International Journal of Advanced Multidisciplinary Research and Studies

Socio-Economic Status and Age of Students and their Academic Performance in Online Learning in Selected Faculties in Rivers State University in the 21st Century

¹ Elenwo Pritta Menyechi, ² Dr. Nnadieze Godfrey Chukwumeka

1, 2 Department of Educational Management, Faculty of Education, Rivers State University, Nigeria

Corresponding Author: **Elenwo Pritta Menyechi**

Abstract

The purpose of this study was to determine the influence of socio-economic status and age of students and their academic performance in online learning in selected Faculties in Rivers State University in the 21st century. The study was guided by 2 research questions and 2 null hypotheses. The population comprised 629 of 2020-2021 academic session post graduate (Masters and PhD) students of the Faculties of Engineering, Law, Agriculture, Science, Education and Humanities. The sample size consisted of 315 students using multistage sampling technique. The instruments used to collect data were a questionnaire and an online academic performance test. Three experts validated the instruments and the Cronbach Alpha statistics reliability method was used to achieve a reliability index of 0.79.

Percentage and frequency were used for analyzing demographic data of the respondents, Mean and Standard Deviation were used to answer the research questions and Pearson Product Moment Correlation (PPMC) statistics was used to test the null hypotheses at 0.05 level of significance. The study revealed a high extent of relationship between socio-economic status and age of students and their academic performance in online learning. The researcher therefore recommended that, Government should provide free supply of internet to schools in order to give all students equal opportunity to internet usage and that, age is no barrier to technological gadgets usage, older students should not see age as a hindrance to being competent in gadgets usage.

Introduction

Following the challenges facing the educational system especially in the era of COVID-19 pandemic, there is an increasing demand for online learning as a flexible platform for teaching and learning. At the peak of the pandemic in Nigeria, many universities were shut down in order to curb the spread of the disease and failed to adhere to the recommendation made by UNESCO (2020) [13] for schools to embrace distance learning programs and open educational applications. On the other hand, the administrators of the Rivers State University adopted the on-line learning which was believed to be convenient for course delivery in order to stay aloft in the face of the challenge bedeviling the nation in general and the universities in particular. This singular decision had placed the university ahead of other universities in the state. Online learning is a learning program that makes use of an information network- such as the internet for course delivery and interaction. It requires the use of computers, smart phones, laptops, data and so on to log into the Zoom App which was the platform used for teaching and learning in the area of this study. Although the convenience of online learning is worthy of consideration, some students appear to have difficulties with it due to their socio- economic status and age which results in skipping of classes leading to poor academic performances. Acquiring knowledge online is cost intensive and requires competence in learning gadgets usage. While some students could afford these gadgets to log into the platform others could not afford thus lagging in their academic pursuit. UNESCO News (2019) [14] highlighted that, there is a great digital divide that exists in the 21st century. It further buttressed that when it comes to digital divide, the socio-economic situation of students and their families is an aggravating factor. This affirms the assertion of Doo and Morris (2010) [6] that socio-economic background remains one of the major sources of educational inequality and adds that one's educational success depends very strongly on the socio-economic status of one's parents.

Scrutiny of literature showed that relative studies have been carried out by scholars Doo and Morris (2010) [6], John, Jackson and Catherine (2015) [11] and Grissom (2014) [9] to prove the influence of age on students' academic performance. Al-Mutairi (2011) [1], Uwaifo (2018) [15] and Escarce (2013) [8] also investigated influence of socio-economic status on students' academic performance. Amin and Li (2010) [2] indicated that online student performance does not differ significantly compared to

face-to-face student performance. Daymont and Blau (2011) [5] demonstrated that online courses can be as effective as traditional courses. Ary and Brune (2011) [3] found no significance for either online or face-to-face students regarding course grades. Sadly, there is seeming lack of research information on the extent of relationship between socio-economic status and age of students and their academic performance in online learning in the 21st century. This study was embarked upon to answer the unanswered question. It is expected that the answer will fill a gap in knowledge and thus lead to comprehensive understanding of socio-economic status and age of students especially in the area of study.

Socio-economic Status on Students Online Academic Performance

Students from low economic backgrounds who attend poorly funded schools most times do not perform well as students from higher socio-economic backgrounds (Hill, 2014) [10]. In a study conducted on the effects of low income on the academic performance of Nigerian University students, Uwaifo (2018) [15] found significant difference between the academic performance of students from rich families and those from poor families' structure. According to Escarce (2013) [8] family income has a profound influence on the educational opportunities available to adolescents and on their chances of educational success. Escarce adds that due to residential stratification and segregation, low-income students usually attend schools with lower funding levels, have reduced achievement motivation and much higher risk of educational failure. When compared with their more affluent counterparts receive lower grades, earn lower scores on standardized test and are much more likely to drop out of school. Findings revealed that parental involvement and individuals' experiences at home play tremendous roles in building the personality of a child and making the child what he is. Furthermore, many children have been hindered from reaching their optimum level in academic pursuit due to some negative factors arising from home viz lack of parental encouragement and conducive environment, poor finance and housing, poor feeding, ill-health and lack of interest on the part of the students. These further showed that, children whose school needs; physical and emotional are not provided for at home may forever remain underachiever. This may affect the general development (physical and human resources) of a country; as poor academic performance during the school years is often carry over to adulthood, with a higher proportion of school dropout, behavioural problems and even delinquency among a population of a nation.

Age on Students Online Academic Performance

Age of the students is found to be another important factor that also affects the academic performance of the students. The negative relationship between age and performance of the students may indicate that educating children as early as possible is very important. There have been several studies conducted to determine the effect of several demographic variables on student achievement. Coleman, Campbell, Hobson, McParland, Mood, Weinfield and York (2014) [4] study showed that as students become older, the correlation between age and school achievement diminishes. On the other hand, results from longitudinal studies have contracted the above result, by demonstrating that there is a gap in

student achievements as students get older (Duncan, Brooks-Gunn and Klebanov, 2015) [7]. Grissom (2014) [9] in his study, concluded that the negative relationship between age and achievement remains constant overtime. According to Obanya (2016) [12] schools provide equalizing experiences, and thus the longer students stay in the schooling process, the more the impact of age on achievement is diminished.

The study was guided by two research questions and two corresponding hypotheses thus;

1. What is the extent of relationship between socio-economic status of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century?
2. What is the extent of relationship between age of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century?

The two corresponding hypotheses are:

1. There is no significant relationship between the extent of socio-economic status of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century.
2. There is no significant relationship between the extent of age of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century.

Methodology

The Correlational Research Design was adopted for the study. This study was carried out in Faculties of Engineering, Law, Agriculture, Science, Education and Humanities of Rivers State University. Rivers State University is one of the state's universities in Rivers State located in Port-Harcourt Local Government Area of the State.

The target population of this study comprised of all the 629 post-graduate (Masters and PhD) students admitted into the Faculties of Engineering, Law, Agriculture, Science, Education and Humanities of Rivers State University for the 2020-2021 academic session. Faculties of Engineering 108, Law 98, Agriculture 114, Science 102, Education 144 and Humanities 73.

The sample size was made up of 315 post- graduate (Masters and PhD) students from the Faculties of Engineering, Law, Agriculture, Science, Education and Humanities of Rivers State University which were randomly selected amongst the 12 faculties in the University using simple random sampling technique. For a second time, the simple random sampling technique was used in selecting 50% of the respondents from the various faculties. From the six faculties, the following number of students were sampled; Engineering 54; Law 44; Agriculture 57; Science 51; Education 72 and Humanities 37.

The researchers adopted two instruments for the collection of data for this study. The following are the instruments: A questionnaire titled "Socio-economic Status and Age of Students and their Academic Performance in Online Learning (SSASAPOL)" and an online academic performance test (OAPT). The questionnaire is divided into 2 sections A and B. Section A was used to elicit demographic characteristics data of the respondents and section B has a total number of 10 items with a four-point rating scale of very high extent (VHE), High extent (HE),

Low extent (LE) and Very low extent (VLE) with assigned values of 4, 3, 2, and 1 respectively. The mean of each item is interpreted in relation for the normal value assigned to the instrument with real limit as follows: VHE (4)3.50-4.00, HE (3) 2.50-3.49, LE (2) 1.50-2.49 and VLE (1) 0.50-1.49 while the online academic performance test consisted of (10) multiple choice questions (MCQ) items with four options (A-D) per item. The instrument is related to the variables under investigation. One mark each was awarded to every item correctly responded. The total number of marks was ten (10).

A vetting of the instruments was given to three experts from the Departments of Educational Management and Measurement and Evaluation of the Faculty of Education in Rivers State University.

The Cronbach Alpha statistics was used to ascertain the reliability of the instruments. The researchers administered the instrument to 25 post graduate students in a faculty outside the sampled faculties. The scores which were correlated gave a reliability coefficient of 0.78 and 0.80. A reliability estimate obtained for the entire instrument was 0.79. This indicated that the instrument is reliable.

315 copies of the questionnaire were directly administered to the respondents by the researchers. The researchers also waited to retrieve the completed copies of the questionnaires. All the 315 questionnaires administered were all retrieved and it took the researchers three (3) weeks to complete the exercise.

Percentage and Frequency were used to analyse the demographic data of the respondents. The research questions were analysed using Mean and Standard Deviation and the hypotheses were tested at 0.05 level of significance using Pearson Product Moment Correlation (PPMC) statistics. A mean score of 3.50-4.00, 2.50-3.49, 1.50-2.49 0.50-1.49 indicate VHE, HE, LE and VLE respectively. The formulated null hypotheses were rejected when the calculated r value is greater than or equals to the r-critical value at 0.05 level of significance and failed to reject null hypotheses when the r-calculated value is less than the r-critical value at 0.05 level of significance. The value of r is interpreted as high, moderate and low when it is in the range of 0.80 and above, 0.31- 0.79 and 0.30 and below respectively. Also, the sign of the correlation coefficient indicates the nature of the relationship.

Analysis of Data and Result/Hypotheses Testing

Table 1: Demographic Characteristics of Respondents

Items	Frequency (F)	Percentage %
Faculty		
Engineering	54	17.1
Law	44	14
Agriculture	57	18.1
Science	51	16.2
Education	72	22.9
Humanities	37	11.8
Total	315	100
Earning Status		
Income earners	284	90.2
Non-income earners	31	9.8
Total	315	100
Place of residence		
Urban	210	66.7
Rural	105	33.3
Total	315	100
Age		
23-30	160	50.8
31-38	108	34.3
39 & above	47	14.9
Total	315	100
Programme		
Masters	264	83.8
PhD	51	16.2
Total	315	100

Source: Field survey, 2021

Table 1 shows the demographic data of the respondents. 17.1% of the respondents were in the faculty of Engineering, 14% in Law, 18.1% in Agriculture, 16.2% in Science, 22.9% in Education and 11.8% in the faculty of Humanities. 90.2% were income earners while 9.8% were non-income earners. More than half (66.7%) reside in the urban communities and 33.3% are resident in the rural communities. 50.8% were within the age range of 23-30, 34.3% were between the age of 31-38 years and 14.9 were aged 39 and above. Their programme of study shows that majority (83.8%) were masters students while 16.2% were Ph.D. students.

Research Question 1: What is the extent of relationship between socio-economic status of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century?

Table 2: Mean Responses of Post-Graduate Students on the Extent of Relationship between Socio-economic Status of Students and their Academic Performance in Online Learning

S. No.	Items	VHE F	HE F	LE F	VLE F	Mean	SD	Decisions
1	Working class students have more materials for online learning which has a relationship with their academic performance	114 (456)	102 (306)	83 (166)	16 (16)	3.00	0.91	HE
2	Students who live in urban communities are more exposed to online learning which has a relationship with their academic performance	98 (392)	104 (312)	101 (202)	12 (12)	2.91	0.88	HE
3	Income earners have the gadgets used for online learning and it has a relationship with their academic performance	111 (444)	93 (279)	96 (192)	15 (15)	2.95	0.92	HE
4	Students who earn income always attend online class which has a relationship with their academic performance	155 (620)	95 (285)	61 (122)	4 (4)	3.27	0.81	HE
5	Students who do not have any source of income finds online learning uninteresting which has a relationship with their academic performance	143 (572)	108 (324)	57 (114)	7 (7)	3.23	0.82	HE
	Grand Mean/SD					3.07	0.87	HE

Table 2 showed the analysis of the responses of post-graduate students on the extent of relationship between socio-economic status of students and their academic performance in online learning. Items stated in the table have the means of 3.00, 2.91, 2.95, 3.27 and 3.23 respectively which were within the mean value of 2.50-3.49 which was rated as high extent. The grand mean of 3.07 obtained from the items stated in the table above means that there is a high extent of relationship between socio-economic status of students and their academic performance in online learning.

Research Question 2: What is the extent of relationship between the age of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century?

Table 3: Mean Responses of Post-Graduate Students on the Extent of Relationship between Age of Students' and their Academic Performance in Online Learning

S. No	Items	VHE F	HE F	LE F	VLE F	Mean	SD	Decisions
6	Older students find it difficult to use online learning gadgets which has a relationship with their academic performance	186 (744)	82 (246)	37 (74)	10 (10)	3.41	0.82	HE
7	Younger students find online learning interesting which has a relationship with their academic performance	176 (704)	119 (357)	15 (30)	5 (5)	3.48	0.66	HE
8	Younger students attend online classes more than their older colleagues which has a relationship with their academic performance	181 (724)	102 (306)	19 (38)	13 (13)	3.43	0.78	HE
9	Younger students spend more time using computers which makes them more competent in its usage than their older colleagues and has a relationship with their academic performance	167 (668)	101 (303)	23 (46)	24 (24)	3.30	0.91	HE
10	Older students prefer face to face learning to online learning which has a relationship with their academic performance	165 (660)	111 (333)	29 (58)	10 (10)	3.37	0.78	HE
	Grand Mean/SD					3.40	0.79	HE

Table 3 showed the analysis of the responses of post-graduate students on the extent of relationship between age of students and their academic performance in online learning. Items stated in the table have the means of 3.41, 3.48, 3.43, 3.30 and 3.37 respectively which were within the mean value of 2.50-3.49 which was rated as a high extent. The grand mean of 3.40 obtained from the items stated in the table above means that there is a high extent of relationship between age of students and their academic performance in online learning.

Hypotheses Testing
Hypothesis 1: There is no significant relationship between the extent of socio-economic status of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century.

Table 4: PPMC Analysis of the Responses of the Extent of Relationship between Socio-economic Status of Students and their Academic Performance

Variables	N	Σx Σy	Σx² Σy²	Σxy	DF	LS	r-cal	r-crit	Decision
Socio-economic status	315	4830	79486	38680	313	0.05	1.82	0.113	
									Rejected
Academic performance	315	1528	20304						

Result in Table 4 shows that the calculated r-value of 1.82 is greater than the r-critical value of 0.113 for degree of freedom of 313 at 0.05 level of significance. Therefore, the null hypothesis was rejected which states that there is no significant relationship between the extent of socio-

economic status of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century.

Hypothesis 2: There is no significant relationship between the extent of age of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century.

Table 5: PPMC Analysis of the Responses of the Extent of Relationship between Age of Students and Academic Performance

Variables	N	Σx / Σy	Σx² / Σy²	Σxy	DF	LS	r-cal	r-crit	Decision
Age	315	5353	95605	48177	313	0.05	0.30	0.113	
									Rejected
Academic performance	315	2520	89303						

Result in Table 5 shows that the calculated r-value of 0.30 is greater than the r-critical value of 0.113 for degree of freedom of 313 at 0.05 level of significance. Therefore, the null hypothesis was rejected which states that there is no significant relationship between the extent of age of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century.

Discussion of Findings
The result on the extent of relationship between the socio-economic status of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century showed that the respondents to a high extent agreed to all the questionnaire items (1-5) with a grand mean score of 3.07 which was in the mean range of 2.50-3.49. This result indicates that majority of the respondents opined that there is a high extent of relationship between socio-economic status of students and their academic performance in online learning in the 21st century. From the analyzed table, it was revealed that working class students have more materials for online learning which has a relationship with their academic performance. Furthermore, students who do not have any source of income finds online learning uninteresting which has a relationship with their academic performance. The corresponding hypothesis 1 revealed that there is a high positive significant relationship between the extent of socio-economic status of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century with r-calculated value of 1.82 which is greater than the r-critical value of 0.113 at 0.05 level of significance. The finding is in line with the findings of Uwaifo (2018) [15] which revealed significant difference between the academic performance of students from rich families and those from poor families' structure. Also, in line with the finding of this study is the finding of Escarse (2013) [8] that students from affluent families perform better than low-income earners.
The finding on research question 2 revealed that there is a high extent of relationship between age of students and their academic performance with a grand mean value of 3.40. The analyzed table reveals that older students find it difficult to use online learning gadgets which has a relationship with their academic performance. Furthermore, younger students find online learning interesting which has a relationship with their academic performance. The corresponding hypothesis 2 revealed that there is a low positive significant relationship

between the extent of age of students in selected Faculties in Rivers State University and their academic performance in online learning in the 21st century with r-calculated value of 0.30 which is greater than the r-critical value of 0.113 at 0.05 level of significance. The finding is in line with the findings of Grissom (2014) [9] that there is a relationship between age and achievement which remains constant over time. The finding is also in agreement with the findings of John, Jackson and Catherine (2015) [11] which revealed that, there is a positive relationship between the students' academic performance and students' age.

Conclusion
Findings from this study revealed that there is a high extent of relationship between socio-economic status and age of students and their academic performance in online learning in selected Faculties in Rivers State University in the 21st century. The null hypotheses formulated for the extent of relationship between socio-economic status and age of students and their academic performance in online learning in the 21st century rejected no significant relationship between the variables.

Recommendations
Based on the result of the study, the following recommendations were made:
1. Government should provide free supply of internet to schools in order to give all students equal opportunity to internet usage.
2. Age is no barrier to technological gadgets usage, older students should not see age as a hindrance to being competent in gadgets usage.

References
1. Al-Mutairi A. Factors affecting business students' performance in Arab open university: The case of Kuwait. International Journal of Business and Management. 2011; 6(5):146-156.
2. Amin R, Li K. Should the graduate mathematics courses be offered online? Journal of Mathematics and Technology. 2010; 4(1). Retrieved from: http://uwf.edu/cutla/publications
3. Ary E, Brune C. A comparison of student learning outcomes in traditional and online personal finance courses. Journal of Online Learning and Teaching. 2011; 7(4). Retrieved from: http://jolt.merlot.org/vol7no4/brune_1211.pdf
4. Coleman J, Campbell E, Hobson C, McParland J, Mood A, Weinfield F, York R. Equality of educational opportunity. Washington, D.C: U.S. Government Printing Office, 2014.
5. Daymont T, Blau G. Student performance in online and traditional sections of an undergraduate management course. Journal of Behavioral & Applied Management. 2011; 9(3):275-294. Retrieved from: http://www.ibam.com/pubs/jbam/articles/vol9/no3/jbam_9_3_3.pdf
6. Doo HL, Morris ML. Learner and instructional factors influencing Learning outcomes within a blended learning environment. Journal of Educational Technology and Society. 2010; 12(4):282-293.
7. Duncan G, Brooks-Gunn P, Klebanov. Economic deprivation and early childhood development. Child Development. 2015; 65(2):296-318.

8. Escarce JJ. Socio-economic status and the fates of adolescents. Educational Research Journal. 2013; 2(2):106-113.
9. Grissom JB. Age and achievement. Education policy analysis archives. 2014; 12(49). Retrieved July 17, 2010 from: http://epaa.asu.edu/epaa/v12n49/
10. Hill NE. The relationship between family environment and parenting style: A preliminary study of African American families. Journal of Black Psychology. 2014; 21(4):408-423.
11. John MM, Jackson T, Catherine S. Effect of students' age on academic motivation and academic performance among high school students in Kenya. Asian Journal of Education and E-learning. 2015; 3(5):2321-2454.
12. Obanya P. Thinking and Talking Education. Ibadan: Evans Brothers Nigeria Limited, 2016.
13. UNESCO. United Nations educational, scientific and cultural organization, COVID19 educational disruption and response. UNESCO. Paris, France, 2020.
14. UNESCO News. Universities tackle the impact of COVID-19 on disadvantaged students, 2019. Retrieved from: https://en.unesco.org/news/universities tackle-impact-covid-19-disavantaged students.
15. Uwaifo VO. The effects of family structure and parenthood on the academic performance of Nigerian University students. Stud Home Comm Sci. 2018; 2(2):121-124.