

Evaluation of the Readiness of Student to Participate in Flipped Classroom in Clothing Construction

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Abstract

This paper evaluated the readiness of students to participate in flipped classroom in clothing construction. The study was guided by four research objectives. The one group experimental research design was adopted. The population for the study was 93 B.Ed. Students in Home Economics Department from which a sample of thirty-two (32) were selected using simple random sampling technique. Data was collected using a questionnaire titled Flipped Classroom Readiness (FCR). The research questions were analysed using mean with 2.50 as the index mean for acceptance. The results showed that the students had the needed facilities (mean = 2.80), competencies (mean = 2.79), behavioral intention (mean = 2.87) and environmental factors (mean = 1.71). It was concluded that the students were ready for flipped classroom but had environment related challenges. It was concluded that the influx of alternative learning procedures and use of technology such as computers, internet connectivity, use of iphones and other gadgets, has made the use of flipped learning and classroom relevant to the present day classroom. This will be successful if the relevant materials are provided. Based on this conclusion, it was recommended that internet service and infrastructure in the environment of learning should be improved to aid the use of flipped classroom.

Keywords: Readiness, flipped, Clothing Construction, Inverted classroom, Behavioral intention

Introduction

Teaching in higher institutions in Nigeria use mostly lecture-centred mode of didactic teaching dominating the student-lecturer contact. Lecture method originated in medieval times as a method of transferring information and knowledge from a superior to a subordinate in the form of instructions. However, it has persisted to this day in spite of the major technological developments in teaching and learning that have occurred. The flipped classroom, which is also known as inverted classroom, is a teaching strategy that reverses the timing of class lectures and homework (Bergman and Sams, 2012). This is a model where students are provided all the lecture materials in the form of video and graphics and asked to go through them at home. All the tasks

and exercises are allotted the class time. All the projects, interaction and discussions are done in the classroom (Neaupane, 2015).

The flipped classroom breaks the tradition of the teachers standing in the front and students sitting in rows and listening. It also breaks the traditional "one size fits all style of teaching". In flipped learning, the students can study at the pace and time they wish before the lesson time. Students who learn fast can fast-forward the lecture content provided by the teachers while others can rewind or slow individual pace as necessary. Moreover, flipping of classrooms also offers flexibility of time. Students who go to work or have something else to do can study at the suitable time. Hence, students do not have to miss lectures in

any situation. Flipped classroom is a perfect blend of education and technology, which offers appealing studying experience for each student with any form of skill.

Bergmann & Sams, (2012) were the first to implement the flipped in a high school chemistry classroom in 2007 after several students were missing essential content in class because of travel or school-related events. Bergmann & Sams (2012) found that this instructional approach was successful because it allowed the instructors to provide instruction to each student individually resulting in an increase in student, teacher and peer interaction. Yarbrow, Arfstrom, McKnight & McKnight (2014) asserts that the flipped classroom model consists of four pillars that serve as a guide for teachers who intend to implement the instructional approach. The flexible learning environment, learning culture that shifts instruction using a student-centered approach, use of intentional content, and a professional educator (Yarbrow, , Arfstrom, McKnight, and McKnight, 2014).

Although the traditional lecture model of teaching is the most widely used in tertiary education, it is understood to be the least beneficial for students (Aburahma, 2015). Teaching and technology suggest that a more active and engaging learning environment results in higher course success, (Adeji, 2010). Thus the need for the use of flipped classroom in teaching clothing construction. Flipped classroom activities starts on the first contact the lecturer has with the students. Traditionally the first day of the class requires the lecturer to dictate the course outline or contents to the student but the flipped classroom provides an immersive learning experience for the students from the first contact with the lecturer.

Therefore, flipping the introductory part of the course on the first day is referred to as flipping the syllabus or course outline. The aim of flipping the course in the first day of classroom is to introduce the students to the concept of flipped classroom and determine the readiness for the new strategy which will be used for the rest of the semester.

Sinouvasane & Nalini (2015) defined readiness as the state of being prepared for something that is about to be done or experienced. It involves being aware of what needs to be changed, envisaging what the change will be like when implemented and the consideration which is given to determine whether the subject have the required skills, energy, competencies and support necessary to bring about the desired change (Sinouvasane and Nalini 2015). When readiness is high, the process or activity come out successful (McNaughton, 2017).

In evaluating the readiness of students for a technology based instructional strategy like the flipped learning in clothing construction, factors to be considered include the availability of facilities such as mobile phones and laptops, internet access and appropriate software (Adeyoola, 2015). Similarly, factors such as competency, behavioral intention to participate in the classroom and environmental factors needs to be considered (Adeji 2014; Adeyoola 2015). The readiness of students for the implementation of an instructional strategy determines its success (Butt 2014; Hung, Chou, Chen and Own, 2010).

Application of flipped classroom instructional approach in teacher education is relatively new especially in the teaching of Clothing construction component of Home Economics education. Clothing construction is a course offered at both NCE and Degree

levels. The course is aimed at introducing students to the basics of clothing, stitches, pattern drafting and garment making. Flipping the classroom in clothing construction as anticipated by the researcher is to provide more time for classroom activities and practical experience.

For any group of students, flipped classroom cannot be spontaneously introduced or implemented without taking into consideration the readiness of students who are the receivers of the technology. The lecture method is the common means of delivery of most courses in Home Economics education including Clothing construction. When the lecture method is used as the sole modality for a course, it results in passive learning, as students are only expected to receive or absorb the knowledge being transmitted by the instructor. When students are passive learners, in-class time is taken away from challenging students to think deeply, solve problems (Autry and Berge, 2011), apply and adapt their developing knowledge and skills (Schwerdt and Wupperman, 2010). The exploration of students' readiness to participate in a flipped classroom is an important determinant of whether the remaining part of the course will be taught, using the flipped instructional approach; or revert to the use of the conventional methods such as lecture and demonstration methods. Thus, this study sought To evaluate the readiness of students to participate in flipped classroom in clothing construction.

Objective of the Study

The objective of this study was to evaluate the readiness of students to participate in flipping the syllabus in clothing construction. Specifically, this study intends to

1. Ascertain the facilities that are available to students for flipped classroom in clothing construction.
2. Ascertain whether students possess the competencies required for flipped classroom in clothing construction.
3. Determine the behavioral intention of students to participate in flipped classroom in clothing construction
4. Find out the environmental factors that affect students' readiness for flipped classroom in clothing construction

Methodology

Research Design

The study adopted the one group experimental research design. This is a design in which a group of subjects are administered a treatment and then measured or observed. It is a research design that is most often utilized by behavioral researchers to determine the effect of a treatment or interaction on a given sample. The group of classroom of students was already formed and is used to represent a larger population.

Area of the Study

The study was conducted in the Fedearl College of Education which is an affiliate of the Ahmadu Bello University. The institution runs an robust program in Home Economics leading to the award of a degree in Home Economics. Graduates of this program are trained to be skill manpower in teaching and industry. In teaching, these graduates are expected to work in the secondary schools using learning materials for the teaching and learning process. This makes the study on flipped classroom in clothing construction relevant.

The Population of the Study

Degree students of Home Economics in the Federal College of Education formed the population of the study. There are 93 B.Ed. students in all the three levels of the program.

Sample and Sampling Techniques:

Thirty-two 300 level students were used which was derived from the intact group using simple random sampling procedure.

Instrument for Data Collection

Data was collected using a questionnaire titled "Flipped Classroom Readiness (FCR)". The questionnaire was adapted from Techanamurthy, Alias and DeWitt (2015). The instrument has fifteen items. Items 1-4 contained statements on the facilities available to students, items 5-9 contained statements on the competence required for students, items 10-13 contained items on the behavioral intention

of students' to participate in flipped classroom, items 14-16 contained items on the environmental factors that determine students' readiness for flipped classroom. The instrument was administered to the students directly by the researcher after they were introduced to the flipped classroom in the first class. The course outline was flipped by presenting a Video that was made using power-point which contained the course contents with narration and was converted into a video. The video was distributed using Xender android application for the students to watch at home or outside the classroom.

Data Analysis Techniques

Data was analysed using mean. Mean of 2.50 and above indicates acceptance while mean of 2.49 and below indicates rejection of the item.

Results and Discussion

Table 1: Mean of Responses on the Facilities Available to Students for Flipped Classroom in Clothing Construction.

Item	Mean	Decision
I have any one of these devices desktop, laptop, i-phone/i-pad, android phone	2.82	Accepted
I can access the internet on my device /Institution has interconnectivity	3.00	Accepted
I can access the internet anytime	2.91	Accepted
My device have the adequate software Such as office suite, PDF reader, video player, internet browser and YouTube	2.46	Accepted
Grand mean	2.80	

Table 1 showed the mean of responses on the facilities available to students for flipped classroom in clothing construction. Items 1, 2 and 3 have means of 2.82, 3.00 and 2.91 respectively which indicates that the student accepted these Items while

item 4 was rejected with mean of 2.46. The grand mean of 2.80 showed that the students generally have facilities that could aid their participation in the flipped classroom.

Table 2: Mean of Responses on the Competencies Required for Flipped Classroom in Clothing Construction

Item	Mean	Decision
I have the basic skills such as saving files, playing videos, creating folders, sending mails with attachment and using the computer	2.56	Accepted
I can find my way around the internet world (searching the internet, sending emails, chatting on social networks).	2.87	Accepted
I have good interpersonal and social skills to be a successful e-learner.	3.07	Accepted
I can use the internet to prepare and take notes	2.87	Accepted
I can solve most of the technical problems encountered in flipped learning	2.57	Accepted
Grand Mean	2.79	

The data in Table 2 showed the mean of responses on the competencies required for flipped classroom in clothing construction. Items 5- 9 have mean range of 2.56-3.07 which indicates that the

students possess the competencies required for flipped classroom in clothing construction. This is supported by the grand mean of 2.79 which also indicates general acceptance.

Table 3: Mean of responses on the behavioural intention of students to participate in flipped classroom in clothing construction

Items	Mean	Decision
I am comfortable using a digital device several times a week to learn or participate in a course	2.68	Accepted
I can discipline myself to follow Flipped learning tasks and procedures	2.87	Accepted
I am interested in upgrading my academic/professional skills through Flipped classroom	2.87	Accepted
I can participate in class or online activities throughout the learning process	3.07	Accepted
Grand mean	2.87	

The data in Table 3 showed the mean of responses on the of students to participate in flipped classroom in clothing construction. Items 10 – 13 have mean range of 2.68-3.07 which indicated that the

students have the intention of students to participate in flipped classroom in clothing construction. The grand mean of 2.87 also support this being above the index mean of 2.50.

Table 4: Mean of Responses on the Environmental Factors that Affect Students' Readiness for Flipped Classroom in Clothing Construction

Item	Mean	Decision
The free Wi-Fi internet available in my school is fast	1.24	Rejected
There is available power supply for flipped classroom activities.	1.38	Rejected
Grand mean	1.31	

The data in Table 4 showed the mean of responses to the environmental factors that

affect students' readiness for flipped classroom in clothing construction. Items

14 and 16 have mean of 1.24 and 1.38 respectively. The grand mean of 1.31 also revealed general rejection that the environmental factors are not supportive and thus affect students' readiness for flipped classroom.

Discussion of Findings

The results of the data analysis showed that the students are ready for flipped classroom in clothing and instruction. The respondents indicated that they have one of these devices desktop, laptop, iPhone/iPad, android phone and can access the internet on the device. It was also indicated that the respondents have data subscription to access the internet anytime. But not all the respondents have the adequate software such as office suite, PDF reader, video player, internet browser and YouTube which can facilitate flipped classroom or learning. Students keep more of social media related applications than educational applications such as language translator, dictionary and document reader. Butt (2014) revealed that facilities such as mobile phone or computer and application soft wares are essential for the implementation of flipped classroom.

The respondents also indicated the possession of relevant skills such as saving files, playing videos, creating folders, sending mails with attachment, searching the internet, sending emails, chatting on social networks, these are good interpersonal or social skills required to be a successful e-learner, ability to answer questions or take notes while watching a video on the computer and the ability to solve most of the technical problems encountered in the flipped classroom. Hung, et.al (2010) found that possession of relevant technological skills are part of the readiness for the implementation of flipped classroom.

The responses on behavioral intention of the students to participate in flipped classroom. Majority of the respondents indicated that they would be comfortable using a digital device several times a week to learn or participate in a course, can be disciplined to follow flipped learning tasks and procedures, are interested in upgrading their academic/professional skills through Flipped classroom and will readily participate in class or online activities throughout the learning process. Students generally have phones which they can download and do so many things, if properly directed; these can serve as a good channel for flipped learning. On the aspect of responses on the environmental factors that hinder flipped learning, the result show that there is no free Wi-Fi internet o campus and in some cases it is erratic and the power supply is inadequate to power devices for flipped classroom activities.

Conclusion and Recommendations

Flipped learning is a pedagogical approach in which the conventional notion of classroom based learning is inverted so that students are introduced to the learning before class. With the use of technology, learning can take place anywhere, saving school time and enhancing students learning at all times. Based on the findings of this study, it was concluded that the students are ready for flipped classroom if available facilities, required competencies such as operational knowledge of ICT devices and the intention to participate in the flipped classroom is available. Based on the conclusion, the following recommendations are made:

1. Campus internet service should be improved to aid its use in the flipped classroom, the provision of electricity and computers is tantamount to the success of flipped learning.

2. Lecturers should encourage students to install educational applications and imbibe the culture of e- learning and flipped learning.

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