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Factors Predicting Business Education Students' 21st Century Information Communication Technology Skills Acquisition in Tertiary Institutions in Anambra State

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Abstract
The study focused on factors predicting business education students' 21st-century ICT skills acquisition in tertiary institutions in Anambra State. Two purposes in line with research questions guided the study, and two null hypotheses were tested. A correlation survey research design was adopted for the study. The population consists of 476 students from the various tertiary institutions in Anambra State. 134 was sampled using the proportionate sampling technique. The instrument for data collection was a 41-item structured questionnaire. The instrument was validated by three experts. Cronbach Alpha method was used to determine the reliability coefficient of internal consistency, with an overall coefficient value of 0.81. Simple regression analysis was used to answer the research questions, while regression was used to test the null hypotheses at a 0.05 alpha level. The findings of the study revealed, among others that personal, school factors strongly predict business education students' 21st-century ICT skills acquisition in tertiary institutions in Anambra State. The study concluded that the factors strongly predict business education students' 21st-century ICT skills acquisition in tertiary institutions in Anambra State. It was recommended among others that the School's school-based factors regarding facilities, adequate space, teaching materials, and technological equipment should be improved to promote business education students' teaching and learning of 21st-century ICT skills in tertiary institutions.

Keywords: Business education, 21st century information communication technology skills, tertiary institution.

Introduction

The advancement of Information and Communication Technologies (ICTs) in recent time has correspondingly revolutionized the educational sector into making teaching and learning flexible in the learning environment. Despite the challenges associated with ICT integration in education, ICT has provided learners with diversified options for instruction delivery by the instructor. For instance, with the use of ICT, remote students can learn and collaborate among themselves for the purpose of achieving good academic performance. They can access information helpful for career advancement and capabilities for self-development. The use of ICT in education is essential as it provides teachers and students opportunity to use data, inspire independent and active learning. According to Barbara (2017),

this versatile instrument is capable of engaging students in learning as well as help them to solve complex challenges to enhance their cognitive skills. With this relevance, Kolog, Tweneboah, Devine and Adusei (2018) opined that the emergence of educational technology research has considerably delved into evaluating the influence of using ICT in teaching and learning through research.

Information and Communication Technology skills refer to the ability to effectively use digital technologies to access, evaluate, create, and communicate information. This includes Basic computer skills, typing, software applications Digital literacy, Communication. ICT skills are essential in today's digital age for personal, academic, and professional success. They enable individuals to access information, collaborate with others, and adapt to new technologies. However, Information communication technology is diversifying from the simplest to complex electronic devices used at homes, institutions, industries etcetera. It is on this premise that Ogunsola and Alade (2016) viewed ICT to include any communication devices or applications such as radio, television, mobile phones, computer network, satellite systems as well as other services and applications associated with them, such as video conferencing and distance learning tools. Therefore, there is a wide range of skills, from the most basic to very advanced, which offers opportunities for people to use ICT to bring about self-sustainability and employment. According to Ogunsola and Adesakin (2020), there is a wide range of ways that ICT is revolutionizing all sectors of the economy and creating diverse opportunities for employment, advancement and expansion which only those with the skills can utilize. The popularization of Web 2.0, social media, mobile apps, and other ICT advancements have drastically changed the turn of events in the society as well as workplaces. These workplaces constantly seek improvement in skills development by employees and job seekers, so they can fit into and sustain their jobs. Such jobs are sustained through the development of 21st century skills.

21st-century skills refer to the abilities and competencies necessary for success in today's fast-paced, interconnected world. As prominent tool in eradicating unemployment through self-development, turns the individual economically viable, paving way for job and wealth creation. Partnership for 21st Century Skills (P21), founded in 2002 by Ken Kay and Diny Golder-Dardi with support from Assurance of Learning (AOL), Cisco, Microsoft and the United States Department of Education, has as its mission “to position 21st century readiness at the center of United States Kindergarten-12 education, by building collaborative partnerships among education, business, community, and government leaders.” P21, as it is called, proposed a set of 21st century student outcomes, including both core subjects (the reading, writing and arithmetic, 3R’s); and new ones, including learning and innovation skills (the 4 C’s: critical thinking, communication, collaboration, creativity); information, media, and technology skills; and life and career skills. Partnership for 21st Century Skills, also proposed that these 21st century student outcomes could affect standards and assessment, curriculum and instruction, professional development, and learning environments.

In a corresponding manner, the Nigerian National Policy on Education has made compulsory the provision and utilization of ICTs at all levels of education in Nigeria, portraying it usage as a prominent player in advancing knowledge and skills necessary for effective functioning in the modern world, (FRN, 20014). These 21st century ICT skills when developed, has the capacity to make individuals to be problem solvers, job creator instead of seekers and provide opportunity for employability in the different environment. The skills when used, could accelerate, enrich the economy, deepen productivity and high economic competitiveness in the world of work as postulated in national ICT policy on education (2019), the policy which synchronizes with what was done by other countries stated afore.

Despite the proposed 21st century skills, the seeming skills mismatch between Nigeria's tertiary institution graduates and the labour market persist, tertiary institutions have

not done much to salvage the present dire economic situation of graduate unemployment in the country (Ogunsola and Adesakin, 2020). This is evident in the high growth rate of unemployed youths in Nigeria. An unemployed youth is one that is currently available for work and actively seeking work but cannot find one. Some of these unemployed youths are economically inactive and may currently not be in any form of education, employment or training (Eurostat, 2020). Business education students are not left out.

Business education is a programme in education which admits and graduate students after 3 to 4 years of successful learning and training in knowledge and skills for employment and self-reliance. According to Ezenwafor and Onokpaunu (2017), business education is part of vocational education programme which inculcates in individuals' business competencies, skills, attitudes, knowledge and understanding necessary to perform and progress effectively in the business world. As a designed program of instruction, it prepares people for jobs requiring specialized training. The objectives of business education programme in colleges of education according to Edokpolor and Egbri (2017) can be summarized thus: to produce well qualified and competent graduates in business subjects who will be able to teach business subjects in secondary schools and other related educational institutions. To produce business teachers who will be able to inculcate the vocational aspects of business education in society. Also to produce business teachers who will be involved in the much-desired revolution of vocational development right from the primary and secondary schools. Business education is expected to equip graduates with the skills that will enable them to engage in a life of work in the office as well as self-employment. Puri (2016) added that irrespective of the level, business education is aimed at providing training that will equip its recipients with business skills for optimal performance in the workplace.

As a programme of study, business education is offered in universities departmentalized under the faculty of Vocation and Technology Education, in colleges of education as department of business education, it is studied under the options of accounting education, secretarial education, entrepreneurial education and computer education. Students of business education programme on graduation from tertiary institution, with its objectives fully achieved are highly expected to develop requisite educational experience and competently possess the emerging 21st century ICT skills through which they can sustain employment and create jobs comfortably. Ironically, business education graduates roam around the streets looking for private and government offices begging for employment opportunities which hardly come by or non-existence. In so many cases where they are lucky to get one, employers complain of their dearth possession of the 21st century requisite ICT skills to sustain and advance the organization in a dynamic global as learned by (Chukwu, Ebere and Ile, 2021). This alarming situation observed among graduates of business education tends to differ from the objective of the course of equipping students with skills and competencies to compete favorably and be self-reliance. A situation where graduates from tertiary institutions in Anambra state, with global industrial opportunities both remote and on site, hunts for jobs and not able to get or create one after graduation, probably due to the lack of 21st century dynamic ICT skills demand of employers and clients.

Tertiary Institution is seen an educational institute where learning experiences are provided under the guidance of a more knowledgeable person called the teacher. Tertiary institutions play a vital role not only in shaping the future through educating the specialists of tomorrow, but also creating a research base for sustainability efforts and providing outreach and service to communities and nations (Ibeh, 2022). Historically, tertiary education has served different purposes of; research, teaching and community services. In its knowledge production function, higher institutions have been the center of innovation and creation of new knowledge in diverse fields of human activity. The knowledge production function is based on academic rigor and the intellectual apparatus within the tertiary institutions.

Students in most tertiary institutions can be grouped as undergraduate and postgraduate students. According to section 8(58) of Federal Republic of Nigeria (2014), tertiary education is the education given after secondary education, in universities, colleges of education, polytechnics, mono-technique including those institutions offering correspondence courses. One of the goals of such education is to acquire both physical and intellectual skills which will enable individuals to be self –reliant and useful members of the society. Article 64(c) of the same section indicates that tertiary education shall contribute to making all students to acquire both physical and intellectual skills which will enable individuals to be self-reliant and useful members of the society.

Statement of the Problem

Tertiary institutions globally are changing to meet up with the dynamic 21st century work opportunities. It is on this same premise that National policy on ICT in education policy (NPICTIE) was established to incorporate ICT in tertiary education, geared at ensuring the attainment of education for enhancement of sustainable socio-economic development of global competitiveness and individual development fulfillment through development of ICT skills relevant in 21st century (NPICTIE, 2019). Research conducted over the years have revealed that development of ICT skills is a promising avenue to tackle unemployment. Hence, training students through the adoption of ICT skills is a veritable tool for providing graduate with competencies and connection with potential employers. However, it seems that these goals are yet to be actualized as some scholars and employers still point out that the graduates are unfit for employment due to lack of 21st century ICT skills. (Ile and Ementa, 2016; Ezenwafor and Onokpauna, 2017; Ediagbonya and Aghatise, 2023) increasing unemployment

The problem of graduate unemployability poses a grave danger to the security, growth and sustainability of the nation's economic development, yet no real significant attention has been given to this debilitating predicament of the Nigerian graduate. Nigeria's record of graduate unemployment keeps skyrocketing every quarter and is currently experiencing youth unemployment rate of 38%. This is quite terrible and unacceptable especially for the fact that graduates of Nigerian tertiary institutions are considered unemployable even for jobs that are available as employers of labour have continually complained that they lack the skills and competencies required in the industry of the 21st century as reviewed in Akinbode and Oyelude (2020). This scenario could be more alarming in Anambra State due to the state strategic location and economic significance, as a hub for commerce, industry and education. It is on this background that present study wishes to investigate some of the eminent factors which predict business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State.

Purpose of the Study

The main purpose of this study was to determine factors predicting business education student's 21st century ICT skills acquisition in tertiary institutions in Anambra State. Specifically, this study determined:

1. Personal factors predicting business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State.
2. School factor predicting business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State.

Research Questions

The following research questions guided this study:

1. What are personal factors predicting business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State?
2. What are school based factors predicting business education students' 21st- century ICT skills acquisition in tertiary institutions in Anambra State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance

1. Personal factors do not significantly predict business education students' 21st -century ICT skills acquisition tertiary institutions in Anambra State.
2. School factors do not significantly predict business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State.

Method.

Correlational survey research design was adopted for the study. The study was carried out in Anambra state. Population of the study consist of 476 (200–400levels undergraduate students) of Business Education from the various tertiary institutions in Anambra state offering business education. One hundred and thirty-four of (200–400levels University, 200-300 College of education undergraduate students) Business Education were sampled using proportionate sampling technique. The instrument for data collection was two structured questionnaire of 41-item, The respondents were requested to rate the items on a four-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) 4, 3, 2, 1 respectively. The instrument was face and content validated by three experts, two from Vocation and technology Education, and one from Education Foundations. Cronbach Alpha method was used to determine the reliability co-efficient internal consistency, with an overall co-efficient value of 0.81. Simple regression analysis was used to answer the research questions while regression was used to test the null hypotheses at 0.05 alpha level. goodness of fit of regression model using squared regression coefficient (R^2) was adopted, where: R^2: 0–0.1 = weak; 0.2–0.3 = modest; 0.4–0.5 =moderate;>0.5 =strong.

The p-value was used to test the null hypothesis at 0.05 level of significance. A null hypothesis was rejected when calculated p-value is equal to or less than the stipulated level of significance (0.05) and accepted when p-value is greater than the stipulated level of significance (0.05). All analysis was done using Statistical Package for Social Sciences (SPSS) Version 23.0.

Results

Research Question 1: What is the predictive value of personal factors on business education students' 21st century ICT skills in tertiary institutions in Anambra State?

Analysis of data relating to research question one is presented in table 1

Table 1. Summary of Simple Regression Analysis with personal factors as Predictor of students' 21st century ICT skills Acquisition

	R	R^2	Adj.R^2	*B*	SE B	β	Remark
Constant				20.51	2.97		
	.80	.65	.64			.80	Strong
Personal Factors				2.28	.14		

The summary of simple regression analysis shown in the Table 1 indicates that personal factors strongly predict business education students' 21st century ICT skills in tertiary institutions in Anambra State. This is shown by the regression coefficient (R =.80)

and the coefficient of determination (R^2 = .65) which indicates that personal factors explained 65% of the variance in business education students' 21st century ICT skills

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Hypothesis 1: There is no significant prediction between personal factors and business education student's 21st century ICT skills acquisition in tertiary institutions in Anambra State.

Table 2: Test of Significance of Simple Regression Analysis with personal factors as Predictor of business education students' 21st -century ICT skill acquisition

Predictor	R	R^2	*F*	*P-value*	Remark
Personal Factors	.80	.65	254.53	.00	Sig

As shown in Table 2, the simple regression coefficient (R) is .80 while the R^2 is .65. The *F*-ratio (1/137) =254.53 and *P*-value = .00. Since the *P*-value is less than the stipulated 0.05 level of significance, it was concluded that personal factors significantly predict business education student's 21st -century ICT skills in tertiary institutions in Anambra State. Null hypothesis one was therefore rejected.

Research Question 2: What is the predictive value of school-based factors on business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State?

Analysis of data relating to research question two is presented in table 3.

Table 3. Summary of Simple Regression Analysis with school-based factors as Predictor of students' 21st century ICT skills Acquisition

	R	R^2	Adj.R^2	*B*	SE B	β	Remark
Constant				32.73	4.75		
	53	.28	.28			.53	Modest
School Based Factors				1.32	.18		

The summary of the simple regression analysis as shown in Table 3 indicates that school-based factors modestly predict business education students' 21st- century ICT skills in tertiary institutions in Anambra State. This is shown by the regression coefficient (R =.53) and the coefficient of determination (R^2 = .28) which indicates that school-based factors explained 28% of the variance in business education students' 21st- century ICT skills.

Hypothesis 2: There is no significant prediction between school-based factors and business education student's 21st -century ICT skills acquisition in tertiary institutions in Anambra State.

Table 4: Test of Significance of Simple Regression Analysis with school-based factors as Predictor of business education students' 21st century ICT skills acquisition

Predictor	R	R^2	*F*	*P-value*	Remark
School Based Factors	.53	.28	54.78	.00	Sig

As shown in Table 4, the simple regression coefficient (R) is .53 while the R^2 is .28. The *F*-ratio (3/137) =54.78 and *P*-value = .00. Since the *P*-value is less than the stipulated 0.05 level of significance, it was decided that school-based factors significantly predict business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State. The null hypothesis two was therefore rejected.

Discussion

The results in respect of research question one revealed that personal factors strongly predict business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State. This indicates that personal factors explained 65% of the variance in business education students' 21st century ICT skills acquisition. This means that students' personal interest, attitude and self-confidence influences the extent they developed the 21st century ICT skills. The findings agree with that of Zhao, Sánchez and Llorente (2021) who revealed that students' perceptions of digital competencies in terms of information and data literacy, communication and collaboration, and safety were positive.

The simple regression analysis revealed that personal factors significantly predict business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State. It followed therefore that the null hypothesis was rejected. The results revealed that personal factors significantly predict business education students' 21st century ICT skills. The findings agree with that of Hatlevik, Guðmundsdóttir and Loi (2015) who revealed that students' conditions at home, together with mastery orientation significantly predict student's digital competence. This implies that students' personal factors influence learning outcomes and motivate students to reach the goal in learning 21st century ICT skills.

The findings of the study regarding research question two revealed that school-based factors modestly predict business education students' 21st century ICT skills in tertiary institutions in Anambra State. This indicates that school-based factors explained 28% of the variance in business education students' 21st century ICT skills. This means that school climate factors such as classrooms, library, technical workshops, teachers' quality, teaching methods, peers, among other variables has some predictive power over students 21st century ICT skill though not a perfect predictor. The findings agree to an extent with that of Caroline, Akinyi and Odhiambo (2019) who revealed that teacher's skills through professional and in-service training enhance students learning, schools' provision of facilities for students use in their free time impact positively on their ICT learning.

The simple regression analysis revealed that school-based factors significantly predict business education students' 21st century ICT skills in tertiary institutions in Anambra State. It followed therefore that the null hypothesis was rejected. The results revealed that school-based factors significantly predict business education students' 21st century ICT skills. The findings agree with that of Atah and Abeng (2019) who revealed that there is significant influence of classroom climate and instructional method on employability skills acquisition among Business Education students. This implies that school-based factors geared towards making the students to contribute positively to their immediate environment, that is, the home, community and work environment.

Conclusion

Based on the findings of the study, it was concluded that personal factors strongly predict business education students' 21st century ICT skills in tertiary institutions in Anambra State while school-based factors modestly predict business education students' 21st century ICT skills acquisition in tertiary institutions in Anambra State. It was also revealed that these factors are great determinants of ICT skill development among students in tertiary institutions. Finally, it was concluded that Business education students' failure in acquiring competently 21st century ICT skills on graduation is not only the function of factors in relation to the students.

Recommendations

Based on the findings and conclusion of the study, the following recommendations are made:

1. Teachers, parents and guardians should make conscious efforts to provide academic motivation which will help to increase the interest and self-confidence of business education students towards developing 21st century ICT skills.
2. School's based factors regarding facilities, adequate space, teaching materials, and technological equipment should be improved to promote business education students' teaching and learning of 21st century ICT skill in tertiary institutions.
3. Government through curriculum planners should ensure business education curriculum is more ICT oriented, and government equips the schools with adequate facilities for students' 21st century ICT skills learning.

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