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Distance Learning Students' Perception of Flipped Classroom in Nigeria

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Abstract

The process of learning and teaching can only be improved if methods are constantly changing and if such changes are appropriately perceived. From the traditional chalk-and-talk method to computer-based instruction, opinions have been diverse on their suitability to bring out the best in students. Flipped learning mode has received attention in the last few years and has produced significant effects in students learning. This article investigated distance learning students' perception of the flipped classroom. The study adopted the survey design research. The study showed that the students' perception of the flipped classroom was positive. It also showed that marital status contributed significantly to the positive perception of flipped classroom among the distance learners.

Key words – Flipped classroom, Perception, Southwestern Universities, Nigeria.

Introduction

Education is important to the social, political and economic development of any nation. It helps in improving an individual's progress in a social and interactive environment. Education is one of the approaches in getting students to be independent. It also brings out the best in them (Reynolds, Sammons, Bieke, Damme, Townsend, Teddlie & Stringfield, 2014). Everyone therefore desires to have a form of education, either formally or informally but the percentage of people seeking university education in Nigeria, presently surpasses the available space and facilities. As a result, a number of candidates could not be admitted. Aside this is a group of working-class people who are desirous of acquiring university education. These groups of individuals cannot afford to leave their jobs; hence, they opted for the distance learning programmes. The distance learning programme is designed in form of part time and correspondence by higher institutions for these group using the traditional method.

Generally, the traditional method of teaching is teacher-centered, where learning materials and students' assessments are prepared by the instructors and communicated to the students through lectures method (Cottel & Millis, 1993). Gauci, Dantas, Williams and Kernm (2009); Haak, Hilleris Lamberts, Pitre and Freeman (2011); Huba and Freed (2000) viewed the traditional method of teaching as caricatured and passive, this experience is opined to eliminate competence and students' ability to learn at their own pace. Teaching using the traditional method such as lecture method, memorization and recitation deployed across Nigerian universities has been on for several years. Nevertheless, in the last three decades, it has been observed that this mode of instruction is inadequate and therefore has been severely criticized. The main areas of contention are that most students are inactive in the classroom, students lack techniques that ensure both logical and physical interaction with the learning materials, which adversely affects students' attention span (Odia & Omofonmwan, 2007). It has also been severely criticized as not suitable for teaching higher order skills such as application and analysis that are needed for learning at all levels.

The demands of jobs and the workplace coupled with study could be stressful. As ascertained by Nweze (2005), stress is one of the aspects of human endeavor. It is a natural phenomenon which most times reduces strength and zeal. Pouring of large volume of information on the students' amounts to cognitive overload in the traditional classroom and it can be stressful to both the teacher and the students. This stress eventually affects students' learning in terms of dwindling academic performance that accounts for high rate of attrition among

students in distance learning programme (Huang, 2005). It therefore became pertinent that concerted efforts should be made to reduce the academic stress of the students. The ease of studying/learning at home or in the workplace has to be provided if better performance is to be achieved.

It was in recognition of all these and the need to develop problem-solving skills and change students' perspectives that the flipped mode of instruction was introduced. This mode of instruction makes use of diverse immersive technologies by providing flexible and blended, learner-centered strategies anywhere, anytime, anyplace without geographical barrier. It allows for social interaction irrespective of the geographical location of the students. The flipped learning mode was first introduced by Large, Baker, Platt and Treglia in 2000. The mode of instruction was made widely known through online videos and activities to explain new concepts and clarify new topics by Jonathan Bergmann & Aaron Sams. It uses online technologies not just to supplement but to motivate students during the learning process and therefore engender positive learning outcome. It is established on the idea that teaching can be inverted, in the sense that activities normally done in class are switched with activities students would do outside the classroom. Recent survey research of the flipped classroom solution of four private universities in Jordan by Aljaraideh (2019) found that the perception of flipped classroom by students were positive because of its efficiency in developing students' understanding which in turn also motivated the students to become active in the classroom. Only few studies, so far, were found to be opposed to the idea that flipped classroom enhanced academic performance.

The outbreak of the COVID 19 (Coronavirus) led to significant disruption to teaching and learning and the closure of many schools across the world. Many schools and colleges harnessed the opportunity provided by flipped classroom to engage students during the national lockdown. Flipped classroom uses a combination of synchronous and asynchronous learning; an approach that provides a seamless experience for students to take responsibility for their learning anywhere at their own pace. In the flipped classroom students have knowledge about the subject before the classroom activities thereby reducing unnecessary activities that do not necessarily add to the learning process. Assimilation is increased because they can go over it as many times as possible.

The flipped classroom with its use of technology enables learners to access learning materials anytime, anywhere at their own pace thereby freeing up the classroom for in-class interactive, collaborative and problem-solving activities. Despite this, very few distance learning centres in Nigeria are adopting the flipped learning mode, whereas it is believed to be one of the few pedagogical innovations that can increase performance of students. This study was set out to provide information on the perception of a few centers that have deployed the technology.

Review of Literature on Perception of Distance Learners on the Flipped Classroom

The term "flipped classroom" comes from the concept of educators assigning lectures to be viewed at home and homework to be done in the classroom (Ash, 2012). The flipped learning network refers to four "pillars" as described by (Network 2014). The term F-L-I-P is described as follows: F- Flexible Environment: It is a known practice among teachers to build flexible environments which motivates learning towards students' needs to encourage them perform well (Selander & Kress, 2010). L- Learning Culture: The traditional classroom views teacher as the centre of attention. Knowledge is only imparted through the Instructor as the sole provider of instruction. Through the Flipped Classroom, knowledge is passed from the teacher to the students and vice-versa. I- Intentional Content: The Instructors provide students with material before the actual lesson. The benefits for this approach are twofold: firstly, the teacher provides students with material before the actual lesson, keeping track of the difficult level of the materials by evaluating the content. Secondly, the teacher takes advantage of the time for interaction in the classroom by using active learning strategies to track the progress of the students. P- Professional Educators: Instructors involved in the flipped method of teaching are expected to develop certain skills in order to shift from being at the center of the classroom to monitoring students in their learning processes.

The flipped classroom when used properly increases interaction, which in turn improves the relationship between students and instructors (Roehl, 2013). Millard (2012) suggested that the flipped classroom can contribute to student engagement, team-based skills, personalized student guidance, classroom discussion, and creative freedom. In one flipped instruction study, Enfield (2013) found that this model "was effective in helping students learn the content and increased self-efficacy in their ability to learn independently". Strong theoretical and empirical support have been found that it is beneficial for the cognitive and motivational benefits of collaborative, as opposed to competitive and individualistic learning activities (Jarvela, Volet, & Jarvenoja, 2010).

The flipped classroom ensured continuity in learning activities and connect instructors and learners in separate locations without interruption. Cole & Kritzer (2009) and See & Conry (2014) listed other advantages of inverting (flipping) learning in higher education to include: (i) provision of opportunities for increased collaborative interaction; (ii) allowing students to take responsibility for their learning anytime and anywhere; (iii) encourages students to actively use the lecture materials; (iv) instructors and students have more time for creative activities in the class; and (v) with the use of technology, instructors have increased opportunities and modes to interact and assess students. The role of the instructor is however very crucial in the flipped classroom in organizing the lessons, skills and building students' characters instead of just building scores alone. Feedback in the flipped classroom is achieved by discussions, quizzes and assignments.

Communication and information technology have unlocked entirely new directions for education and training. The flipped classroom is at the center of this arena. A report by Srivastava (2014) on an introduction of a "flipped classroom" approach to lectures in a final-year actuarial course showed that the heart of the flipped classroom is moving the "delivery" of material outside of formal class time and using formal class time for students to undertake collaborative and interactive activities relevant to that material. Students were surveyed both at the beginning and at end of the semester to obtain their views on lectures in general on the flipped classroom structure. After experiencing the entire course with this teaching style, student views became, on average, far more positive towards the flipped classroom approach.

In terms of the methodologies researchers have used in flipped learning studies Kim, Kim, Khera & Getman, (2014) collected data from diverse sources including surveys, interviews, reflections and documents e.g., meeting minutes, course syllabi, and student outcomes) to test the effectiveness of the flipped classroom studied and identified students' perception; McLaughlin (2013) used survey and open-ended text comments to collect data. Their findings show that although the video and online platforms are important tools in the flipped classroom practice other important factors which influence students' successful learning such as interaction, motivation and engagement should not be ignored but look specifically on a variety of teaching strategies and design.

Bates and Galloway (2012) found that 80% of survey respondents in a first-year Physics course preferred the flipped structure to a conventional approach. Schullery, Reck, & Schullery (2011) found a largely positive response from students in a flipped Introductory Business course, although 32% of survey respondents in the Economics class advocated a return to a traditional lecture format. Equally, Strayer (2012) found that students in a flipped Introductory Statistics class were less satisfied with classroom structure than those in a traditional class, but that they became more open to co-operation and innovation as the semester progressed. This invariably brings to mind the issue on change which affects human acceptance of new things despite its value to the society.

Bishop & Verleger (2013) provides a comprehensive survey of prior and ongoing research of the flipped classroom, the study is characterized on several dimensions. Among others, these include the type of in-class and out-of-class activities, Results of this survey show that most studies conducted to date explore student perceptions and use single-group study designs. Reports of student perceptions of the flipped classroom are somewhat mixed, but are generally positive overall. Students tend to prefer in-person lectures to video lectures, but prefer interactive classroom activities over lectures. The study provides evidence that suggests that student learning is improved for the flipped compared to traditional classroom. In a research conducted on undergraduate world history course, 72% of respondents replied that the videos helped to prepare them either most of the time or all of the time. 22% responded that the video helped little to prepare for their class. Gaughan (2014) reported that the flipped classroom was a success as majority of students contributed to the class discussion with enthusiasm and comprehension.

Egbedokun & Oyewusi (2014) studied the possession, perception and problems of using ICT for learning by undergraduate students of Obafemi Awolowo Univeristy. The study confirmed high possession of ICT facilities by the students (93.1%), predominantly cellphone, laptops and blackberry (in ranked order), the student also had a positive attitude towards the use of computer for educational purpose and knowledge of its various applications in the learning environment. The most prominent problem identified by the respondents included: network problem (89.5%), power supply (85.2%) financial capability to stay connected to the internet (80.5%). Love, Hodge, Grandgenett & Swift (2014) in an applied algebra course, taught a section with the conventional mode while the other section was taught with the flipped mode of instruction. At the end of the semester, students were requested to review the contents with surveys and examinations. The end of the semester survey showed that all students taught with the flipped classroom had positive views about the course, in addition to this, all the examinations taken one after the other showed increase in performance in the flipped classroom outweighed the performance of those in the traditional classroom.

Gilboy, Heinerichs, Pazzaglia (2015) implemented the flipped classroom in two undergraduate Nutrition courses and explained perceptions of students regarding the model. The template used in the study allows the Faculty to design activities which can be implemented before, during and after the class and also in assessing. Incorporating Bloom's Taxonomy, it is found that the majority of the 142 students preferred the flipped method compared with the traditional classroom. McLaughlin and Rhoney (2015) examined flipped neurologic pharmacotherapy course students' performance, engagement and perception regarding the interactive online tool and compared outcomes between the tool and the traditional downloadable paper handout. It was found that students who were using the online tool got considerably higher marks on the final exam. Simpson and Richards (2015) used a flipped classroom approach to re-design a population health course of a nursing programme. As a result, students' reflections showed that students had a better understanding of the content in a nursing curriculum. Janotha (2016) also examined the effectiveness of flipped classroom and how it affected the academic achievement of nursing students. The test scores of the experimental group were compared to those of the control group, it was observed that the experimental group achieved higher academic performance than the nursing students in the control group.

Choi (2016) study on Critical review on the use of the flipped classroom in English Education in Korea. The investigation was on the Instructional designs including learning activities and the students' perception of the method to verify the effects of flipped classrooms on their academic performance. The results show students perceive that the pre-delivered videos allow contents to be viewed, pause, rewind anytime, anywhere, anyplace but on the other hand technical problems such as internet connection can hinder learning. In terms of the academic performance, the selected studies report the positive effects of the flipped classroom; however, findings of the analysis yield that the students do not prove the effects of the flipped classroom in their scores, students prefer the approach to the traditional one and perceive the flipped classroom to be interesting, interactive, motivating and participatory.

Birbal & Hewitt-Bradshaw (2016) conducted a research on the First Year University Student's perspectives and experiences of the Flipped Classroom Strategy in a Technology course, they found out that the flipped classroom is a successful strategy for enhancing student learning. The qualitative study examined first-year students' perceptions and experiences of the flipped classroom for the delivery of a technology course at a Caribbean university. The discussion-focused flipped model was used, and. Data were first collected from first-year university students using an open-ended questionnaire.

In the second stage, two groups of students were purposively selected to participate in a focus group interview, and the Blackboard Course Management System course statistics was reviewed. The main purpose for using an open-ended questionnaire was to allow 65 first-year university students the chance to give their views, using their own words to explain their perspectives and experiences with the flipped classroom strategy. The data collection method allowed the researchers to get deeper responses that perceptions and experiences of the flipped classroom strategy were mixed, and students felt challenged by its use. Students participated minimally in online discussions, and few read online resources. Furthermore, classroom discussions were still mostly teacher directed as many students experienced a high level of fear and anxiety with in-class presentations. The conclusion is that although students generally approved of the strategy, their experiences of the traditional mode of teaching still challenged its effective use. Wu & Marek (2017) in exploring the benefits of the flipped classroom model for learners of English as a foreign language used a multiple sources of data collection (questionnaires and pre & post-tests) to test the perception of flipped learning experience. The results revealed that the theory based flipped learning using both oral and written exercises enhanced the students' motivation making them more active in the class.

Saleh (2016) examined students' perception of flipped classroom in a University Course in Research Methods. A questionnaire was administered mearsuring (n=240) perception of flipped classroom in general video as a learning tool and moodle (LMS) as a supporting tool within the flipped classroom. The result depicted that most of the students had a positive attitude towards flipped classroom and the use of the tools. A positive attitude towards the flipped classroom was strongly related to perceptions of increased motivation. Shih & Tsai (2017) investigated students' perception of a flipped classroom approach in improving teaching quality and learning efficiency. Mixed method research was adopted along with questionnaire, semi structured interviews to understand students' perception of the teaching strategy used during the learning process. Results showed that the flipped classroom enhance students' learning effectiveness, learning motivation and learning interest which in turn encouraged teamwork. Talan (2019) in his study on the effects of a flipped classroom on students' achievements, Academic engagement and satisfaction level compared the flipped classroom and face to face learning

environments with the purpose of identifying the effects of the (two) 2 learning environments on students' motivation. It was found out that the scores of students in the blended learning theory and active learning activities were higher than the scores of those in the face-to-face class. The differences between the groups were statistically significant. It was revealed that the students were also generally satisfied with the flipped classroom.

Objectives of the Study

The specific objectives of the study are to:

(a) investigate students' perception of flipped classroom in Distance Learning Centres in Southwestern Nigeria;

(b) find out the relative contribution of demographic variables (sex, work status, marital status, age) to the students' perception of the flipped classroom

Methodology

The study adopted a survey research design. Sample for the study comprised 300 students, who were selected from two distance learning centres using accidental sampling technique. Obafemi Awolowo University, Ile-Ife in Osun State and Ladoke Akintola University of Technology, Ogbomoso in Oyo State were purposively selected because they have deployed and applied flipped classroom mode of instructional delivery. Three programmes Nursing Science, Management and Accounting and Economics were also purposively selected because the three programmes cut across the two Distance Learning Centres. The instruments used for data gathering for the study was Flipped Classroom Motivation and Perception Questionnaire (FCMAPQ). The FCMAPQ was an adapted, 4-point Likert scale template in closed – ended statements. The content and construct validity of the instrument was carried out. In determining the reliability of the instrument. Split half method was adopted. Analysis of the data using Cronbach –alpha produced r= 0.85. Thus the instrument was considered reliable.

Results and Discussion

Research Question One: What is the students' perception of flipped classroom at the distance learning centres?

This question was asked in order to investigate the students' perception of flipped classroom. The 32 items in the section C of the questionnaire elicited information on students' perception of flipped classroom. The mean score of the students' perception was determined and categorized into three: negative, neutral and positive perception. The maximum score obtainable in each item was 4. The total number of items was 32 therefore the maximum score obtainable was 128. The average score was (4 + 3 + 2 + 1) / 4 = 2.5. The interval score is therefore = 128 / 3 = 42.67 (43 to the nearest whole number). Participants with mean score less than 43 were thus categorized as negative perception, those between 43 and 86 were considered neutral while those with above 86 were categorized as positive perception on the overall mean score.

Table 1: Descriptive Statistics of Distance Learning Students' Perception of Flipped Classroom

N = 300

Items	Mean	Std. Deviation
Watching of the videos before the class time makes each student responsible for coming to class with basic understanding of the subject	3.27	.57
I would rather watch a traditional teacher led lesson than a lesson	2.42	.88
Flipped classroom aids students to construct knowledge outside of class	3.20	.58
Flipped classroom promotes computer literacy skills	3.45	.58

Flipped classroom allows class time to be more productively used for higher level engaging activities	3.25	.60
Social media (you tube, twitter, face book) is an important part in my learning	2.98	.78
The flipped classroom has not improved my learning	2.10	.94
Flipped classroom allows collaborative and problem-based learning	3.10	.76
Flipped classroom enables students to identify their needs and interests	3.11	.60
Flipped classroom requires the students to be independent of the teacher	3.11	.69
Flipped classroom enables students to work in real life application	3.18	.58
Flipped classroom allows the teacher to broaden and deepen students' learning	3.16	.66
Flipped classroom enables students to construct knowledge through gathering of information to create something more complex	3.19	.63
Flipped classroom helps the instructor to handle students according to their abilities	2.75	.88
In the flipped classroom, the teacher can communicate a lot with students	2.87	.84
During flipped classroom, students can communicate better with one another	2.79	.84
Flipped classroom involves less lecturing and more activities	2.88	.84
Flipped classroom enables the students to watch videos about the topic(s) at home and then doing activities about them in the classroom	3.27	.61
Flipped classroom is promoted when all students are responsible for their own learning and activities	3.21	.61
The videos were easy to access	2.94	.80
Watching the video lectures of my course is interesting	3.21	.62
Viewing of videos before class helps students practice knowledge with their peers	3.21	.59
Flipped classroom reverses the role of the students from passive observer to an active participant	3.13	.72
Flipped classroom can make connections between classroom learning and outside world	3.14	.60
In a flipped classroom, more learning can be done outside the classroom	3.21	.61
In flipped classroom, students can monitor their progress when learning the content materials	3.16	.60
The video lecture helps me learn anywhere, anytime and at my own pace	3.36	.64
The ability to pause, rewind and fast forward the video lectures helps me learn better	3.36	.62
Ability to preview lectures before the class as many times as possible has reduced the rate I memorize concepts and cram my notes	3.27	.64
In the flipped classroom, instructors become organizers, mentors and facilitators	3.21	.58

Motivated students are more likely to benefit from flipped classroom than those who are not motivated	3.30	.59
The flipped classroom is more engaging, I would recommend it to a friend.	3.21	.64
Total	95.89	16.77

Table 2: Interval table for Distance Learning Students' Perception of Flipped Classroom

Interval	mean score	Remark
0 – 43		Negative
44 – 86		Neutral
87 – 128	***95.89**	Positive

The mean score of the students' perception of flipped classroom as shown in Table 2 is 95.89 and the standard deviation was 16.77. Table 2 presents the interval table for the students' perception of the flipped classroom and from the table it can be deduced that students had positive perception of flipped classroom. This is probably due to the fact that interactivity and students' engagement are encouraged in flipped classroom. Students are allowed to think through problems and provide solutions and students are actively involved in classroom activities. Asikso and Ozdamli (2016) had argued that active learning strategy is the most suitable approach for the teaching of science base courses. In a typical flipped classroom, students are made to be actively involved in classroom activities instead of being passive recipient of information. The study also revealed that the students perceived and agreed that flipped learning has the possibility to support learning processes, collaborative interactions as well as assessments of contents and skill in distance learning. This suggests the suitability of flipped classroom during pandemic particularly during an outbreak that is highly contagious and deadly. This finding is also consistent with the findings of Bates and Galloway (2012) that 80% of the participants preferred the flipped structure to a conventional approach because the students can self-regulate and self-pace their learning. Schullery, Reck, & Schullery (2011) also found a largely positive response from students in a flipped Introductory Business course therefore, students' perception of flipped classroom had always been positive.

Research Question 2: the relative contribution of demographic variables (sex, work status, marital status, age) to the students' perception of the flipped classroom

Table 3: Linear regression analysis of relative contribution of the demographic variable (sex, work status, marital status, age) to the students' perception of the flipped classroom

						Collinearity Statistics		
Model		**Beta In**	**T**	**Sig.**	**Partial Correlation**	Tolerance	VIF	Minimum Tolerance
1	Marital Status	0.126	2.112	0.036		1.000	1.000	
	Work status	.011[b]	.185	.853	.011	.973	1.028	.973
	Age	.013[b]	.211	.833	.013	.988	1.013	.988
	Sex	.063[b]	1.045	.297	.063	.992	1.008	.992

a. Dependent Variable: PERCEPTION

b. Predictors in the Model: (Constant), Marital status

Table 3 showed that marital status contributed 12.6% to the students' perception of flipped classroom and it is the only factor that contributed significantly to students' perception of flipped classroom $p < 0.05$. Work status with 1.1% contribution, age with 1.3% contribution and sex with 6.3% contribution did not contribute significantly to distance learning students' perception of flipped classroom. The challenges of taking care of the home could have been ameliorated by flipped classroom mode of instructions hence the very positive perception by the married. While the singles had a luxury of time to do what is appealing at any point of time, the married had so many other things begging for their attention. The possibility of self-regulated, self-pacing and round the clock learning enables married people to learn at preferred and more convenient situations. Flipped classroom helps in closing the learning gap between the married and the singles. Sex had no significant influence because of the level of exposure to internet driven and ICT driven instructional platform. The study conducted on the awareness and acceptance of flipped learning strategy by Afolabi, Oteyola, and Awopetu (2020) showed no significant difference in the acceptance of flipped learning strategy by Oyo State secondary school teachers. It was posited in the study that social factors have direct effects on behavioural intentions and hence on the acceptance of the technology

Conclusion

This research has shown that the students' perception of flipped classroom in Southwestern Nigeria was positive. This positive perception was occasioned by the engaging nature of this mode of learning and also the opportunity of control students has on their learning. It must also be mentioned that flipped learning mode affords students the opportunity of encountering learning through visuals and audio. This is consistent with the study of Davies, Dean, and Ball (2013), Gaughan (2014), and Willey and Gardner (2013) which showed that between 73 and 80% students were engaged in learning activities which was more than typical traditional classes. It is also consistent with Aljaraideh (2019) study that students' perceptions of flipped classroom in a Jordanian private universities were high, and that it suits the demands of students at a university level, developing their higher-order thinking and problem solving skills. In a nut shell, the introduction of computers and other smart technologies to classroom instructions and the fact that students can self-regulate and self-pace their learning have in no small measure contributed to the students' perception of flipped classroom. The students could fast forward, stop and rewind their learning device and materials as they desire unlike the face to face classroom where this cannot be done. In the research carried out by Bates and Galloway (2012), 80% of the participants preferred the flipped structure to a conventional approach because the students can self-regulate and self-paced their learning. Schullery, Reck, & Schullery (2011) also found a largely positive response from students in a flipped Introductory Business course therefore, students' perception of flipped classroom had always been positive. This study also showed that marital status has significant influence on distance learners' perception of the flipped classroom. The challenges of taking care of husband and children at home could have been ameliorated by flipped classroom mode of instructions hence the very positive perception by the married. While the singles had a luxury of time to do what is appealing at any point in time, the married had other things begging for their attention. The possibility of self-regulated, self-pacing and round the clock learning enables married people to learn at preferred and more convenient situations. Flipped classroom helps in closing the learning gap between the married and the singles. Based on these findings, it is pertinent to mention that there should be appropriate advocacy for the deployment of flipped learning in order to attract every intending/prospective candidates for higher education. Flipped learning makes learning flexible and collaborative. The challenge would be in the area of development of appropriate learning modules/contents that suites such students. However, further studies could be conducted on content development for flipped learning.

ETHICS STATEMENT

The approval of the Postgraduate College of Obafemi Awolowo University was sought before this study was conducted.

DATA AVAILABILITY STATEMENT

The questionnaire used in this study was adapted from Huang & Hew (2016). All other data were generated from the field work

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