INFLUENCE OF DISTANCE LEARNERS' DEMOGRAPHIC VARIABLES ON MOTIVATION AND PERFORMMANCE IN FLIPPED CLASSROOM

Abstract

This study was carried out to find out the influence of demographic variables of distance learners on their motivation to learn and performance in a flipped classroom. Sample for the study consisted of three hundred (300) distance learners who were selected from two distance learning centres. The centers were selected purposively because they have deployed flipped learning mode. A questionnaire, 4-point Likert scale, tagged: Flipped Classroom Motivation and Perception Questionnaire (FCMAPQ) was used in data collection. The results showed that only sex that significantly contributed to the motivation of the learners in the flipped classroom. Results further showed that demographic variables of sex, work status, age and marital status have no influence on the performance of distance learners' in the flipped classroom. The study concluded that though demographic variable have no influence on motivation and performance of distance learners, it is rather a plausible innovation in distance learning.

Key words *– Flipped Classroom, Motivation, Performance, Correspondence, Southwestern Universities, Nigeria.*

Introduction

Distance learning students are dispersed from their instructors and peers but the incorporation of technology bridges the gap and allows students who are geographically dispersed to interact with peers, facilitators and learning materials in and outside the classroom. Distance learners are mostly engaged in self-directed learning. Knowles (1984) described self-directed learning as a situation where learners take responsibility to learn on their own instead of waiting to learn at the feet of their instructors. With this, students learn with more purpose and greater motivation, which is in tune with natural processes of psychological growth and development. Distance Learning makes education accessible to many students in the world and in different socio-economic level, by extension, Allen and Seaman (2017) agreed that distance education has become increasingly common in many universities worldwide.

Many of the Distance Learning Centres in Nigeria were created to address the unavailability of spaces and facilities that surpasses the percentage of students seeking higher education. There are also many working class who are desirous of acquiring university education but cannot afford to leave their jobs. Distance education provides the opportunity for such individuals to achieve their aims. Johari (2020) stated that the demand of jobs and workplace coupled with everyday life responsibility could be stressful. This work-induced stress could be overcome by enrolling in a distance learning programme.

The emergence and use of new technologies in our day to day activities has great impact on our socio-economic activities and entire life. The geographical barriers created by distance of students all over the world is closed by the use of these tools. The tools of distance learning include Videoconferencing, Podcasts, Discussion forum, Slide share and Web 2.0 Technologies such as Gamification and Social Networks (e.g WhatsApp, Twitter and Facebook) to promote the sharing of knowledge and collaboration among the students and instructor(s). The motivation, performance and achievements of distance learning students have been affected by the accelerated emergence of these various learning tools. (Owante, Afolabi & Akanwa 2017).

Students' motivation to learn increases when there is a purpose aligned with the task given or when they see value in what they are learning. These could happen when learning is related to real life experience. It is therefore important to state that demographic variables could activate motivation. No matter how effective and interesting the learning strategies are, learning might not take place when students are not motivated.

Statement of Problem

The programmes in the higher institutions' Distance Learning Centres had been through correspondence or Part –time mode. Most of the students who combine work and schooling at the same time are expected to come down every weekend for lectures. During these weekend visits, the mode of instruction is usually face-to-face. Literature shows that the Traditional Correspondence/Distance Education has not always produced anticipated learning outcomes. Amanda (2016) asserts that "Traditional method of teaching are teacher centered and are not enriched with the new trends of innovative skills to reinforce learning and intellectual engagement with learning materials. Makis (2012) in his study on the traditional classroom observed that students who have to travel down to school for face-to-face lessons come into the classes few minutes after class had started. Introduction to the lessons are missed so also the interactive questions and discussions that come up when lessons commence, most times the students would have to rely on their friends or classmates for truncated information.

Students who learn from the traditional classroom may not have prior knowledge to the topics /materials before the class, rather there is too much cognitive load in the classroom which lowers the performance of students and affects the learning process and acquisition of knowledge. Without much consideration for the assimilation level of the student, each receives the same amount of information at the same pace not minding that students have different desires and would prefer to work differently at their own speed. Students' attention decreases quickly when the pace of the lectures does not meet their needs. Extensive information is passed in a short period; most times students are weighed down with contents and materials not relevant enough to bring out the appropriate attitude needed for learning. Students usually perform well at lower- order cognitive tasks such as memorizing as against the higher cognitive tasks of knowledge construction, ability to recall, perform and complete tasks, ability to critically analyze and applying their discoveries to new situations which the flipped classroom promotes. Most of all the flipped mode of learning makes the students digital literates, which is expected of a 21st century graduate.

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 model as a mode of instruction. It is one of the few pedagogical innovations that is yet to receive considerable attention and interest in the Nigerian educational circles.

Objectives of the Study

The specific objectives of the study are to:

a) examine the influence of demographic variables (sex, work status, marital status, age) on distance learners' motivation in the flipped classroom; and

b) find out the influence of demographic variables (sex, work status, marital status, age) on students' performance in the flipped classroom.

Hypotheses of the Study

The following hypotheses were set for the study.

Ho_1 demographic variables (sex, work status, marital status, age) do not have significant influence on distance learners' motivation in flipped classroom

Ho_2 demographic variables (sex, work status, marital status, age) do not have significant influence on distance learners' performance in flipped classroom

Review of Literature

A study carried out by Aire and Tella (2003) on student motivation and demographic variables, using 276 students revealed that there is a relationship between academic performance and motivation. However, the study found that age had no significant effect on the motivation and perception of the students. The higher score for motivation by students aged between 15 to 21 years did not differ significantly as compared to the other age brackets. All the students could be said to have the same level of motivation. Broussard and Garrison (2004) found that the relationship between motivation and academic performance appears to strengthen as students progress in age. Students with high levels of motivation steadily display higher achievement and class grades than students with low motivation.

Alzwekh (2014) studied the effect of flipped classroom concept in teaching the computer curriculum on self-learning skill. He selected a sample of 26 female students who learned through applying flipped classroom to learn skills of computer courses at home. The results showed growing and increasing skills of self-learning among female students in the flipped classroom. In addition, they showed that flipped classroom strategy contributed to take into account individual differences, learning according to their abilities, and encouraging bearing responsibility. The study recommended applying flipped classroom strategy in teaching some courses, and training teachers to implement flipped classroom into the teaching and learning processes. Hossain & Tarmizi (2012) reported that the performance of male and female were highly improved in mathematics. However the performance of female students is higher than that

of male students after the treatment. Gambari (2018) reported that sex did not influence students' performance in individualized and cooperative learning but that males performed better than females in competitive instructional strategy. Gambari further reported that there was no significant difference in the performance of male and female undergraduates taught with blended learning, similarly no significant difference was found in the performance of male and female exposed in e-learning mode of instruction. In addition, Saleh (2016) in using flipped classroom approach to teach computer programming found no significant difference in terms of achievement between male and female students.

Amuda, Bulus & Joseph (2016) investigated marital status and age as predictors of students' performance in the Northeastern states of Nigeria. The study sought to determine marital status and as significant predictor of Academic performance of NCE students in Colleges of Education in Northeastern states, Nigeria. The results showed that the students in the distinction rate (66.7%) were higher than those who failed (33.3%). Marital status and age did not significantly predict students' achievement in Colleges of Education in the Northeastern states of Nigeria. It was also recommended that adequate attention should be given to marital status and age differences in academic performance in terms of group work, assignment and other academic activities.

Poktori (2013) conducted a study on married women who are studying at higher institutions in Nigeria through blended learning. A mixed research method was used. Focus group conversation and interview were used to gather qualitative data while questionnaire and academic results were used to gather quantitative data. The study reveals that the academic performance of married women differs from single women. However, some of the married women were satisfied with their academic performance while others were not. They blamed their performance on several factors including marital status, cultural practices. This finding is consistent with the reports of Burke and Weir (1976) which found significant relationship between the influence of marriage and academic performance.

Flipped classroom positively effects students' academic achievement (Aşıksoy & Özdamlı, 2016). In their study, students perceived flipped classroom as an interesting learning experience and the performance of female students was better than male students. Flipped classroom has more influence on females in regards to taking responsibilities for their learning and motivation than on males (Kenna, 2014; Aşıksoy & Özdamlı, 2016). Lee and Liu (2016)

conducted a study to assess the impact of flipped learning on students' performance; the results showed that there are no statistically significant differences in students' achievement based on gender variable. Other study conducted by Gross, Pietri, Anderson, Moyano-Camihort and Graham (2015) stated that students observed that their scores increased by (12%) through the flipped learning strategy, and it is beneficial for students with low educational performance and for females respectively.

Aljaradeh (2019) examined the male and female students' perceptions of flipped learning system, taking four private universities in the Northern Province in Jordan as the sample of study. In his case study on the perception of female and male students of flipped classroom in Jordan, the study showed that the students' perception of the mode of instruction were high. The study recommended the necessity of using flipped classroom due to its effectiveness in developing students' understanding and in motivating them to become active instead of passive participants in the classroom.

Beard & Langlas (2018) found that marital status might have negative outcomes for college students' academic performance as they perform marital roles with schooling in the United States. Yess (1981) revealed positive influence of marriage on the performance of students in their academic activities. Negy (2003) found that some married students in the college face more challenges than non-married students, which could potentially hinder academic performance in terms of combining job with schooling, travels to campus when necessary and taking care of the home and children. Stern (1998) in his research on the experience of women combining multiple roles and graduate training in college found out that married men performed better in academic activities than single men but married women did not do worse than single women did in terms of students' outcome. Price (2006) study on Marriage and Students' outcome provided some support that marriage may be beneficial for academic performance but there is more problem for the men than the women.

Wilson (2004) found low correlation of persistence with age, marital status and desires of all of demographic variables and educational levels. Eyer's (1993) study showed no significant relationship between examination scores and marital status for baccalaureate Nursing students. Fontaine (1996) indicated that marital status is a predictor that older adults takes full responsibilities of their own learning activities regularly. Age as it increases usually affects the various developmental and psychological changes and gradually manifests in every area of

human performance. It is often believed that adult students being more and highly motivated and experienced should perform better. Durr (1992) reported that there is no significant relationship between performance and age. Minavyi (1994) found that there is an insignificant relationship between age and academic achievement; this means that age difference is not a determinant of academic achievement.

The hiring of students into paid jobs does not seem to operate as a discerning factor between working and non-working students but Katsikas & Panagiotidis (2010) in their study on an approach of the quality determinant of University studies in Greece observed that working students take a longer time in completing tasks and responding to discussions online.

In conclusion, this review has revealed that there are though different opinions regarding the influence of demographic variables (sex, age, marital status etc) on perception, academic performance and motivation of students. There is however a dearth of recent views on distance learning students, and especially from Nigeria.

Methods

The research design used in this study was survey. Sample included three hundred (300) distance learning students, whose selection was based on accidental sampling technique. They were polled from two distance learning centres in southwestern Nigeria where flipped classroom was used as mode of instruction. Three distance learning programmes (Nursing Science, Management and Accounting and Economics) were purposively selected because the three programmes cut across the two Distance Learning Centres used. Data was collected using a questionnaire tagged 'Flipped Classroom Motivation and Perception Questionnaire' (FCMAPQ). 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

Hypothesis One:
Demographic variables (sex, work status, marital status, age) do not have significant contribution to distance learners' motivation in flipped classroom

Table 1: **Demographic Information of the Participants**

	Division	frequency	%
Level	Second year	100	33.3
	Third year	12	4.0
	Fourth year	31	10.3
	Fifth year	157	52.3
Place of residence	On campus	6	2.0
	Off campus	291	98.0
Work status	Full time	183	61.8
	Part time	80	27.0
	None	33	11.1
Age	15 – 21	23	7.7
	22 – 30	126	42.0
	31 – 45	125	41.7
	45 – 55	23	7.7
	Above 55	3	1.0
Sex	Female	233	77.7
	Male	67	22.3
Marital status	Married	107	37.8
	Single	176	62.2

N=300

Table 1 presents the demographic distribution of participants in the study. Three hundred students at the centres selected across two Distance Learning Centres in the southwestern Nigeria participated in the study. 33.3% of the participants were in second year of their study, 4.0% were in third year, 10.3% were in the fourth year while 52.3% of the participants were in the fifth year. Table 1 also showed that 2.0% of the participants resided on the campus while the remaining 98.0% lived outside the campus. This was as a result of the mode of learning which is 'distance' in nature, wherein learners are scattered all over and can access learning materials from their geographical location without much hitch. 61.8% were in full time employment, 27.0% were in part time employment while 11.1% had no job. This would also attest to the fact that distance

education is best suited for the working class, which is further attested to by the statistical distribution by age. The age range of the participants were 7.7% were with the age range of 15 – 21, 42.0% has a range of 22 – 30 years, 41.7% had age range of 31 – 45 years, 7.7% with 45 – 55 years while 1.0% were above 55 years. 77.7% were female and 22.3% were male. 37.8% of the participants were married while 62.2% of the participants were single.

Table 2: Linear regression analysis of the contribution of the demographic variable (sex, work status, marital status, age) to the students' motivation in the flipped classroom

						Collinearity Statistics		
	Model	Beta In	T	p	Partial Correlation	Tolerance	VIF	Minimum Tolerance
	Sex	0.148	2.487	0.013		1.000	1.000	
1	Work Status	.071[b]	1.172	.242	.070	.964	1.037	.964
	Age	.075[b]	1.257	.210	.075	.985	1.015	.985
	Marital Status	.064[b]	1.073	.284	.064	.992	1.008	.992

a. Dependent Variable: Motivation

b. Predictors in the Model: (Constant), Sex

Table 2 shows the regression analysis of the contribution of each of the demographic variable on distance learners' motivation in a flipped classroom. It shows that sex contributed 14.8% to the students' motivation $T=2.487$, $p<0.05$. Work status contributed 7.1% $T=1.172$, $p>0.05$. Age contributed 7.5% $T=1.257$, $p>0.05$ and marital status contributed 6.4% $T=1.073$, $p>0.05$. This implies that it is only sex of the distance learners that significantly contributed to the motivation of the learners in the flipped classroom.

Hypothesis Two:

The demographic variables (sex, work status, marital status, age) has no significance influence on students' motivation and academic performance.

The influence of the flipped classroom on the demographic variables (sex, work status, marital status and age) combined was determined using two-way multivariate analysis of variance (MANOVA) at 95% level of significant.

Table 3: Tests of between-subject effects of the combined influence of demographic variables (sex, work status, marital status, age) on Distance Learners' academic performance.

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	p

Corrected Model	academic performance	4918.38[a]	34	144.66	2.01	.00
Intercept	academic performance	141017.67	1	141017.67	1959.07	.00
Work * Age * Sex * Marital Status	academic performance	11.03	1	11.03	.15	.70
Error	academic performance	17563.59	244	71.98		
Total	academic performance	1167443.00	279			
Corrected Total	academic performance	22481.96	278			

a. R Squared = .219 (Adjusted R Squared = .110)

b. R Squared = .129 (Adjusted R Squared = .008)

Table 2 presents the test of between-subject effects using the two way multivariate analysis of variance. The table shows no significant difference $F_{(1,244)} = 0.15$, $p > 0.05$ for academic performance of the distance learners in a flipped classroom. This implies that the demographic variables of sex, work status, age and marital status have no influence on the performance of distance learners' in the flipped classroom. Therefore, the hypothesis which states that the demographic variables (sex, work status, marital status, age) has no significance influence on students' academic performance is not rejected. This result supports the findings of Lee and Liu (2016) on the impact of flipped learning on students' performance where a case of no statistically significant differences in students' achievement based on gender variable was established. It implies that yes, flipped classroom is a plausible innovation in Nigerian distance learning classes, and that demographic variables are not barriers to achievement of the enrolees.

Conclusion

This study concludes that though demographic variables are important factors in learning, yet they may not be crucial predictors of performance in some selected learning conditions, especially learning conditions that would by their nature break all barriers. However, the study established that sex could be a crucial matter when considering motivation in a flipped learning situation, whereas it has no influence on performance.

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