International Journal of Education, Learning and Development
Vol.8, No.3, pp.94-110, March, 2020
Published by ***ECRTD-UK***
Print ISSN: 2054-6297(Print), Online ISSN: 2054-6300(Online)

READINESS OF UNDERGRADUATE STUDENTS FOR DISTRIBUTED LEARNING IN SELECTED HIGHER EDUCATIONAL INSTITUTIONS IN SOUTHERN NIGERIA

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ABSTRACT: *The study investigated the level of readiness of undergraduate students for Distributed Learning. Descriptive survey method of the cross-sectional research design was used for the study. A stratified random sampling technique was used to select the sample of 600 from the population of 39,316 undergraduate students of the University of Port Harcourt and the Port Harcourt study center of the National Open University of Nigeria. A self-assessment instrument, Distributed learning Readiness Instrument (DLRI), developed by the researcher was used to collect data from the sample. The reliability of the instrument was determined through the test-retest method and a reliability coefficient of 0.77 was obtained. Three experts in the field of Educational Technology and two in Measurement and Evaluation confirmed the face and content validity of the instrument. Six research questions were answered using mean and standard deviation while six hypotheses were tested with t-test and one-way ANOVA at 0.05significance level. The results showed that Distance and Part-time students had higher level of readiness than Full-time and Sandwich students. Also, there were significant differences found on modes of study, gender, age and course of study. The conclusion is that there is inequity in the readiness of students for e-Learning. The use of readiness assessment, orientation programmes, effective learner support were recommended*.
KEYWORDS: distributed learning, readiness, study skills, self-directed learning, self-efficacy, motivation, communication skills, computer skills, internet skills.

INTRODUCTION

In Nigeria, the higher education sector is facing some challenges including but not limited to, lack of infrastructure, qualified personnel and funding (Ogom, 2007). The facilities in the higher educational institutions are grossly inadequate and quite limited. Therefore, these institutions are no longer able to meet the increasing demand and quest for access to higher education. As a result, innovative instructional approaches like Open and Distance Learning (ODL) especially Distributed Learning is urgently required to significantly increase access to higher education.

The demand for higher education in Nigeria is growing by the day causing the demand to be far more than the supply. For example, in 2012 alone the number of candidates that sought for admission into the available higher educational institutions (HEIs) in Nigeria was about 1.5 million (Adesulu, 2014; Asomba, 2014; JAMB, 2016). The following year, 2013, the number rose to 1.7 million candidates (Ogundele, 2013; Adesulu, 2014; JAMB, 2019). Of this number, only about 30 percent were able to secure admission into the nation's higher education institutions (Adesulu, 2014; JAMB, 2019). In 2019, about 1.8 million candidates sat for the

Unified Tertiary Matriculation Examination seeking admission into the available tertiary institutions which have a carrying capacity of about 500,000 (Ewuzie, 2019; TVCNews, 2019).

The government is beginning to adopt the distance education approach in order to increase access to higher education by granting approvals to new and existing institutions to offer distance learning programmes. At present, the government of Nigeria has approved eight dual mode institutions to deliver distance learning programmes in addition to their traditional campus programmes with the National Open University of Nigeria (NOUN) as the only Unimode University in the country (Ramon-Yusuf, 2011; NUC, 2016). Distance education is experiencing a tremendous growth in recent times all over the world as tertiary institutions are beginning to explore the distance learning option (Ashby, 2002; Brain Track, 2015; Hanover Research, 2011; Lokken & Mullins, 2014; Nigerian Tribune, 2014; Radford, 2011; Schneller and Holmberg, 2014).

Wikipedia (2019) defines Distributed learning as "an instructional model that allows instructor, students, and content to be located in different, noncentralized locations so that instruction and learning can occur independent of time and place". This model provides opportunity to those who have challenge of time due to either their work or family engagement to have access to quality educational programmes. The school has been brought to the learner to meet him or her at his place of comfort and convenience (UNICEF, 2009). The school is the one going to the learner not the learner going to school. Open and Distributed learning bridges the various elements of education and tries to eliminate the barriers to education (UNISA, 2008). Open and Distributed learning involves the separation of the learner/student from the teacher/instructor in time and space and the flexibility in terms of access, curriculum and delivery systems (UNESCO, 2002).

To succeed in this alternative educational approach referred to as distributed learning or Open and Distributed learning, all stakeholders in the education system need to show some level of readiness to engage in the process. The learner specifically, which is the focus of this study, will need to show a reasonable level of readiness to benefit from the Open and Distributed learning process (Iderima, 2019).

Readiness for learning is a holistic way of looking at the learners' preparedness to learn (UNICEF, 2012). According to Lutz and Huitt (2004), for a student to learn, the student must be ready for those experiences that can lead to that learning. Readiness of students for learning is largely determined by two factors: the stage of development and the student's level of expertise. Each of these factors is strongly supported by one of the two contending sets of theorists: the Stage theorists and the Interaction theorists. The major difference between the stage and the interaction theories is in the factors that they believe determine readiness. The Stage theories (including Piaget theory of cognitive development) attribute readiness to the age or biological development of the student while the interaction theories (such as Vygotsky's Social Development Theory) attribute it to exposure of the student through the interaction with the environment. (Driscoll, 2000 cited in Lutz & Huitt, 2004).

The readiness of learners for distributed learning involves several variables because it is multidimensional (Hung, Chou, Chen and Own, 2010; Kirmizi, 2015; Kpolovie and Iderima, 2016; Mattice and Dixon, 1999; Watkins, Leigh and Triner, 2004). In this study, the researcher considered the following dimensions of readiness: study skills, self-direction, e-learning self-

efficacy, motivation, communication skills, computer skills, Internet skills and access to ICT facilities.

The literature on student readiness for e-learning shows paucity of research studies that investigated the influence of mode of study on the readiness of students for e-learning. Most of the studies on student readiness for e-learning focus on learner demographic characteristics such as age, income level and psychological characteristics such as self-efficacy and motivation (Agar, 2010; Hung, Chou, Chen and Own, 2010; Gay, 2018; Poellhuber, Roy and Anderson, 2011). None of the literature available to the researcher shows studies that considered the role of mode of study on the readiness of students for e-learning. Also, most of the studies on the readiness of students for e-learning use three, four or five factors to investigate the level of readiness of learners, none of the studies available to the researcher has actually used up to eight factors to investigate readiness. It is against this background that the researcher decided to embark on this study.

Research Questions

1. What is the level of readiness of undergraduate students for distributed learning based on their mode of study?
2. What difference exists in the level of readiness of male and female undergraduate students for distributed learning?
3. Do undergraduate students differ in their state of readiness for distributed learning with respect to their age?
4. Is there a difference in the level of readiness of undergraduate students for distributed learning based on their level of study?
5. Are there any differences in the level of readiness of undergraduate students for distributed learning based on their course of study?
6. How would undergraduate students with different employment status differ in their level of readiness for distributed learning?

Hypotheses

1. There is no significant difference in the readiness of students for distributed learning based on their mode of study.
2. Male and female undergraduate students will not differ significantly in their level of readiness for distributed learning.
3. The level of readiness of undergraduate students for distributed learning will not differ significantly based on their age.
4. Undergraduate students' readiness for distributed learning will not differ significantly based on their level of study.
5. The level of readiness of undergraduate students with different course of study will not differ significantly based for distributed learning.
6. There is no significant difference in the readiness of students for distributed learning based on their employment status.

METHOD

The study adopted a cross-sectional survey research design using the descriptive survey method. A descriptive survey research is that in which the researcher collects data from a large

sample drawn from a given population and describes certain features of the sample which are of interest to the researcher (Gu and Warren, 2016; Kpolovie, 2010; Osaat, 2009). A stratified random sampling technique was used to draw the sample of 600 undergraduate students from the population of 39,316 undergraduate students of the Port Harcourt study center of the National Open University of Nigeria (NOUN) and those of the University of Port Harcourt for the 2017/18 academic session. The strata include the Full-Time, Part-Time, Sandwich and Distance students of the institutions.

The research instrument for this study was a 32 - item questionnaire. This instrument – a Distributed Learning Readiness Instrument (DLRI) - was developed by the researcher for the purpose of collecting data for the study. The instrument was divided into two parts, I and II. Part I constituted items for demographic data while part II contained items relating to the readiness factors. The Part II has eight sections of four items each. The eight sections of part II of the instrument was designed to address the following factors of readiness: Study skills, Self-direction, e-learning self-efficacy, motivation, communication skills, computer skills, Internet skills and access to ICT facilities. This instrument was of the modified four-point Likert type variety which range from highest to lowest and was represented as follows: Strongly Agree (SA) - 4, Agree (A) - 3, Disagree (D) - 2 and Strongly Disagree (SD) – 1.

Face and content validity of the instrument were determined by three experts in the field of Educational Technology and two experts in the field of Measurement and Evaluation. The reliability of the instrument was determined through test-retest method for a measure of its stability. The same sample was determined using the matriculation numbers of the students. The initial and the re-test scores of the sample were correlated using Pearson Product moment. The stability coefficients of the various sections of the instrument were obtained as follows: Section one – 0.80, Section two – 0.81, Section three – 0.76, Section four – 0.75, Section five 0.74, Section six – 0.76, Section seven – 0.76 and Section eight – 0.77. The instrument therefore, has an average stability coefficient of 0.77. The coefficient value is high enough to guarantee the use of the instrument.

RESULTS

Research Question 1: What is the level of readiness of undergraduate students for distributed learning based on their mode of study? Data for answering this research question were derived from responses to item six (mode of study) of part I of the instrument and the responses to all the items in part II of the instrument. The data were subjected to mean and standard deviation statistics and the results are presented in table 1 below.

Table 1: Mean and Standard deviation of the level of readiness of undergraduate students for distributed learning based on their mode of study

Mode of Study	N	MEAN	SD	Level
FULL-TIME	250	3.0	0.382	Moderate
PART-TIME	150	3.18	0.405	High
SANDWICH	100	2.88	0.410	Moderate
DISTANCE	100	3.21	0.405	High
ALL	600	3.1	0.411	High

Table 1 shows the mean scores and standard deviation of the level of readiness of undergraduate students for e-learning with respect to the different modes of study. This results show that the Distance students have the highest mean score of 3.21 while Sandwich students have the lowest mean score of 2.88. Also, the result shows that generally, the students have a mean score of 3.1 indicating high level of readiness. The Part-time students have a slightly higher mean score of 3.18 than the Full-time students who have a mean score of 3.0.

Hypothesis 1: There is no significant difference in the level of readiness of students for distributed learning based on their mode of study.

Data for answering this hypothesis were derived from responses to item six of part I of the instrument (Mode of study) and the responses to all the items in part II of the instrument. The data were subjected to One-way ANOVA and Scheffe's post hoc statistics analysis. The results are presented in table 2a and 2b below.

Table 2a: One-way ANOVA analysis of the level of readiness of students for distributed learning based on their mode of study

Source of Variation	Sum of Squares	df	Mean Square	F	P-value	Remark
Between Groups	7.205	3	2.402	15.265	0.000	Significant
Within Groups	93.771	596	0.157			
Total	100.976	599				

Table 2a shows the One-way ANOVA analysis of the level of readiness of students for distributed learning based on their mode of study. The result shows that F = 15.265 and p value = 0.000. The value of P (0.000) is less than the value of alpha (0.05) which means that the difference is statistically significant. That is, there is a significant difference in the level of readiness of undergraduate students with respect to their mode of study.

Table 2b: Scheffe's post hoc analysis of the level of readiness of students for distributed learning based on their mode of study

(I) MODEOF STUDY	**(J) MODEOFSTUDY**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**
FULL-TIME	PART-TIME	-.11767*	.04097	.042
	SANDWICH	.18525*	.04693	.002
	DISTANCE	-.14100*	.04693	.030
PART-TIME	FULL-TIME	.11767*	.04097	.042
	SANDWICH	.30292*	.05121	.000
	DISTANCE	-.02333	.05121	.976
SANDWICH	FULL-TIME	-.18525*	.04693	.002
	PART-TIME	-.30292*	.05121	.000
	DISTANCE	-.32625*	.05610	.000
DISTANCE	FULL-TIME	.14100*	.04693	.030
	PART-TIME	.02333	.05121	.976
	SANDWICH	.32625*	.05610	.000

*. The mean difference is significant at the 0.05 level.

In Table 2b, the Scheffe's post hoc analysis result showed that significant differences in the levels of readiness were detected among all the modes of study. That is, Distance and Part-time students have significantly higher readiness than Full-time students, who have significantly higher readiness than the Sandwich students.

Research Question 2: What difference exists in the level of readiness of male and female undergraduate students for distributed learning?

The data for answering this research question were derived from responses to item one (Gender) of part I of the instrument and the responses to all the items in part II of the instrument. The data were subjected to mean and standard deviation statistics and the results are presented in table 3 below.

Table 3: Mean and Standard deviation of the level of readiness of undergraduate students for distributed learning based on their gender

Gender	N	MEAN	SD	Level
Male	243	3.14	0.39	High
Female	357	3.0	0.42	Moderate

Table 3 shows the mean scores and standard deviations of the level of readiness of male and female undergraduate students for distributed learning. The results show that the male undergraduate students have a mean score of 3.14 and a Standard Deviation of 0.39, while the female undergraduate students have a mean score of 3.0 and a Standard Deviation of 0.42. The mean score of the male students is slightly higher than that of the female students. The male students have a high level of readiness while the female students have a moderate level of readiness for distributed Learning.

Hypothesis 2: Male and female undergraduate students will not differ significantly in their level of readiness for distributed learning.
Data for answering this hypothesis were derived from responses to item one of part I of the instrument (Gender) and the responses to all the items in part II of the instrument. The data were subjected to t-test statistics analysis and the results are presented in table 4 below.

Table 4: t-test analysis of the level of readiness of Male and female students for distributed learning

GENDER	MEAN	T	Df	Sig. (2- tailed)	REMARK
MALE	3.14	2.434	598	0.015	Significance
FEMALE	3.0				

Table 4 shows the results of t-test analysis of the level of readiness of Male and female students for distributed learning. The result shows that the t value is 2.434 with a df of 598 and p value is 0.015. The P value of 0.015 is less than the alpha of value 0.05 implying that the difference in the mean scores of male and female students is statistically significant.

Research Question 3: Do undergraduate students differ in their state of readiness for distributed learning with respect to their age?

In answering this research question, data were taken from the responses to item five of part I of the instrument (Age) and the responses to all the items in part II of the instrument. The data were subjected to mean and standard deviation statistics and the results are presented in table 5.

Table 5: Mean and Standard deviation of the level of readiness of undergraduate students for distributed learning with respect to their age

AGE	N	MEAN	SD	Level
15-20	61	3.00	0.37	Moderate
21-25	194	3.14	0.36	High
26-30	172	3.10	0.44	High
31-35	93	3.10	0.49	High
36-40	51	2.94	0.38	Moderate
ABOVE 40	29	2.99	0.39	Moderate

Table 5 shows the mean scores and standard deviation of the level of readiness of undergraduate students for distributed learning with respect to their age. These results show that the students within the age bracket of 21 to 25 years have the highest mean score of 3.14 while the lowest mean score goes to students within the age bracket 36 to 40 years. The results show that the undergraduate students within the age bracket of 15 to 20 years have a mean score of 3.0 and standard deviation of 0.37. The undergraduate students within the age bracket of 21 to 25 years have a mean score of 3.14 and standard deviation of 0.36. The undergraduate students within the age bracket of 26 to 30 years have a mean score of 3.10 and standard deviation of 0.44. The undergraduate students within the age bracket of 31 to 35 years have a mean score of 3.10 and standard deviation of 0.49.

Hypothesis 3: The level of readiness of undergraduate students for distributed learning will not differ significantly based on their age.

Data for answering this hypothesis were derived from responses to item five of part I of the instrument (Age) and the responses to all the items in part II of the instrument. The data were subjected to One-way ANOVA and Bonferroni post hoc statistics analysis. The results are presented in table 6a and 6b below

Table 6a: One-way ANOVA analysis of the level of readiness of students for distributed learning based on their age

Source of Variation	Sum of Squares	Df	Mean Square	F	P	Remark
Between Groups	2.027	5	0.405	2.434	0.034	Significant
Within Groups	98.949	594	0.167			
Total	100.976	599				

Table 6a shows the results of the One-way ANOVA analysis of the level of readiness for distributed learning based on their age. The results show that the F value is 2.434 and p value is 0.034. The P value of 0.034 is less than the alpha of value 0.05 implying that the difference in the mean scores of undergraduate students based on their age is statistically significant.

Table 6b: Bonferroni post hoc analysis of the level of readiness of students for distributed learning based on their age

(I) AGE	**(J) AGE**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**
	21-25	-.07900	.05991	1.000
	26-30	-.03408	.06082	1.000
15-20	31-35	-.04039	.06725	1.000
	36-40	.12335	.07744	1.000
	ABOVE 40	.07133	.09206	1.000
	15-20	.07900	.05991	1.000
	26-30	.04493	.04275	1.000
21-25	31-35	.03861	.05148	1.000
	36-40	.20235*	.06423	.026
	ABOVE 40	.15033	.08126	.972
	15-20	.03408	.06082	1.000
	21-25	-.04493	.04275	1.000
26-30	31-35	-.00631	.05253	1.000
	36-40	.15743	.06508	.238
	ABOVE 40	.10541	.08193	1.000
	15-20	.04039	.06725	1.000
	21-25	-.03861	.05148	1.000
31-35	26-30	.00631	.05253	1.000
	36-40	.16374	.07112	.325
	ABOVE 40	.11172	.08681	1.000
	15-20	-.12335	.07744	1.000
	21-25	-.20235*	.06423	.026
36-40	26-30	-.15743	.06508	.238
	31-35	-.16374	.07112	.325
	ABOVE 40	-.05202	.09492	1.000
	15-20	-.07133	.09206	1.000
	21-25	-.15033	.08126	.972
ABOVE 40	26-30	-.10541	.08193	1.000
	31-35	-.11172	.08681	1.000
	36-40	.05202	.09492	1.000

*. The mean difference is significant at the 0.05 level.

As shown in Table 6b, significant differences in the levels of readiness were detected between students within age 21-25 and students within age 36-40 with a p-value of 0.026 which is less than the alpha value of 0.05. This indicates that students within age 21-25 had significantly higher level of readiness than students within age 36-40.

Research Question 4: Is there a difference in the level of readiness of undergraduate students for distributed learning based on their level of study?

Data for answering this research question were derived from responses to item three of part I of the instrument (level of study) and the responses to all the items in part II of the instrument. The data were subjected to mean and standard deviation statistics and the results are presented in table 7 below.

Table 7: Mean and Standard deviation of the level of readiness of undergraduate students for distributed learning based on their level of study

LEVEL OF STUDY	N	MEAN	SD	Level
100	106	3.1	0.39	High
200	164	3.0	0.41	Moderate
300	154	3.0	0.45	Moderate
400	147	3.14	0.39	High
500	29	3.18	0.36	High

Table 7 shows the mean scores and standard deviation of the level of readiness of undergraduate students for distributed learning based on their level of study. The undergraduate students in their 500 level have the highest mean score of 3.18 while the students in 300level have the lowest mean score of 3.04. The table shows that the students in 100 level have a mean score of 3.10 and standard deviation of 0.39. The students in 200 level have a mean score of 3.0 and standard deviation of 0.41. The students in 300 level have a mean score of 3.0 and standard deviation of 0.45. The students in 400 level have a mean score of 3.14 and standard deviation of 0.39. The students in 500 level have a mean score of 3.18 and standard deviation of 0.36.

Hypothesis 4: Undergraduate students' readiness for distributed learning will not differ significantly based on their level of study.

Data for answering this hypothesis were derived from responses to item three of part I of the instrument (level of study) and the responses to all the items in part II of the instrument. The data were subjected to One-way ANOVA statistics analysis. The results are presented in table 8 below.

Table 8: One-way ANOVA analysis of the level of readiness of students for distributed learning based on their level of study

Source of Variation	Sum of Squares	Df	Mean Square	F	P	Remark
Between Groups	1.23	4	0.307	1.831	0.121	Not Significant
Within Groups	99.75	595	0.168			
Total	100.976	599				

Table 8 shows the results of the One-way ANOVA analysis of the level of readiness for distributed learning based on their level of study. The results show that the F value is 1.831 and p value is 0.121. The P value of 0.121 is greater than the alpha of value 0.05. Since the P value (0.121) is greater than the alpha value (0.05) then the difference in the mean scores of the undergraduate students based on their level of study is not statistically significant.

Research Question 5: Are there any differences in the level of readiness of undergraduate students for distributed learning based on their course of study?

Data for answering this research question were derived from responses to item two of part I of the instrument (Course of study) and the responses to all the items in part II of the instrument. The data were subjected to mean and standard deviation statistics and the results are presented in table 9 below.

Table 9: Mean and Standard deviation of the level of readiness of undergraduate students for distributed learning based on their course of study

COURSE OF STUDY	N	MEAN	SD	Level
Science and Engineering	99	3.21	0.36	High
Humanities and Law	71	3.0	0.38	Moderate
Social and Management sciences	263	3.14	0.43	High
Education	167	2.96	0.39	Moderate

Table 9 shows the mean scores and standard deviation of the level of readiness of undergraduate students for distributed learning based on their course of study. The result shows that Science and Engineering students have a mean score of 3.21 and standard deviation of 0.3593. The undergraduate students of Humanities and Law have a mean score of 3.0 and standard deviation of 0.3844. The undergraduate students of Social sciences and Management sciences have a mean score of 3.14 and standard deviation of 0.4259. Also, the undergraduate students of Education have a mean score of 2.96 and standard deviation of 0.4259. The result shows that the students of Science and Engineering have the highest mean score of 3.21 while the students of Education have the lowest mean score of 2.96.

Hypothesis 5: The level of readiness of undergraduate students with different course of study will not differ significantly based for e-learning.

Data for answering this hypothesis were derived from responses to item two of part I of the instrument (Course of study) and the responses to all the items in part II of the instrument. The data were subjected to One-way ANOVA and Scheffe's post hoc statistics analysis. The results are presented in table 10a and 10b below

Table 10a: One-way ANOVA analysis of the level of readiness of students for distributed learning based on their course of study

Source of Variation	Sum of Squares	Df	Mean Square	F	P-value	Remark
Between Groups	5.078	3	1.693	10.52	0.000	Significant
Within Groups	95.898	596	0.161			
Total	100.976	599				

Table 10a shows the results of the One-way ANOVA analysis of the level of readiness for distributed learning based on their course of study. The results show that the F value is 10.52 and p value is 0.000. The P value of 0.000 is less than the alpha of value 0.05 implying that the difference in the mean scores of undergraduate students based on their course of study is statistically significant.

Table 10b: Scheffe post hoc analysis of the level of readiness of students for distributed learning based on their course of study

(I) COURSE	(J) COURSE	Mean Difference (I-J)	Std. Error	Sig.
Science and Engineering	Humanities and Law	.19338*	.06238	.023
	Social and Management sciences	.07437	.04730	.481
	Education	.24797*	.05088	.000
Humanities and Law	Science and Engineering	-.19338*	.06238	.023
	Social and Management sciences	-.11900	.05365	.179
	Education	.05459	.05683	.820
Social and Management sciences	Science and Engineering	-.07437	.04730	.481
	Humanities and Law	.11900	.05365	.179
	Education	.17359*	.03969	.000
Education	Science and Engineering	-.24797*	.05088	.000
	Humanities and Law	-.05459	.05683	.820
	Social and Management sciences	-.17359*	.03969	.000

*. The mean difference is significant at the 0.05 level.

As shown in Table 10b, significant differences in the levels of readiness were detected between students in Science and Engineering and students in Humanities and Law and students in Education with p-values of 0.023 and 0.00 which are less than the alpha value of 0.05. Also, significant differences in the levels of readiness were noticed between students in Social and Management sciences and students in Education. This indicates that students in Science and Engineering had significantly higher level of readiness than students in Humanities and Law and in Education. Also, students in Social and Management sciences have significantly higher level of readiness than students in Education.

Research Question 6: How would undergraduate students with different employment status differ in their level of readiness for distributed learning?

Data for answering this research question were derived from responses to item four of part I of the instrument (Employment status) and the responses to all the items in part II of the instrument. The data were subjected to mean and standard deviation statistics and the results are presented in table 11 and below.

Table 12: Mean and Standard deviation of the level of readiness of undergraduate students for distributed learning with respect their employment status

EMPLOYMENT STATUS	N	Mean	SD	Level
Employed	184	3.0	0.415	Moderate
Self-employed	147	3.14	0.421	High
Unemployed	269	3.0	0.401	Moderate

Table 11 shows the mean scores and standard deviation of the level of readiness of undergraduate students for distributed learning with respect to their employment status. The table shows that the students who are employed have a mean score of 3.0 and standard deviation of 0.4145. The students who are self-employed have a mean score of 3.14 and standard deviation of 0.4214. The students who are unemployed have a mean score of 3.0 and standard deviation of 0.4007. The undergraduate students who are self-employed have the highest mean score of 3.14 while the students who are employed have the lowest mean score of 3.06.

Hypothesis 6: There is no significant difference in the readiness of students for distributed learning based on their employment status.

Data for answering this hypothesis were derived from responses to item four of part I of the instrument (Employment status) and the responses to all the items in part II of the instrument. The data were subjected to One-way ANOVA statistics analysis. The results are presented in table 12 below

Table 12: One-way ANOVA analysis of the level of readiness of students for distributed learning based on their employment status

Source of Variation	Sum of Squares	Df	Mean Square	F	P	Remark
Between Groups	0.573	2	0.287	1.705	0.183	Not
Within Groups	100.403	597	0.168			Significant
Total	100.976	599				

Table 12 shows the results of the One-way ANOVA analysis of the level of readiness for distributed learning based on their employment status. The results show that the F value is 1.705 and p value is 0.183. The P value of 0.183 is greater than the alpha of value 0.05. Since the P value (0.183) is greater than the alpha value (0.05) then the difference in the mean scores of the undergraduate students based on their employment is not statistically significant.

DISCUSSION OF FINDINGS

The result shows that there is a significant difference in the level of readiness of undergraduate students with different modes of study for distributed learning. The distance and part-time students have high level of readiness while the regular and sandwich students possess moderate level of readiness. The present result is in agreement with the findings of Mafenya (2013) and

Olanike (2013). However, the result of this study is inconsistent with the findings of some other research studies including Agar (2010), Badu-Nyarko and Botchway (2014) and Shaikh (2013). The result showing that the distance students and part-time students have a higher level of readiness than the regular and sandwich students is not surprising. The distance students are already exposed to the independent mode of study while the part-time students are predisposed to distance learning since they are workers.

The findings reveal that the male and female students differ in their levels of readiness. The mean score of the male students is slightly higher than the mean score of the female students but statistically significant. The findings of this study are consistent with the findings of previous studies of Ditimi and Ayanda (2013) and Poellhuber, Roy and Anderson (2011). On the other hand, the result of this study is inconsistent with the results of the studies of Agar (2010), Shaikh (2013) and Hung, Chou, Chen and Own (2010).

The students in the different age brackets exhibit different levels of readiness that are statistically significant. The result reveals that there is a significant difference in the level of readiness of students with respect to their age. The middle age students have a higher level of readiness the younger as well as the older students. The reason for this difference could be that the middle aged students have a better knowledge of technology and motivation to learn. This result corroborates the findings of Agar (2010) and Poellhuber, Roy and Anderson (2011). However, the result is inconsistent with the results of Cigdem and Yildirim (2014).

The findings show that the students in the different levels of study show different levels of readiness for distributed learning. The findings of this study corroborate the findings of Lau (2008) who examined the effects of Personal Characteristics on Learner Online Learning Readiness. However, the result of this study is in disagreement with the findings of Hung, Chou, Chen and Own (2010). The results clearly show that the fresh students and the final year students show high level of readiness while returning students have moderate level of readiness. In other words, the level of readiness is higher at the entry and the exit years in school. The reason for this could be that there is more enthusiasm on the part of the student when he is coming in and when he is going out of the school.

The result reveals that the students in the different courses of study have different levels of readiness for e-learning. This means that students in some disciplines show a higher level of readiness than others. Students in the fields of Science and Engineering, and Social and Management sciences have significantly higher level of readiness. This result corroborates the findings of some previous works like Agar (2010) and Cigdem and Yildirim (2014). However, the findings of this study are inconsistent with the study carried out by Kocak (2003).

Students with different employment status have different levels of readiness as shown in table 4.12. The findings of their study indicated that working students tend to have higher level of readiness toward online learning. The result of this study is in agreement with the findings of previous studies (Cigdem and Yildirim, 2014; Ibrahim, Silong and Samah, 2002).

CONCLUSION AND RECOMMENDATIONS

Generally, the undergraduate students have high level of readiness for e-learning. However, distance and part-time students possess higher level of readiness than regular and sandwich students. Mode of study plays a major role in determining the readiness of students for

distributed learning. Also, gender is a significant factor in the determination of the level of readiness of students for distributed learning. The male students have a higher level of readiness than the female students.

There is a significant difference in the level of readiness of students with respect to their age. Therefore, age has a significant influence in determining the level of readiness of students for distributed learning. However, level of study does not have a significant influence in determining the level of readiness of the student for distributed learning.

The results revealed that there is a significant difference in the mean scores of students in the different courses of study. Therefore, course of study is a determining factor of the level of readiness of students for distributed learning. However, employment status showed no significant influence in the readiness of students for distributed learning.

Based on the findings, it is recommended that distributed learning orientation programme should be organized for students before introducing the distributed learning mode of delivery especially to full-time and sandwich students. Also, effective learner support should be put in place while introducing distributed learning courses and programmes with special attention on the female and the elderly students.

Course developers should develop courseware based on the level of readiness of the students. Furthermore, Readiness assessment should be administered to students to determine their level of readiness before enrolling into distributed learning courses and programmes.

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