Preparing University Students in Nigeria for Global Citizenship through Virtual Learning

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Abstract

The study sought to find out the extent undergraduate students in Anambra State Universities in Nigeria possess the competencies for virtual learning and the extent they actually engage in virtual learning. The study which was a survey was guided by two research questions and two hypotheses. Stratified random sampling technique was used in selecting six hundred and forty (640) respondents from two universities. A 64-item questionnaire was used in collecting data which was analysed using mean and standard deviation. The major finding was that the students possessed virtual learning competencies but engaged in virtual learning to a low extent. The implication of low engagement in virtual learning is that it limits the global participation of these students resulting to their lagging behind other students in the international arena.

Keywords: Global citizenship; virtual learning; competencies; engagement; method; results

1. Introduction

The world is becoming increasingly interconnected and this necessitates a shift in educational endeavours from knowledge absorption to knowledge utilization and generation. The goal of education has shifted from mere preparation of learners for effective life in the local environment to include preparation for life in a fast changing world that technology has transformed into a global village. This technology- borne globalization necessitates a re-examination of the extent that learners are prepared for life in a globalized context. There is need to move the beacon from preparation for country-specific citizenship to that of global citizenship. However, unlike country-specific

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citizenship, global citizenship is not about geographical location but a way of approaching what we do and how we relate to people. It does not in any way imply lack of allegiance to a person's country. Rather it involves understanding and contributing to global events as well as using ideas from global events to improve life activities in the physical country or community. This paper presents the result of a study in which the researchers assessed the extent undergraduate students in universities in Anambra State, Nigeria are being prepared for global citizenship through virtual learning. The report starts with that of the literature review and then describes the method of study and the results. Then based on the results, the readiness of the respondents to be prepared for global citizenship through virtual learning is discussed.

2. Purpose of the study

The purpose of this study was to determine the status of virtual learning among university students in Anambra State of Nigeria. Specifically, the study was designed to ascertain the virtual learning competencies possessed by university students in Nigeria relative to gender and the extent the male and female students engaged in virtual learning.

3. Research questions and hypotheses

The study was guided by the following research questions and hypotheses:

3.1. Research questions

1. To what extent do male and female students possess the competencies for virtual learning?
2. What is the extent of male and female students' engagement in virtual learning?

3.2. Hypotheses

HO1: There is no significant difference between the virtual learning competencies of male and female students.

HO2: There is no significant difference between male and female students' mean ratings of their engagement in virtual learning.

4. Review of the literature

Global citizenship is a relatively new concept, although Hower (2015, p.1) traced its origin back to 4th century Greece "when Diagenes declared himself a cosmopolitan, a citizen of the world". Over the years, more people started recognizing the fact that we all belong to a world community. This growing global identity results from developments in

information communication technologies (ICTs) and transportation technologies. These technologies are enhancing our ability to connect to people globally, participate in global economy, understand and demonstrate empathy to humanitarian disasters (Israel, 2013, p. 1). However, global identity has never been as pronounced as it did in this present age especially in December 2015 when 195 nations met at the United Nations Framework Convention on Climate Change (UNFCC, 2015) in Paris and adopted the famous agreement on climate change. While world leaders are reaching agreements on how to improve life for global citizens, it is necessary that citizens understand the roles to be played individually and collectively in the building of a world community. Article 11 of the Paris agreement (UNFCC, 2015 p.27) mentions "education, training and public awareness, and transparent, timely and accurate communication of information" among the necessary tools for enhancing the capacity and ability of developing country Parties. This reiterates the need to uphold the preparation for global citizenship as one of the goals of education in the present ICT-dominated age. Already, the United Nations summit that took place in New York from 25th to 27th September, 2015, presented global citizenship education (GCE) as target 4.7 in the document "Transforming our world: the 2030 Agenda for Sustainable Development". Also GCE is one of the key education objectives of UNESCO for the years 2014 to 2021.

In this regard, in the Global Education First Initiative, the United Nations makes Global Citizenship the number three priority and declares that:

> The world faces global challenges, which require global solutions. -----------. It is not enough for education to produce individuals who can read, write and count. Education must be transformative and bring shared values to life. It must cultivate an active care for the world and for those with whom we share it. Education must fully assume its central role in helping people forge more just, peaceful, tolerant and inclusive societies. It must give people the understanding, skills and values they need to cooperate in resolving the interconnected challenges of the 21st century (United Nations –UN, 2015 p.1).

In this declaration, the UN presents not only the need for global citizenship education but also elements of global citizenship curriculum. Global citizenship curriculum is not implemented in one school subject but cuts across the curriculum. It enriches and widens the dimensions of all school subjects (UNESCO, 2014). This is because global citizenship is "a way of living that recognizes that our world is an increasingly complex web of connections and interdependencies. One in which our choices and actions may have repercussions for people and communities locally, nationally or internationally" (IDEAS 2015, p.1). In another development, the UN Academic Impact Hub (2015, p1) presents global citizenship as "an umbrella term for the social, political, environmental, or economic actions of globally-minded individuals and communities on a worldwide scale." No matter the meaning attached to global citizenship, two of its characteristics are awareness and active involvement. This implies that the global person is aware of the

wider world, can address global issues, can work collaboratively with people from different cultural, social and religious backgrounds and can cope with unanticipated challenges in the world. Above all, a global citizen has not only a sense of belonging to a worldwide community but also a sense of responsibility to contribute values and practices to the global community, to respect cultural diversity and to understand how nations are interconnected and interdependent.

Israel (2014, p.2) opines that "A global citizen, living in an emerging world community, has moral, ethical, political, and economic responsibilities". There is need to prepare learners for this emerging world community through Global Citizenship Education (GCE) which is the type of Education that "acknowledges the role of education in moving beyond the development of knowledge and cognitive skills to build values, soft skills and attitudes among learners that can facilitate international cooperation and promote social transaction" (UNESCO, 2014, p. 9). GCE develops in learners knowledge, skills, values and attitudes they need to understand and contribute to the establishment of social and economic justice, as well as peace, inclusiveness, national and global harmony in the world. In fact, empowering learners with the knowledge, skills, values and attitude to engage and play active roles, locally and globally in resolving challenges and in contributing to a world that is not only just and peaceful but also "tolerant, inclusive, secure and sustainable", is the goal of GCE (UNESCO, 2014, p.15)

One of the means for empowering learners to engage and play active roles locally and globally is by equipping them with the ability to connect to people and events locally and globally. The most basic means of this interconnection is through the use of Information and Communication Technologies (ICTs). Apart from the provision of internet and other online facilities that promote global citizenship, ICTs provide innovative learning approaches such as virtual learning. These ICT-borne learning approaches are veritable gateways to global citizenship. They prepare learners to navigate the increasingly interconnected world.

Virtual learning, also known as digital learning or e-learning in its broadest sense, can be defined as learning acquired via any type of on-line media including the internet, intranets, extranets, satellite broadcasts, audio/video tapes, interactive TV and CD-ROM. It is the utilization of technological materials that support communication and co-operation of learners in the creation and exchange of knowledge, skills, competencies, values and projects (Boulton, 2013). It is computer-mediated technology based learning. While observing that mere use of computers at schools does not constitute virtual learning, Beek (2011, p.v) states that "virtual instruction is provided by teachers working remotely or by specially designed software – or both – and delivered to students through computers or the internet". In this regard, there are different forms of virtual learning and these include computer-based, internet-based, remote teacher online, blended learning and facilitated virtual learning (Beek, 2011). Virtual learning has also been

described as an enabling process, which is based on four components of: awareness, motivation, competence and student engagement (Virtual Learning Academy, 2010). Awareness is concerned with the knowledge and understanding of the meaning and benefits of virtual learning. Motivation refers to the drive and interest in using the technology in all kinds of learning and development. Competence refers to the knowledge, skills, abilities and behaviors required for effective virtual learning. It also involves the possession of virtual literacy to understand information technology (IT) messages. Students' engagements refer to the extent to which the students actually use or participate in virtual learning. As Kharbach (2013) notes, when these four elements are in place, one would expect a possibility for students' constructive participation in a technology-driven world. These elements empower people to participate in applying any new technology, designing new tools and having a meaningful role in society's development and consequently, they provide a base for investigating the status of virtual learning among students in universities.

In the present study, only two of these elements were instigated; namely: competence and students' engagement. The purpose was to determine the status of virtual learning among university students in Anambra State of Nigeria and based on the findings, to ascertain the extent these students are being prepared for global citizenship.

Nigeria is a country of 182,202 million people (United Nations, Department of Economic and Social Affairs, Population Division, 2015) and it is considered a major hub for commerce, culture and education in Africa. There are at least nine virtual learning initiatives at various stages of development being carried out by the education coordinating agencies of government and the Federal Ministry of Education (FME). Among these virtual learning initiatives are The Nigerian Universities Network (NUNeT) project; National Open University of Nigeria (NOUN) and National Virtual Library (Federal Ministry of Education 2007, p.5). The Nigerian Universities Network (NUNeT) project was embarked upon by the National Universities Commission with the aim to link all federal tertiary institutions in a countrywide electronic network. Besides the NUNeT, a good number of tertiary institutions have gone ahead (mostly with donor and non-governmental support) to try and achieve some form of interconnectivity and other ICT services in offices, libraries, research units and distance learning centers.

Universities in Anambra State are among the institutions that have registered domain names in Nigeria and each university has created some level of virtual environment. In fact, with the global explosion of ICT, many students in Universities in Anambra State have increased access to virtual technologies such as GSM, smart phones, internet facilities and laptops. Whether these students use the virtual technologies for learning has not been empirically established. All the universities in the South- East Zone of Nigeria have made ICT literacy compulsory for students, and have gone ahead to facilitate ICT possibilities by establishing ICT centers. Yet, many university students

appear not to reap the benefits of virtual learning to transform their knowledge and life-coping competencies. A visit to any cyber café in different university campuses and cities in Nigeria shows a good number of students making use of the Internet. There are no clearly defined answers as to whether these students have the competencies for making instructional use of the Internet. Do these students possess adequate competencies and manifest adequate engagement in virtual learning to the extent that one can infer their preparedness for global citizenship? This question presents the problem that motivated this study.

5. Method

This section presents the design of the study, sampling strategy and sample population, data collection and analysis as well as the limitations of the study.

5.1. Research design and area of study

A descriptive research design was adopted for the study which covered government-owned universities in Anambra State, Nigeria. Anambra State is one of the five States in the South-East geo-political zone of Nigeria. There are two government owned universities in Anambra State as at August 2012. One is owned by the Federal Government while the other one is owned by Anambra State Government. The universities are: Nnamdi Azikiwe University, (NAU) Awka and Odumegwu Ojukwu University (OOU) Igbariam, respectively.

5.2. Sampling

All the six thousand, six hundred and four (6,604) year three students in the two institutions constituted the population. Data collected from the student affairs unit of the two universities indicated that OOU had 1, 963 year three students while NAU had 4, 641. Stratified random sampling technique was used in selecting a sample of six hundred and forty (640) students from the two institutions. Students in the universities were stratified into Faculties. Then four faculties were picked from each institution (total = eight faculties). From each of the selected faculties four departments were randomly selected, making a total of 16 departments. From each of the selected departments, twenty year three students (10 males and 10 females) were selected through purposive sampling. That gave a total sample size of 640 students.

5.3. Data collection

The instrument used for data collection was a researcher-developed questionnaire titled- Students' Virtual Learning Competence and Engagement Questionnaire (SVLCEQ). The SVLCEQ had three sections. Section A comprised two open-ended

questions which sought information on the bio-data of the respondents. Sections B and C sought information on competencies and engagement respectively and they had a total of 29 items (11 items for competencies and 18 items for engagement). The 29 items were structured on a modified 4- point Likert scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE).

Instrument Validation and Reliability: The SVLCEQ was content validated by two lecturers, one from Curriculum Studies and the other one from Management and Policy. Based on their contributions, one item measuring competencies was restructured. For test of reliability, copies of the questionnaire were administered on twenty (20) year three students from Delta State University, Abraka. The collated scores were analysed using Cronbach alpha method. This yielded a reliability coefficient of 0.89 which was considered satisfactory for the study.

Method of Data Analysis: Data collected for the two research questions were analysed using mean and standard deviation. The ranges of scores were interpreted as follows: VHE was assigned 3.50 – 4.00, HE was 2.50 – 3.49, LE was 1.50 – 2.49 and VLE was 1.50 – 1.49. For decision making, mean ratings up to and above 2.50 were taken as Great Extent (GE) while mean ratings below 2.50 were taken as Low Extent (LE). The hypotheses were tested with t-test at 0.05 level of significance.

5.4. Limitations

One limitation of this study was the restriction of the sample to only third year students. Although the findings of this study may hold reasonably true for other students in different academic years that were not included in the study, the generalization of findings to these other students is not guaranteed.

6. Findings

Table 1. Mean Ratings of Male and Female Students' Virtual Learning Competencies.

	Items	Male Students			Female Students		
		X	Sd	RMKS	X	Sd	RMKS
1.	Ability to post comments, questions and answers on online discussion boards.	2.76	0.45	HE	2.77	0.45	HE
2.	Using online readings and links to the text-based course materials	3.08	0.35	HE	3.15	0.36	HE
3.	Ability to open and read documents in HTML, or PDF formats.	3.61	0.74	HE	3.64	0.69	HE
4.	Ability to turn in or submit assignments online with details	2.03	0.76	LE	1.86	0.69	LE
5.	Ability to log in to learning platforms, blogs and databases.	3.34	0.94	HE	3.50	0.86	HE

6.	Ability to chat on the internet	3.32	0.53	HE	3.38	0.54	HE
7.	Networking with others involved in online education.	1.34	0.47	LE	1.29	0.46	LE
8.	Ability to obtain access to websites that require subscription	1.18	0.45	LE	1.22	0.55	LE
9.	Ability to use e-portfolio to share learning experience and gain feedback.	1.35	0.48	LE	1.28	0.45	LE
10.	Ability to use the web log for games	3.52	0.54	HE	3.51	0.50	HE
11.	Ability to use search engines such as Google to find relevant learning materials.	3.64	0.50	HE	3.77	0.43	HE
	Average	2.65	0.56	HE	2.67	0.54	HE

Key: RMK=Remarks; HE= High Extent, LE = Low extent

In Table 1, only 4, 7, 8 and 9 were scored less than 2.50 by male and female students. With standard deviations within 0.45 and 0.76, the mean ratings for these items were close to one another. Hence, to a low extent, the respondents possessed virtual learning competencies stated in these 4 items. The remaining 7 items had mean ratings up to and above 2.50 with standard deviations ranging from 0.43 to 0.94. This suggests that to a great extent, male and female respondents possessed the seven virtual learning competencies. The average means for the students exceeded the cut-off point of 2.50. Hence, to a great extent, male and female students possessed virtual learning competencies.

Table 2. Mean Ratings of Male and Female Students' Engagement in Virtual Learning.

Items	Male Students			Female Students		
	X	Sd	RMKS	X	Sd	RMKS

1.	Completed online quizzes and essays?	1.73	0.94	LE	1.86	0.96	LE
2.	Searched for course information in virtual libraries?	2.10	1.01	LE	2.00	0.99	LE
3.	Posted academic content on social networks such as Facebook, LinkedIn, Twitter?	3.05	0.89	HE	3.01	0.97	HE
4.	Used the chat facility as a learning space (virtual classroom)?	2.26	1.09	LE	2.17	1.14	LE
5.	Navigated several web links to read course content?	2.97	1.15	HE	2.94	1.18	HE
6.	Watched an educational video online?	1.77	0.42	LE	1.69	0.46	LE
7.	Contributed to a wiki?	2.65	0.68	HE	2.55	0.74	HE
8.	Commented on a blog?	3.41	0.91	HE	3.47	0.88	HE
9.	Started a learning platform discussion?	1.04	0.19	LE	1.01	0.11	LE
10.	Sent coursework to a lecturer electronically?	1.25	0.48	LE	1.30	0.53	LE
11.	Accessed interactive white boards?	1.32	0.47	LE	1.32	0.50	LE
12.	Used internet worksheets to write laboratory reports or essays?.	1.55	0.51	LE	1.53	0.50	LE
13.	Heard lectures from cell-phones, mp3 or Podcasts?	1.48	0.83	LE	1.49	0.86	LE
14.	Chatted with a lecturer to clarify points made in class?	1.39	0.92	LE	1.56	1.09	LE
15.	Compared personal assignment with those of other students online?	1.43	0.50	LE	1.46	0.50	LE
16.	Taken a short online certificate course?	1.03	0.23	LE	1.05	0.27	LE
17.	Used cell-phones or Mp3 to listen to online lectures?	1.40	0.54	LE	1.56	0.60	LE
18.	Attempted assignments with instructions and guide from online learning platforms?	2.41	1.13	LE	2.31	1.13	LE
	Average	2.65	0.56	HE	2.67	0.54	HE

Key: RMK=Remarks; HE= High Extent, LE = Low extent

As shown in Table 2, only items 3, 5, 7 and 8 scored above 2.50 in the columns for both male and female students. This indicates that to a high extent, the respondents engaged in the various virtual learning activities stated in these 4 items. The standard deviation for these 4 items ranged from 0.68 to 1.19, thus showing that the mean ratings for these items were not quite close to one another. The remaining 14 items had mean ratings below 2.50 with dispersed standard deviations ranging from 0.11 to 1.18. This suggests that to a low extent, both male and female respondents did not engage in the seven virtual learning activities. The average mean for both male and female students was 1.90. This is less than the cut-off point of 2.50. Therefore male and female students engaged in virtual learning to a low extent.

Table 3. t-test Comparison of the Mean Ratings of Male and Female Students on their Virtual Learning Competencies.

Category of Respondents	N	x	SD	df	Cal. T	Critical t	P
Male	317	29.20	2.03				
				630	1.21	1.96	0.05
Female	315	29.39	1.97				

As presented in Table 3, the t-calculated of 1.21 is less than the critical-t of 1.96 at 630 degrees of freedom. The null hypothesis is therefore accepted. Hence, there is no significant difference between the mean ratings of male and female students on their virtual learning competencies.

Table 4. t-test Comparison of the Mean Ratings of Male and Female Students on their Engagement in Virtual Learning

Category of Respondents	N	x	SD	df	Cal. T	Critical t	P
Male	317	33.51	2.66				
				630	0.56	1.96	0.05
Female	315	33.62	2.48				

The analysis in Table 4 indicates that the t-calculated of 0.56 is less than the critical-t of 1.96 at 630 degrees of freedom. The null hypothesis is therefore accepted. Hence, there is no significant difference between the mean ratings of engagement of male and female students in virtual learning.

7. Discussion

The findings of this study indicate that to a great extent, male and female students possess many of the listed virtual learning competencies. Specifically, many of the students possess competencies for posting comments, questions and answers on online discussion boards, using online readings and links to the text-based course materials; opening and reading documents in HTML or PDF formats; logging in to learning platforms, blogs and databases and using internet chats. Many of the students also indicated that they could use the web log for games; utilize search engines such as Google to find relevant learning materials without assistance. This finding is encouraging and a pointer to the fact that the country is making progress in this ICT era. Six years ago, Olibie and Akudolu (2009), in their study which investigated the extent of digital empowerment of university students in South East Zone of Nigeria, reported that although the students were aware of the empowering potentials of digital technologies, that they were not making adequate use of virtual learning due to the lack of both technical access and competencies.

The present finding that the students possess virtual learning competencies matches the results of Egbo, Okoyeuzu, & Onwumere (2011) and Olasina (2012) who in their separate studies revealed that Nigerian university students have high competencies to use different technologies and e-learning competencies respectively. It is also found that there is no significant difference between male and female students' possession of virtual competencies. This finding of no significant difference in students' performance relative to gender is congruent with Ahmad (2012) who reports that many Nigerian students possess various e-learning competencies irrespective of their gender. This finding may be because in Nigeria, most university environments are bound up with the use of information and communication technologies. A majority of university students are surrounded by video games, iPods, mobile phones, and fast moving entertainment via TV and movies. The education system itself is becoming enriched with media and technology, and it is recognized that regardless of gender, students in modern society are technologically savvy and are in possession of several competencies that facilitate learning through technologies (Egbo et al 2012, Olibie, 2013). Hence, Corrin, Lockyer and Benneth (2010) call them the "Millennial Generation", having grown up with technology and it is a part of their world.

This study also reveals that in universities in Anambra State of Nigeria, only a few students engage in various virtual learning applications. Areas of virtual learning with high levels of students' engagement include: posting academic questions on social networks such as Face books, LinkedIn, Twitter, navigating several web links to read course content, contributions to wiki; and commenting on a blog. Although this is a little step in the right direction, as it would facilitate the professional development of the students, one can see that other applications in virtual learning are not being maximized

by university students in this information age. This finding is also in disagreement with the results of Egbo et al's study which shows that students of business in University of Nigeria have reasonable experience with the use of virtual learning and research.

Above all, there was no significant difference between male and female students' engagement in virtual learning. Their levels of virtual learning engagement were both poor and did not align with other research findings that suggest that female students are more frequent users of virtual websites (Liu & Huang, 2008). Achuonye (2004), also found out that more female students were personally connected to the internet than their male counterparts were, but that male students surf the internet more than the females. The finding of low level of students' engagement in virtual learning justified the Global Information Technology Report (2012, p. xxiii) revealing that Nigeria ranked 112 out of 142 countries surveyed for network readiness to participate and benefit from ICT development.

The findings of this study buttress the assertions of Kamba (2009) that although all the tertiary institutions in Nigeria have made ICT literacy compulsory for lecturers and students, many institutions appear not to reap the potentials of ICT such as students' enhanced performances that could result from engagement in virtual learning. This also supports Okebukola (2006) who affirms that the low level of ICT utilization for student learning in Nigerian tertiary institutions is a major challenge to the education industry.

The issue of restricted engagement in virtual learning is by no means limited to the university environment in Anambra State. Indeed it is an issue that the education sector in many African countries need to attempt to deal with (World Bank, 2002). Most African institutions widely use traditional approach to education and do not allow students the exposure to virtual learning (Kamba, 2009). Under this situation, students would have no need to engage in virtual learning. Also, this situation in Anambra State of Nigeria could be attributed to low level of virtual learning literacy and motivation among the students. Engagement in virtual learning appears to be valued as having little or no role in supporting academic programmes for these students. And yet, one expects these students to compete favourably in a virtual world. Olulube (2006) also reports that Nigerian tertiary institutions are yet, to integrate ICT in all spheres of academic endeavors. With this situation, one will agree with Olibie and Akudolu's (2009) statement that it might take Nigerian students 30 years to be empowered digitally to catch up with even South Africa, and 50 years to catch up with America. This is truly a manifestation of digital divide. This trend if unchecked, might keep these students far behind in a world that is moving at a super – sonic speed.

8. The findings in relation to preparation for global citizenship

The findings of this study show that the students are not yet being adequately prepared for global citizenship. A close look at the virtual learning competencies

possessed by the students would reveal that these competencies are not the core competencies for virtual learning. They belong to what Corrin, Lockyer & Bennett (2010) call the peripheral or basic competencies required not just for virtual learning but for several computer applications. Ironically, the students lacked the ability to turn in or submit assignments online with details; network with others involved in online education, obtain access to websites that require subscription; and use e-portfolio to share learning experiences and gain feedback. These areas of incompetence are those that could be said to be the core competencies in virtual learning (Kharbach, 2013).

Also, the students' low engagement with virtual learning (as identified in this study) robs them of the many opportunities to acquire global citizenship and develop as global citizens. An important aspect of global citizenship is the "Development of knowledge, understanding, skills and values; Learning about a globalized world; learning for life and work in a global society; and learning through global contexts" (Learning and Teaching Scotland, 2011, p. 10).

The development of these aspects of global citizenship can be enhanced tremendously through virtual learning. While sharing this view, Lallana & Uy, 2007; Rakap, 2010; Zheng, Flygare & Dahl, 2009 posited that with virtual learning, students gain new abilities and ways to participate and express themselves in a networked information technology driven society. Also, McAlphine (2004:p. 120) noted that virtual learning facilitated by the internet and the ICT revolution has created "sovereign learners"-learners who are empowered because they have access to new learning opportunities; are able to acquire knowledge directly from others in faraway lands; and can access information to make their own choices about effective learning. These sovereign learners also have reliable and up-to-date information that allows them to become better educated, adequately empowered to "engage and assume active roles, both locally and globally, to face and resolve global challenges and ultimately become proactive contributors to a more just, peaceful, tolerant, inclusive, secure and sustainable world" (UNESCO, 2014, p. 15) and to develop into globally responsible citizenry, with personal and social responsibility. However, it is difficult for undergraduate students in Anambra State, Nigeria to become sovereign learners or global citizens if they lack the ability to engage in virtual learning. The possession of competencies for virtual learning remains a dormant possession in the absence of opportunities to engage in and practise this mode of learning and this makes the development of global citizenship a mirage.

9. Conclusions and recommendations

The findings of this study provide a basis to promote fears that students are incompetent in virtual learning competencies which may have adverse influence on students' engagement in virtual learning and consequently in their preparation for global citizenship. In the literature about virtual learning in education, new virtual educational

provisions are being put forward, such as e-portfolios, electronic problem based learning, simulation and games as well as electronic thesis /dissertation support provisions. Where students lack these core competencies, they are in a disadvantaged position and can neither reap the benefits of these applications in this information age nor be prepared for global citizenship.

Another implication of these findings is that students are generally motivated by ICT facilities and these are the gateways to virtual learning. The implication of this students' great motivation is that it has brought about great expectations that universities in Nigeria cannot afford to fail to deliver on. This requires provision by administration in the areas of ICT infrastructure and training of learning technologists. Also, if lecturers themselves model virtual learning and communicate high expectations for virtual learning to the students, the students might become motivated to engage in virtual learning and invariably be prepared for global citizenship.

Based on the findings of this study it is recommended that:

- Universities should provide adequate, reliable virtual learning platform or software and tools to interconnect all students' and lecturers' virtual learning requirements.
- Government should intensify effort in the provision of digital technologies to the universities so as to enhance the ability of these universities to expose students to virtual learning.
- Lecturers should be encouraged to model virtual learning for students. They no longer need to limit their course instruction to self-prepared and face-to-face lectures.
- Students should train themselves to become competent in a range of virtual learning applications. They could use self-development programmes such as peer tutoring, and mentoring, to achieve this.

10. Suggestion for further research

Variables other than the ones studied which might have influenced the findings include students' departments and socio-economic status. It is possible that a cross sectional comparison of students based on departments might show some departments (such as Computer Sciences), having more knowledge, motivation, competencies and engagement in virtual learning than others. Also it is possible that students from wealthier homes might have more access to virtual technologies than those from less wealthy ones. There is therefore the need for a replication of the study in Anambra State to ascertain whether any significant differences would exist in virtual learning due to student's department and socio-economic background.

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