share the video with

all the students. The students are also expected to be engaged with clarity by the teachers. This is expected to stimulate the students for more in-depth study of the concept under consideration. The teacher should also be able to group the students for effective discussion of the concepts and also, perform specific task as may be required. Individual groups should also be made to effectively share their work with everyone. The teachers are expected to be able to ask deeper and divers questions during the classroom activities. Teachers that are able to effectively discharge these responsibilities are believed to have the requisite skills required in the implementation of flip learning strategy. These fundamentals form the basis for examining the skills possessed by the pre-service teachers in implementing flip learning strategy.

Statement of the problem

The use of traditional talk and chalk approach to teaching had been found to outlive its usefulness. The 21st century learners who are referred to as 'Next Generation Learners' are technological savvy and therefore, have unlimited access to information through the use of various hand-held devices and technology. The essentials in classroom instruction for the next generation learners (most of whom are digital natives) are critical thinking, unlearning, learning and relearning for problem identifications and problem solving. Although, flipped classroom model has been identified as one of the best pedagogy for the next generation learners. It appears that, the pre-service teachers in Nigeria are not adequately prepared in the application of this worthwhile strategy in classroom instruction. Therefore, there is the need to carry out diagnostic assessment on the application of flipped learning strategy so as to determine the entry characteristics as well as identify the pre-service teachers' various areas of need to stimulate the study.

Objectives of the study

The objectives of the study are to:

1. determine the level of awareness of flipped classroom model by pre-service teachers in Obafemi Awolowo University, Ile Ife;
2. assess the pre-service teachers' perception of the effectiveness of flipped classroom model in classroom instructions; and
3. examine if the pre-service teachers have the prerequisite skills for implementing flipped classroom model at the university.

Research questions

The following research questions were raised to guide the study:

1. What is the level of awareness of flipped classroom model by the pre-service teachers in Obafemi Awolowo University, Ile Ife?
2. What is the pre-service teachers' perception of the effectiveness of flipped classroom model in classroom instructions?
3. What are the prerequisite skills needed by pre-service teachers for the implementation of flipped classroom model in Obafemi Awolowo University, Ile Ife?

METHODOLOGY

This study adopted descriptive survey design. All the 2,423 pre-service teachers at the Faculty of Education, Obafemi Awolowo University, Ile Ife were the population for the study. Multistage sampling technique was employed in sample selection. Part III and Part IV pre-service teachers in the Faculty of Education of the University were purposively selected. They were so selected because they have had teaching practice experience at least once as students of the faculty. Two hundred of the pre-service teachers were drawn using accidental sampling technique. They were just selected as the researcher came across them at the faculty. It was a case of first come, first served. One important factor was the willingness and readiness to participate in the study. Eighty-four (84) male and one hundred and sixteen (116) female pre-service teachers participated in the study. Twenty-nine (29) of them were below 20 years of age, one hundred and sixty-one (161) were between 20 and 30 years of age, while the remaining ten (10) were between 30 and 40 years of age. A structured questionnaire entitled 'Assessment of Pre-service Teachers Awareness of the Flipped Learning Strategy Questionnaire (APTAFLSQ)' was the instrument used for data collection. The questionnaire was made of four sections. Section 'A' was meant to provide the demographic information of respondents, section 'B' consisted of 10 items that elicited information on the awareness of flipped learning strategy; section 'C' gathered information on the perception of pre-service teachers on the effectiveness of flipped classroom model in classroom instructions, while section 'D' gathered information on the prerequisite skills needed by pre-service teachers for the implementation of flipped classroom model using 10 items. The instrument was on a modified four-point Likert's rating scales ranging from strongly agree (SA) to strongly disagree (SD); and very aware (VA) to not aware (NA). The validity of the instrument was determined by 4 lecturers in the Department of Educational Technology, and Library Studies at the Obafemi Awolowo University, Ile – Ife. Item by item analysis of the instrument was also carried out. Extraneous items in the questionnaire were removed and some others were reconstructed before the final copy was produced. The reliability of the instrument was determined by administering the questionnaire on 20 pre-service teachers at University of Ibadan who were not part of the

Table 1. Obafemi Awolowo University preservice teachers' awareness of flipped classroom model.

S/N	Items	VA (%)	MA (%)	SA (%)	NA (%)	Mean	St. Dev.
1	Flipped classroom model is usually associated with the provision of course materials in the form of videoed lectures	61 (30.7)	119 (59.8)	16 (8.0)	3 (1.5)	3.20	0.64
2	Videos used in a flipped classroom are often made available from the internet or pre-recorded by teachers themselves	53 (26.5)	113 (56.5)	28 (14.0)	5 (2.5)	3.08	1.06
3	Students have the opportunity to watch video given at their own time or pace prior to attending the class	59 (29.5)	101 (50.5)	36 (18.0)	4 (2.0)	3.09	0.74
4	The flipped learning strategy provides solution to the use of educational technology in the next generation classroom environment	81 (41.5)	85 (43.6)	23 (11.0)	6 (3.1)	3.17	0.78
5	The flipped classroom shifts the focus of student-learning from being passive to being active to facilitate student-centered classroom environment as required by next generation learners	72 (36.0)	101 (50.5)	25 (12.0)	2 (1.0)	3.23	0.69
6	Knowledge is assimilated by students through application and evaluation	68 (34.3)	106 (53.5)	21 (10.0)	3 (1.5)	3.19	0.69
7	Flipped classroom model affords students problem-solving skills that are appropriate for next generation learners	58 (29.0)	114 (57.0)	23 (11.0)	5 (2.5)	3.14	0.70
8	Flipped classroom model gives room for students' creative ability	56 (28.1)	110(55.3)	30 (15.0)	3 (1.5)	3.10	0.70
9	Flipped classroom model afford students critical thinking	56 (28.3)	104 (52.5)	33 (16.7)	5 (2.5)	3.22	0.74
10	Pre-class assignments done by students are evidences for their preparedness for a lesson in a flipped learning environment	70 (35.0)	100 (50.0)	28 (14.0)	2 (1.0)	3.21	0.71
	Awareness					31.63	3.88
	Cumulative average					3.16	

study. Split-half method was employed in the determination of the reliability. Cronbach-alpha analysis produced a reliability coefficient of 0.91. The instrument was thus, considered reliable. Two hundred copies of the instrument were administered to the respondents at the faculty of education. The course coordinator of Part III and Part IV assisted in administering copies of the questionnaire on the respondents. All the copies distributed were retrieved with a return rate of 100%. All the respondents append their signature on the consent form. Data collected were analyzed using frequency count, percentage, mean and standard deviation. The results simply provided a description of the level of awareness, skill acquisitions and perception of the pre-service teachers towards flipped classroom model; a model that is considered appropriate for next generation learners.

RESULTS

Research question 1: What is the level of awareness of flipped classroom model by the pre-service teachers in Obafemi Awolowo University, Ile Ife?

Items 1 to 10 of the questionnaire gathered information on the awareness of the flipped classroom model by the pre-service teachers at the university (Table 1). The items in the questionnaire were scored such as very aware (VA) was score 4, moderately aware (MA) was 3, slightly aware (SA) was scored 2 while not aware (NA) was scored 1. 30.7% of the respondents are very aware with the statement that flipped classroom model is usually associated with the provision of course materials in the form of videoed lectures, 59.8% moderately aware, and 8.0% slightly aware while 1.5% of the respondents are not aware. 26.5% are very aware that videos used in a flipped classroom are often made available from the internet or pre-recorded by teachers themselves, 56.5% moderately aware, 14.0% slightly aware while 2.5% are not aware. 29.5% of the respondents are very aware that students have the opportunity to watch video given at their own time or pace prior to attending the class, 50.5% moderately aware, 18.0% slightly aware while 2.0% are not aware. With respect to the ability of the flipped learning strategy providing solution to the use of educational technology in next generation classroom environment, 41.5% are very aware, 43.6% moderately aware, 11.0%

slightly aware while 3.1% are not aware. 36.0% are very aware that flipped classroom model shifts the focus of student learning from being passive to being active to facilitate student-centered classroom environment, 50.5% moderately aware, 12.0% slightly aware while 1.0% are not aware. 34.4% are very aware that knowledge is assimilated by students through application and evaluation by flipping a classroom, 53.5% moderately aware, 10.0% slightly aware while 1.5% are not aware. 29.0% are very aware with the fact that flipped classroom model affords students problem-solving skills, 57.0% moderately aware, 11.0% slightly aware while 2.5% are not aware. 28.1% are very aware that flipped classroom model gives room for students' creative ability, 55.3% moderately aware, 15.0% slightly aware while 1.5% are not aware. 28.3% are very aware that flipped classroom model afford students' critical thinking, 52.5% moderately aware, 16.7% slightly aware while 2.5% are not aware. 35.0% of the respondents are very aware that pre-class assignments done by students in a flipped classroom are evidences for their preparedness for a lesson, 50.0% moderately aware, 14.0% slightly aware while 1.0% are not aware. The level of awareness of the respondents was done by categorizing those that score below 27.75 as slightly aware, those that scored above 35.51 are very aware while others were categorized being moderately aware. As shown in Table 2, the level of awareness of 19.0% of the respondents were high, 57.0% had moderate level of awareness while 24.0% had low level of awareness. In the average, the pre-service teachers in Obafemi Awolowo University, Ile – Ife, Nigeria can be said to be moderately aware of the flipped classroom model.

Table 2. Obafemi Awolowo University pre-service teachers' level of awareness of flipped classroom model.

Level of awareness	Frequency	Percentage (%)
High	38	19.00
Moderate	114	57.00
Low	48	24.00

Research question 2: What is the pre-service teachers' perception of the effectiveness of flipped classroom model in classroom instructions?

In analyzing the responses of the respondents, strongly agree was scored 4, agree was 3, disagree was 2 and strongly disagree was 1. Table 3 presented the pre-service teachers' perception of the effectiveness of flipped classroom model in classroom instructions. Seventy-five percent (75%) strongly agreed that flipped learning strategies are very relevant in teaching and learning, 52.0% agreed, 10.0% disagreed and 1.5% strongly disagreed. 27.5% of the respondents strongly agreed that they are interested in using flipped learning strategy, 53.0% agreed, 18.0% disagreed and 1.5% strongly disagreed. 27.5% also strongly agreed that flipped learning strategy is designed to enhance learning, 53.5% agreed, 16.5% disagreed while 2.5% strongly disagreed. 29.8% strongly agreed that adopting flipped learning strategy increases students' academic performances, 54.5% agreed with the statement, 13.1% disagreed with the statement and 2.5% strongly disagreed with the statement. 27.5% of the respondents agreed that flipped learning strategy attracts interest with its pleasant experience, 62.0% agreed with the statement, 8.0% disagreed and 2.5% strongly disagreed. 20.0% strongly affirmed that they will adopt flipped learning strategy anytime they teach, 53.5% agreed with the statement, 23.9% disagreed and 3.5% strongly disagreed. 28.8% of the respondents strongly agreed that the use of flipped classroom will increase next generation learners' participation in class, 53.5% agreed, 23.9% disagreed and the remaining 3.5% strongly disagreed. 33.0% agreed that flipped classroom strategy will encourage students' punctuality in classes, 45.0% agreed with the statement, 19.5% disagreed while 2.5% strongly disagreed. 19.5% of the respondents strongly agreed that flipped classroom prevents non-challant attitude among the next generation learners, 52.5% agreed with the statement, 24.0% disagreed and 4.0% strongly disagreed. 26.5% of the respondents strongly agreed that flipped learning strategy should be integrated into the school curriculum, 52.5% agreed, 16.5% disagreed while 4.5% strongly disagreed. The overall mean of the students' perception was 30.73 while the cumulative mean was 3.07. In expressing the perception as a percentage, the perception of the pre-service teacher was 76.83%. It can therefore be concluded that the pre-service teachers had very good perception of flipped learning strategy. Since they had good perception of the learning strategy, the tendency for the pre-service teachers to adopt it after graduation is high.

Research question 3: What are the prerequisite skills needed by pre-service teachers for the implementation of flipped classroom model in Obafemi Awolowo University, Ile Ife?

Items 11 to 20 of the questionnaire elicited information on the relevant skills required in implementing flipped classroom by the students (Table 4). 23.0% of the respondents strongly agreed that they know exactly the lessons to be flipped, 58.0% agreed, 14.5% disagreed while 4.5% strongly disagreed. 19.0% of the respondents were strongly of the opinion that they can outline the key learning outcomes required in a flipped classroom, 65.8% agreed, 12.1% disagreed while 3.0% strongly disagreed. 23.9% of the respondents strongly claimed they can make lesson plan for a flipped classroom, 49.7% agreed with the statement, 24.9% disagreed while 1.5% strongly disagreed. 21.7% strongly agreed that they can create videos suitable for flipped classroom, 51.5% agreed, 21.7% disagreed while 5.1% strongly disagreed. 28.4%

Table 3. Pre-service teachers' perception of flipped learning strategy in classroom instructions.

S/N	Items	SA	A	D	SD	Mean	St. Dev.
21	Flipped learning strategies are very relevant in the teaching and learning process of next generation learners	73 (36.5)	104 (52.0)	20 (10.0)	3 (1.50)	3.24	0.69
22	I am interested in using flipped learning strategy for next generation learners	55 (27.5)	106 (53.0)	36 (18.0)	3 (1.5)	3.07	0.72
23	Flipped learning strategy is designed to enhance learning in a next generation learning environment	55 (27.5)	107 (53.5)	33 (16.5)	5 (2.5)	3.06	0.73
24	Adopting flipped learning strategy will increase next generation learners' academic performances	59 (29.8)	108 (54.5)	26 (13.1)	5 (2.5)	3.09	0.72
26	Flipped learning strategy attracts interests with its pleasant experience	55 (27.5)	124 (62.0)	16 (8.0)	5 (2.5)	3.15	0.66
27	I will adopt flipped learning strategy anytime I need to teach	40 (20.0)	107 (53.5)	46 (23.9)	7 (3.5)	2.90	0.75
28	The use of flipped classroom will increase next generation learners' participation in class	57 (28.8)	107 (53.5)	46 (23.9)	7 (3.5)	3.24	0.75
29	Flipped classroom strategy will encourage students' punctuality in classes	66 (33.0)	90 (45.0)	39 (19.5)	5 (2.5)	3.09	0.79
30	Flipped classroom can prevents non-challant attitude among next generation learners	39 (19.5)	105 (52.5)	48 (24.0)	8 (4.0)	2.88	0.76
31	Flipped learning strategy should be integrated into the school curriculum	53 (26.5)	105 (52.5)	33 (16.5)	9 (4.5)	3.01	0.78
	Over all Perception					30.73	4.65
	Cumulative average					3.07	

Table 4. Pre-service teachers' possession of necessary skills for implementing flipped learning strategy.

S/N	Items	SA (%)	A	D	SD	Mean	St. Dev.
11	I know exactly the lessons to be flipped	46 (23.0)	116 (58.0)	29 (14.5)	9 (4.5)	2.77	0.75
12	I can outline the key learning outcomes required in a flipped classroom	38 (19.0)	131 (65.8)	24 (12.1)	6 (3.0)	3.00	0.66
13	I can make lesson plan for a flipped classroom	47 (23.9)	98 (49.7)	49 (24.9)	3 (1.5)	2.72	0.74
14	I can create videos suitable for flipped classroom	43 (21.7)	102 (51.5)	43 (21.7)	10(5.10)	2.87	0.79
15	I can ensure that a video in flipped classroom is appropriate and necessary	55 (28.4)	92 (47.4)	43 (22.2)	4 (2.1)	2.48	0.77
16	I can ensure that through my videos, the goals for every lesson in the flipped classroom are met	61 (30.7)	98 (49.2)	31 (15.6)	9 (4.5)	3.05	0.80
17	I can produce videos that are more engaging, clear and appropriate for students in a flipped classroom	48 (24.1)	107 (53.8)	36 (18.1)	8 (4.0)	2.97	0.77
18	I can produce videos that prepare students for in-depth study in a flipped classroom	47 (23.9)	102 (51.8)	35 (17.8)	13 (6.6)	2.89	0.82
19	I can organize students for effective discussion in flipped classroom	62 (32.0)	100 (51.5)	20 (10.3)	12 (6.2)	3.00	0.82
20	I can initiate a dialogue that will enable the students to have a good grasp of the lesson in a flipped classroom	53 (26.5)	111 (55.5)	22 (11.0)	14 (7.00)	3.02	0.81

strongly agreed that they can ensure that a video in a flipped classroom is appropriate and necessary, 47.4% agreed, 22.2% disagreed while 2.1% strongly disagreed. 30.7% strongly agreed that they can ensure that through the videos, the goals for every lesson in the flipped classroom are met, 490.2% agreed, 15.6% disagreed while 4.5% strongly disagreed. 24.1% of the respondents strongly agreed that they can produce videos that are more

engaging, clear and appropriate for students in a flipped classroom, 51.8% agreed with the statement, 17.8% disagreed while 6.6% strongly disagreed. 23.9% strongly agreed that they can produce videos that prepare students for in-depth study in a flipped classroom, 51.8% agreed, and 17.8% disagreed while 6.6% strongly disagreed. 32.0% claimed strongly that they can organize students for effective discussion in flipped classroom, 51.5% agreed, 10.3% disagreed and 6.2% strongly disagreed. 26.5% of the respondents strongly agreed that they can initiate a dialogue that will enable the students to have a good grasp of the lesson in a flipped classroom, 55.5% agreed, 11.0% disagreed and 7.0% strongly disagreed. The results show that majority of the students claimed that they possessed the basic strategies for implementing flipped classroom model. In the light of this, it can be said that the pre-service teachers either consciously or unconsciously are been prepared to teach the next generation learners. Pre-service teachers with these basic skills are not expected to have problem in the teaching of next generation learners.

DISCUSSION

The results showed that the pre-service teachers were relatively aware of flipped classroom model. Although the source of the awareness cannot be ascertained, it could probably be through internet or through passive discussion with the lecturers. Since the pre-service teachers are aware of the model, getting them to integrate it to classroom instructions after graduation is not expected to be difficult. This finding agreed with Faller (2016) that students had considerable high knowledge and awareness of flipped classroom. There is possibility of the pre-service teachers to adopt flipped learning strategy in classroom activities after graduation.

The results also showed that the pre-service teachers had good perception of the learning strategy. They perceived that the strategy is suitable to enhance teachers' productivity in the classroom. The findings agree with the position of Bergmann and Sams (2012) that flipping a classroom enhances students' ability to excel, increases classroom interactivity, learning personalization and students' engagement. The perception of the pre-service teachers also aligned with the findings of Holman and Hanson (2016) that, those taught using flipped learning strategy not only performed better academically but they were also better motivated. This is a very good development because the tendency of the pre-service teachers to want to apply the strategy to classroom instruction is high. This will help in developing the 21st century pedagogical skills in the pre-service teachers. The results showed that the pre-service teachers were likely to adopt the strategy after graduation.

Conclusion

This study was carried out in Obafemi Awolowo University, Ile – Ife. The study became imperative because of the perceived challenges faced by teachers in adopting current pedagogies in classroom instruction in Nigeria. While the students are becoming more technologically savvy, the teachers are developing phobia for integrating appropriate pedagogies that will enhance students' learning gain in classroom instruction. Only pre-service students of Obafemi Awolowo University were sampled. The result therefore might not be the same across other universities in Nigeria. Flip learning strategy was selected as the pedagogy for next generation learners as a result of literatures on its potentials for effective classroom instructions and management.

The Obafemi Awolowo University, Ile – Ife pre-service teachers had considerable awareness of flip learning strategy as a pedagogy for next generation learners with 57% of the respondents. These levels of awareness are considered low because awareness is a factor that determine the adoption of an innovation. The students should therefore be made aware of the effectiveness of flip learning strategy in the teaching of next generation learners.

The pre-service teachers had good perception of flip learning strategy at 76.83%. The pre-service teachers agreed that flip learning strategy is effective in engaging students, improving interactivity among teachers and students, improving learning outcomes, arousing students' interest, enhancing effective classroom management among others. They in the average agreed that flip learning strategy is suitable for next generation learners with cumulative mean = 3.07.

The pre-service teachers in the average do not know exactly the lesson to be flipped (mean = 2.77), they cannot make lesson plan for a flipped classroom (mean = 2.72), they cannot create videos suitable for flipped classroom (2.87) and they cannot ensure that a video in flipped classroom is appropriate and necessary (mean = 2.48). The pre-service teachers were deficient in some necessary skills required in effective implementation of flip learning strategy. It can be concluded from the study that pre-service teachers in Obafemi Awolowo University, Ile Ife, Nigeria are not adequately prepared for adoption of flip learning strategy as a pedagogy for next generation learners.

Recommendations

Based on the findings, the following recommendations were made.

1. The pre-service teachers should be aware of the needs to acquire relevant teaching skills that will be profitable in the teaching of next generation learners.
2. Enabling environment should be provided for teacher educators so as to ensure that proactive steps are taken in next generation teachers' preparation.
3. Seminars and workshop should be organized for

teachers' educators on the best educational practices in the teaching of learners that are digital natives.
4. Emphasis on information acquisition by the learners should be discouraged among the teachers but on information processing and management.
5. Necessary equipment for effective implementation of flipped learning strategy should be provided and made affordable for the teachers.
6. The level of awareness of the pre-service teacher is moderate therefore, conscious effort should be taken in ensuring that the students are made aware of the potentials of the learning strategy particularly in teaching next generation learners.
7. The methodology adopted in ensuring that the students possessed these skills should be sustained and effort should also be consciously made in improving upon it.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

REFERENCES

Ally, M. (2008). *Foundation of Educational Theory for on-line learning*. In Anderson, T. (Ed.). The theory and practice of on-line learning (Pp. 1-45). Athabasca University, Canada: AU Press

Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. Washington DC: ISTE

Cahill, M., Hamilton, L., & Lynch, J. E. (2011). *Next Generation Learning – Defining the Opportunity.* Carnegie Corporation of New York. 7p.

Cohen, S., & Brugar, K. (2013) I want that … flipping the classroom. *Middle Ground,* 16(4), 12-13.

DeCesare, J. A. (2014). The expanding role of online video in teaching, learning and research. *Library Technology Reports,* 50 (2) 5-12.

Docherty, M. (March, 2018). Teaching the next generation: Engaging and empowering the learners of tomorrow. *Proceedings of INTED2018 Conference,* 5-7th March 2018, Valencia, Spain, Pp. 1030-1039.

Dunn, J. (2014). The 6-step guide to flipping your classroom. Retrieved from https://medium.com/@jdunns4/the-6-step-guide-to-flipping-your-classroom-d721878f85c1.

EDUCAUSE Learning Initiative (ELI) (2012). 7 Things you should know about Flipped Classrooms. Retrieved from https://library.educause.edu/resources/2012/2/7-things-you-should-know-about-flipped-classrooms.

Flipped Learning Network (2014). The four pillars of F-L-I-P. Retrieved from http://flippedlearning.org/cms/lib07/VA01923112/Centricity/Domain/46/FLIP_handout_FNL_Web.pdf.

Siemens, G. (2004) Connectivism: A learning theory for the digital age. Retrieved from https://www.learningnetwork.ac.nz/shared/professionalReading/TRCONN2011.pdf.

El-Senousy, H., & Alquda, J. (2017). The effect of flipped classroom strategy using blackboard mash-up tools in enhancing achievement and self-regulated learning skills of university students. *World Journal on Educational Technology: Current Issues*, 9(3), 144-157.

Faller, E. M., (November, 2016). Knowledge, awareness and perception of flipped classroom among students in Management and Science University, *Malaysia 26th FAPA Congress,* 9-13th November 2016, Bangkok, Thailand.

Holman, R., & Hanson, A. D. (2016). Flipped classroom versus traditional lecture: Comparing teaching models in undergraduate nursing courses. *Nursing Education Perspectives*, 37(6), 320-322.

Johnson, L. W., & Renner, J. D. (2012). *Effect of the flipped classroom model on a secondary computer applications course: student and teacher perceptions, question and student achievements*. Unpublished Ph.D Thesis, University of Louisville.

Milman, N. B. (2012). The flipped classroom strategy: what is it and how can it best be used? *Distance Learning,* 9(3), 85-87.

Monaco, M., & Martin, M. (2007). The millennial student: A new generation of learners. *Athletic Training Education Journal*, 2(2), 42-46.

O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review. *The Internet and Higher Education*, 25, 85-95.

Rogers, E. M. (2003). *Diffusion of Innovation.* The Free Press, New York, USA.

Ronald, A. B. (2009). Teaching strategies for the net generation. *Transformative Dialogues: Teaching & Learning Journal,* 3(2), 24p.

Toh, T. S., Tengah, K. A., Shahrill, M., Tan, A., & Leong, E. (2017). The Flipped Classroom strategy: The effects of Implementation at the elementary school level mathematics lessons. *Proceeding of the 3rd International Conference on Education*, 3,186-19

Tucker, B. (2012). The flipped classroom*:* Online instruction at home frees class time for learning*. Education Next,* 12(1), 82-83.

UNESCO (2012). Education for sustainable development. Retrieved from https://en.unesco.org/themes/education-sustainable-development.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.